

JEFFERSON COUNTY PUBLIC HEALTH
Environmental Health Services Division
645 Parfet Street, Lakewood, CO 80215
(303) 232-6301 FAX (303) 271-5760
jeffco.us/public-health

**ONSITE WASTEWATER TREATMENT SYSTEM CONTRACTOR
LICENSE - Application and Instructions**

In accordance with Colorado state law, the Jefferson County Public Health is required to verify that persons applying for certain licenses are **LAWFULLY PRESENT in the United States. Please use Department **FORM A** to document this requirement.**

USE THIS PACKET TO APPLY FOR A LICENSE TO INSTALL, REPAIR AND RENOVATE ONSITE WASTEWATER TREATMENT SYSTEMS (OWTS) IN JEFFERSON COUNTY COLORADO. ONLY ONE EMPLOYEE OF A FIRM IS REQUIRED TO HOLD AND MAINTAIN A SYSTEM CONTRACTOR LICENSE.

INSTRUCTIONS

- The test is based upon your knowledge of the Jefferson County Onsite Wastewater Treatment System Regulations as well as your ability to interpret engineering designs. The test is OPEN BOOK. You may purchase a copy of the Regulations for \$10.00 (hard copy or CD-ROM) or review them online at:
<http://jeffco.us/public-health/water-quality/individual-sewage-disposal-systems/>
- Minimum passing grade is 70%. If you receive less than 70% you must meet with the test coordinator to discuss your answers. Depending on the questions answered incorrectly, you may be required to re-take the test (no additional fee).

To apply for your license, return the following to the Department:

- Completed application form (Page 1),
- Test answer key (Page 8),
- Application fee (*pay via credit card, or check payable to Jefferson County Treasurer – see page 1 for fee amounts*). *Cash must be submitted in person.*
- Unless your business is a **PARTNERSHIP** or a **CORPORATION** on record with the Colorado Secretary of State, you must also submit **FORM A** to document your lawful presence in the United States per Colorado law.

Allow approximately ten (10) working days to process your application.

DEPARTMENT CONTACTS

Mike Davis (303) 271-5771
mdavis@jeffco.us

(For renewals) Linda Jones (303) 271-5756
ionelj@jeffco.us

**VERSION
REVISED: March 1, 2015**

APPLICATION FOR OWTS CONTRACTOR LICENSE

APPLICANT INFORMATION	
Business Name	Owner Name
Mailing Address	City State Zip
Phone	Email

- () **SOLE PROPRIETORSHIP** - You must also attach **FORM A** to this application.
- () **CORPORATION or PARTNERSHIP** - Please also provide the registered agent information below.

REGISTERED AGENT INFORMATION	
Agent Name	
Mailing Address	City State Zip
Phone	Email

I AGREE TO CONDUCT ALL OPERATIONS IN ACCORDANCE WITH THE LAWS AND REGULATIONS PERTAINING TO ONSITE WASTEWATER TREATMENT SYSTEMS IN JEFFERSON COUNTY, COLORADO.

 Applicant's signature & title

 Date

FEES (check one)

New OWTS contractor license

Cash or Check	Credit Card
\$50.00	\$50.88

CREDIT CARD AUTHORIZATION

(for VISA® and MasterCard® only)

Dept Use			

By signing below I authorize the charge for the payment of fees and (1.75%) service charges shown:			
Name on Card	Cardholder Signature	Date signed	
3 digit security code (back of card)	BILLING address ZIP code	Fee if paying by CREDIT CARD	\$50.88

16 - DIGIT CREDIT CARD NUMBER															

Exp. Date (MM/YYYY)					

INSTRUCTIONS for TAKING THIS TEST

The onsite wastewater treatment system contractor test consists of two sections:

- **PART I** will test your general knowledge about the installation of onsite wastewater treatment systems; answers to all of 39 questions can be found in the Jefferson County OWTS Regulations (effective May 30, 2014). This is an OPEN BOOK TEST. Unless noted, mark only the single best answer for each question. Calculators are permitted.
- **PART II** will have you review an actual engineering design document and answer specific questions on how that system would be installed. This is also OPEN BOOK.

PART I – REGULATION REVIEW

- 1. An onsite wastewater treatment system permit is required (mark all that apply):**
 - a) to add an extension on to a failing absorption bed
 - b) to replace a damaged septic tank
 - c) to dig percolation and profile test holes
 - d) to replace a broken pump
- 2. The onsite wastewater treatment system is considered to be completed and accepted for use when:**
 - a) the final grading of the absorption bed has been completed
 - b) the design engineer makes their final inspection
 - c) the health officer (inspector) signs the permit approval statement on the bottom of the permit and the system has been backfilled
 - d) the building department issues the Certificate of Occupancy
- 3. The specific conditions set forth on an onsite wastewater treatment system permit are the only ones applicable to the installation of that particular system.**

T F
- 4. If your systems contractor license has been expired for more than six (6) months you will be required to re-take the current licensing test.**

T F
- 5. As a licensed contractor, you can also be a subcontractor for a homeowner who wants to install their own permitted system.**

T F
- 6. A systems contractor license also permits you to perform inspections for Use Permits under Section 10 of the OWTS regulations.**

T F
- 7. Which of the following documents must be available for inspection at the site (mark all that apply):**
 - a) the onsite wastewater treatment system permit and inspection card
 - b) the engineering design
 - c) a copy of the onsite wastewater treatment system regulations
 - d) a copy of the well permit
- 8. If during the preliminary inspection, the health inspector leaves a note that the size of the absorption system is insufficient, you should**
 - a) increase the size of the excavation, then complete the installation
 - b) increase the size of the excavation and have the engineer verify the new size
 - c) increase the size of the excavation and call for a re-inspection by the Health Department
 - d) ask the homeowner what they want you to do and follow their instructions

9. Cast iron pipe:

- a) may be used whenever you run out of plastic pipe
- b) may be used between a tank and absorption bed
- c) may not be used in an onsite wastewater treatment system
- d) may be used under asphalt driveways

10. A sturdy aluminum ladder is an acceptable means of access for an inspector to enter the excavation for an inspection.

T F

11. A distribution box (mark all which apply):

- a) must have the inlet invert at least 1" above the outlet invert
- b) must be provided with a manhole riser and access lid
- c) must be placed on a gravel bed at least six inches deep to prevent shifting
- d) must distribute effluent equally

12. FILL IN: How many clean-outs are required for the following:

- a) a sewer line 12 feet long requires at least ___ clean-outs
- b) a sewer line 117 feet long requires at least ___ clean-outs
- c) a sewer line 193 feet long requires at least ___ clean-outs
- d) a sewer line 244 feet long requires at least ___ clean-outs

13. Between the dwelling and septic tank, the building sewer shall (mark all which apply):

- a) have bends limited to 45-degree ells or long-sweep quarter bends
- b) not exceed 4% grade for the 5 feet prior to the tank
- c) be sufficient to assure gravity flow into the tank
- d) have a grade of not less than 10%

14. A water line, sewer line crossing must be constructed (mark all that apply):

- a) of sufficient strength to contain flows under pressure
- b) with the water line at least four feet above the sewer line
- c) with the sewer or water line double cased with the closest joint at least 10 feet from the point of crossing
- d) so that either the water or sewer line are encased with Schedule 40 pipe of sufficient diameter to slide over and completely encase that line.

15. You notice that the concrete septic tank that has been delivered appears to have cracks in it. You should (mark all that apply):

- a) patch the cracks as best you can and install it anyway
- b) install the tank and backfill it so that the soil will prevent leakage
- c) have the tank leak-tested to verify that it is water-tight prior to installation
- d) notify the Health Department of the problem

16. One approved procedure for abandoning a septic tank is to pump the tank, backfill with inert material, then cap the inlet and outlet lines.

T F

17. Septic tanks:

- a) may be cast on the site
- b) must be transported, handled and set per manufacturer's specifications
- c) must be placed on a gravel bed to prevent shifting
- d) may be made of cinderblocks, if properly coated and sealed

18. Fill-in: What is the minimum separation distance between the septic tank and (fill in blanks):

- | | | | |
|------------------|---------|----------------------|---------|
| a) well | ___ ft. | d) a dwelling | ___ ft. |
| b) water line | ___ ft. | e) an absorption bed | ___ ft. |
| c) surface water | ___ ft. | f) a property line | ___ ft. |

19. The lids of a septic tank must be placed:

- a) at finished grade, using risers if necessary
- b) no more than 6 inches below finished grade
- c) no more than 8 inches below finished grade
- d) no more than 12 inches below finished grade

20. COMPLETE: At least one (1) distribution line is required for every ___ feet of the width of the absorption bed or fraction thereof.

21. COMPLETE: When installing a system with 3 standard trenches, each trench cannot exceed (a) ___ feet in width, and the side-walls of each trench must be at least (b) ___ feet apart.

22. FILL IN: What is the minimum separation distance between a TL1 STA and (fill in blanks):

- | | | | |
|------------------|---------|--------------------|---------|
| a) a well | ___ ft. | d) a dwelling | ___ ft. |
| b) a dry gulch | ___ ft. | e) a water line | ___ ft. |
| c) surface water | ___ ft. | f) a property line | ___ ft. |

23. Which of the following are acceptable gravel specifications for absorption systems (mark all that apply):

- | | |
|--------------------------------|---|
| a) "D-57 special" | d) gravel passing a 2.5" screen and retained on a 0.5" screen |
| b) ASTM D448-86, sizes #2 - #5 | |
| c) "Pea Gravel" | |

24. To be approved for installation, gravel must be clean but is not required to be washed.

T F

25. Which of the following materials may be used for covering the gravel layer in an absorption bed? (Mark all that apply)

- | | |
|------------------------------|--|
| a) hay or straw | d) non-woven permeable geotextile material |
| b) un-treated building paper | |
| c) PVC film | |

26. Fill-in: In an absorption bed, the distribution lines should be placed no farther than (a) ___ feet from the side walls of the excavation and not more than (b) ___ feet apart.

27. Chamber-type absorption systems require an internal distribution pipe.

T F

28. A water softener backwash line must be connected to a septic system.

T F

29. An existing absorption or evaporation system may be abandoned in place by disconnecting and capping the inlet line.

T F

30. The proper method of leveling the final backfill cover is to drive over it repeatedly with heavy equipment.

T F

31. Complete: If the permit calls for the installation of an alarm in a vault or holding tank, the alarm must be triggered when the tank reaches ____% of its capacity.

32. An alarm control box may only be installed inside the structure that is served by the onsite wastewater treatment system.

T F

33. Contaminated soil removed from an old absorption bed should be disposed of in the following manner:

- a) the soil may be disposed of on site in a manner that complies with state and local regulations, provided it does not create a health hazard
- b) it should be mixed with fresh soil and used as filter material in the new absorption bed
- c) the soil may be used as fill around the foundation of the house
- d) the soil must be taken to a landfill

34. The correct procedures for abandoning a pit privy are as follows (mark all that apply):

- a) the pit should be pumped, if possible, treated with quicklime or other disinfectant, then filled with earth or other inert materials
- b) the pit may simply be covered with a piece of sturdy plywood
- c) the pit may be left open to dry out on its own
- d) the pit must be filled with cement

35. The system you are installing calls for a subsoil (lined curtain) drain to be placed up-slope from the absorption bed. What is the minimum setback to the bed?

- a) 10 feet
- b) 25 feet
- c) 2 X the width of the bed
- d) 4 X the depth of the bed

36. A sewer line may be placed less than 50 feet from a well if those portions of the line within 50 feet are double-cased in accordance with Appendix A.

T F

37. Non-perforated ASTM D2729 pipe can be used between the house and the septic tank.

T F

38. Before bedding non-perforated pipe, it is necessary to fill in all voids below the pipe, even if the ground is frozen.

T F

39. After approval of the open excavation you return to place sand in the bed but find that there is now standing water in the bottom of the excavation. There has been no recent precipitation in the area. You should:

- a) go ahead and place the sand since the excavation has already been approved
- b) contact the health department and advise them of the situation
- c) pump out the water before placing the sand
- d) ask the property owner what they want you to do

40. Effluent filters must be installed with a handle (or extension of appropriate length) to allow for easy removal and cleaning

T F

DESIGN

C

All Service Septic
Project No. E4
December 14, 2014

An onsite wastewater treatment system permit is based on a specific engineering design. Therefore, system contractors must be familiar with reading and interpreting these designs.

Please review the engineering design the follows Page 8 and answer questions 1 – 13. For the purpose of this test you should assume that the design complies with the onsite wastewater treatment system regulations. For the answers to some questions you may also need to refer to the OWTS Regulations.

1. **A local distributor is running a 2 for 1 sale on leaching chamber units. To save costs the owner asks you to install a chambered system instead of what has been approved. How would you go about doing this?**
 - a) just go ahead and make the change, but be sure to let the engineer know
 - b) contract the engineer first to see if they will approve the change
 - c) contact the health department first and ask for their approval before starting work
 - d) once approved, it is not possible to change an engineering design
2. **When you show up at the site to dig the absorption bed you find that a well has been drilled at location marked “NEW WELL” less than 100 feet from the proposed absorption bed. What would you do?**
 - a) contact the health department and tell them about the problem before starting work
 - b) tell that property owner that they must move their well
 - c) proceed to install the system since a permit has been issued by the health department
 - d) move the absorption bed location to maintain the proper setback distance and continue work
3. **How would you abandon the old septic tank?**
 - a) you must only pump the tank; nothing else is required
 - b) pump the tank and place a marker in the location stating ‘DANGER: Old Septic Tank’
 - c) pump the tank and either remove, backfill with inert materials or crush and backfill
 - d) pump the tank and drill holes in the bottom to prevent precipitation from collecting in it
4. **What type and diameter pipe are required for this installation?**
 - a) the contractor may use any pipe approved in the regulations
 - b) you can use SCH40 pipe throughout since it is a stronger pipe
 - c) 4” SDR35 may be used throughout
 - d) 4” SDR35 from house to tank, 3” SDR35 from tank to absorption system, 2” SCH40 laterals.
5. **How deep must the absorption bed excavation be dug:**
 - a) there is no excavation required; the system will be installed at grade
 - b) two feet below natural grade, measured at the shallowest part of the excavation
 - c) four feet below natural grade, measured at the deepest part of the excavation
 - d) four feet below natural grade, measured at the shallowest part of the excavation
6. **Reference Figure W2) Assuming the following, what is the minimum weight of sand will you need to order for this installation?**
 - the final dimensions of the excavation are 15 feet wide by 50 feet long
 - 1 cubic yard = 27 cubic feet, and ASTM C-33 sand weighs 2900 lbs. per cubic yard,
 - a) 8.05 tons
 - b) 40.25 tons
 - c) 80.5 tons
 - d) 805 tons

7. Assuming the following, what is the minimum, weight of gravel will you need to order for this installation?

- *the final dimensions of the excavation are 15 feet wide by 50 feet long*
 - *1 cubic yard = 27 cubic feet, and gravel weights 2200 lbs. per cubic yard,*
- a) 3.05 tons b) 30.5 tons c) 15.25 tons d) 305 tons

8. What is the required dose for this system:

- a) You cannot tell from this design c) 505 gallons per dose
b) 3 gallons per dose d) 109 gallons per dose

9. How would you place the air blower for this installation?

- a) it should be installed within 50 feet of the tank
b) it should be installed within 10 feet of the tank
c) blower will be placed by certified installer of the treatment unit per manufacturer recommendations
d) contact the health department and ask their advice

10. When you arrive to install the STA you find that the general contractor has placed an access road across that area and that cement trucks have been driven over it. You should;

- a) yell at the general contractor, who should have known better
b) notify the design engineer and have them determine whether compaction has become a problem
c) proceed with the installation since the use of chambers will mitigate any compaction issues
d) scarify the ground surface to break up any compacted areas, then proceed

11. What is the proper configuration of the terminal ends of the 2" lateral lines in the absorption field?

- a) the lines should be left open to allow proper drainage
b) the lines should be individually capped
c) the lines should be connected in a manifold
d) the system contractor may decide how this is to be done

12. What types and numbers of vent pipes and observation ports are required?

- a) no pipes or ports are required for this system
b) one vent pipe for the entire system and one observation port for the system
c) one observation pipe is all that is required in the absorption bed
d) the system contractor may determine the number and layout of these components

13. The design requires that the existing absorption bed be abandoned; how would you do this?

- a) you may recycle the old filter material for use as backfill on the new absorption bed.
b) the material must be taken to a solid waste landfill.
c) the material may be used as road base for another project.
d) saturated soils must be hauled away or may be spread out on subject property to dry.

JEFFERSON COUNTY PUBLIC HEALTH
OWTS Contractor Examination Answer Form
Please circle correct answer(s) or fill in blanks:

APPLICANT NAME: _____ DATE _____

PART I (answers are worth 1 point each)

- | | |
|---------------------|---------------------|
| 1. a b c d | 21. a__ b__ |
| 2. a b c d | 22. a__ b__ c__ d__ |
| 3. T F | e__ f__ |
| 4. T F | 23. a b c d |
| 5. T F | 24. T F |
| 6. T F | 25. a b c d |
| 7. a b c d | 26. a__ b__ |
| 8. a b c d | 27. T F |
| 9. a b c d | 28. T F |
| 10. T F | 29. T F |
| 11. a b c d | 30. T F |
| 12. a__ b__ c__ d__ | 31. ____ |
| 13. a b c d | 32. T F |
| 14. a b c d | 33. a b c d |
| 15. a b c d | 34. a b c d |
| 16. T F | 35. a b c d |
| 17. a b c d | 36. T F |
| 18. a__ b__ c__ d__ | 37. T F |
| e__ f__ | 38. T F |
| 19. a b c d | 39. a b c d |
| 20. ____ | 40. T F |

PART II (answers are worth 2 points each)

Which engineer design did you review?

A **B** **C**

- | | |
|------------|-------------|
| 1. a b c d | 8. a b c d |
| 2. a b c d | 9. a b c d |
| 3. a b c d | 10. a b c d |
| 4. a b c d | 11. a b c d |
| 5. a b c d | 12. a b c d |
| 6. a b c d | 13. a b c d |
| 7. a b c d | |

SCORE: _____ (70 needed to pass)

Date: _____ Graded by _____

Comments: _____



December 15, 2014

Project No. E4

Tim Wilson
4575 Picutis Road
Indian Hill, CO 80454

Subsurface Investigation and Repair Onsite Wastewater System Design - Revised
4575 Picutis Road
Jefferson County, Colorado

Mr. Wilson,

ALL SERVICE septic, LLC performed a subsurface investigation and an upgrade onsite wastewater system (OWS) design for the subject residence. The property is located in Indian Hills Colorado, in an area where OWS and wells are necessary.

SITE CONDITIONS AND PROPOSED CONSTRUCTION

The lot presently has an existing residence with an existing OWS which is failing. The existing septic components must be abandoned. The slope at the area of the proposed drain field is approximately 5% to the south. The proposed drain field will be the back of the residence.

SUBSURFACE

The subsurface was investigated by excavating two 8-foot test pits with a rubber tire backhoe, near the proposed drain field location as shown on attached plans. The test pits were excavated on October 21st 2014. The test pits indicated the site has a 1-foot root zone, underlain by clayey silty sand to 3 feet, underlain by highly weathered bedrock to the maximum depths explored of 4.0 and 4.5 feet, in test pit 1 and 2 respectively. Groundwater was not encountered. The soil class is a 1. An LTAR of 0.8 gals/SF/day will be used for design.

DESIGN SPECIFICATIONS

The OWS design is based on 4-bedrooms and an average sewage load of 600 GPD. The installation must include a 3-compartment tank with a minimum of 1500 gallons in the first two compartments. The tank must have a 0.625 FAST in the second compartment and a screened dosing siphon in the third. Tank alternatives may be considered. Twelve inches of drawdown in tank, or approximately 109 gallon dose is required. Orenco Model 612 is preferred.

750 SF of drain field (15' x 50') must be installed. Two feet of filter material must be placed for adequate treatment, as shown on W1 and W2. A level manifold must be used to distribute effluent. Two-inch laterals with 3/8-inch orifices facing down must be installed.

Construction must be according to the county ISDS regulations, the septic permit provided by the county health department, and this design. This design for the subject property, noted above, is valid only in conjunction with the approved County Health Department permit.

OPERATION INFORMATION AND MAINTENANCE

The surface of the drain field should be seeded upon completion. Vegetation is an important factor in drain field performance. Erosion control should be practiced during and after construction. Geofabrics or plastics should not be used over the drain field. Erosion control should be practiced during and after construction. No heavy equipment, machinery, or materials should be placed on backfilled drain field. Livestock should not graze on the drain field. Plumbing fixtures should be checked to ensure that no additional water is being discharged to OWS. For example, a running toilet or leaky faucet can discharge hundreds of gallons of water a day and harm a drain field.

The homeowner should pump the septic tank every two years and clean the effluent filter as needed. Garbage disposal use should be minimized, and non-biodegradable materials should not be placed into the OWS. Grease should not be placed in household drains. Loading from a water softener should not be discharged into the OWS. No hazardous wastes should be directed into the OWS. Mechanical room drains should not discharge into the OWS. The OWS is engineered for domestic waste only.

FAST™ TREATMENT SYSTEM

The burial depth of the tank should be 12 to 24 inches. A 110 or 220 volt, 20 amp dedicated breaker is required for the blower. The FAST™ System must be installed by a qualified installer. The control panel should be mounted in 'line of sight' of the system.

Two site visits are typical for a FAST installation. The first visit is to install the FAST unit and the second visit is the 'start-up' visit. An operation and maintenance contract is required for the FAST™ treatment systems.

ADDITIONAL CONSTRUCTION NOTES

NO staging of materials, or heavy machinery over the drain field area prior to construction. Excavation equipment must not drive in excavation of drain field during construction due to the potential to compact soil. If design includes a pump, air release valves and weep holes should be installed to allow pump lines to drain to minimize risk of freezing. Extensions should be placed on all septic tank components to allow access to them from existing grade. Precast concrete tanks and distribution boxes should be used, unless plastic or fiberglass is required. Access to all tank compartments and distribution devices is optimal.

INSTALLATION OBSERVATIONS

ALL SERVICE septic, LLC, and the county must view the OWS during construction. The OWS observation should be performed before backfill, after placement of chambers and distribution pipes. Septic tanks, distribution devices, pumps, dosing siphons, and other plumbing, as applicable, must also be observed. ALL SERVICE septic, LLC should be notified 48 hours in advance to observe the installation.

LIMITS:

The design is based on information submitted. If soil conditions encountered are different from conditions described in report, ALL SERVICE septic, LLC should be notified. All OWS construction must be according to the county regulations. Requirements not specified in this report must follow county regulations. The installer should have documented and demonstrated knowledge of the requirements and regulations of the county in which they are working.

Please call with questions.

Sincerely,

ALL SERVICE septic, LLC

Timothy R. Petz
Emailed copies to Tim Wilson



Reviewed By:



Richard H. Petz, P.E.





Scale: 1" = 30'-0"

ALL ONSITE AND NEIGHBORING WELLS ARE 100+ FEET FROM PROPOSED DRAIN FIELD.

INSTALL 1250 (MIN FIRST TWO COMPARTMENTS) GALLON THREE COMPARTMENT PRECAST CONCRETE TANK WITH 0.625 FAST IN SECOND COMPARTMENT AND DOSING SIPHON IN THIRD

ABANDON EXISTING TANK

INSTALL CLEANOUT IF NOT EXISTING

4" SDR 35 PIPE (2% FALL)

EXISTING 4-BEDROOM RESIDENCE

DRIVE

PICUTIS ROAD

3" SDR 35 PIPE (1% FALL)

750 SF OF OVER-EXCAVATED DRAIN FIELD WITH 2 FEET OF IMPORTED SAND

ABANDON EXISTING FIELD

TEST PITS

10' MIN

15'

50'

2

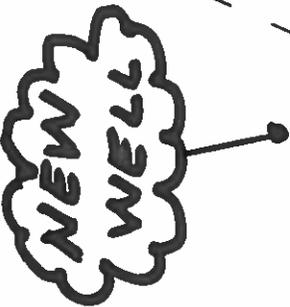
NOTE: ALL SATURATED SOILS MUST BE HAULED AWAY OR MAY BE SPREAD ON SUBJECT PROPERTY TO DRY.

NEIGHBOR WELL

100'

200'

PROPERTY LINE



6147 Braun Court
Arvada, Colorado 80004
Phone 303.908.7823
Fax 303.206.2796

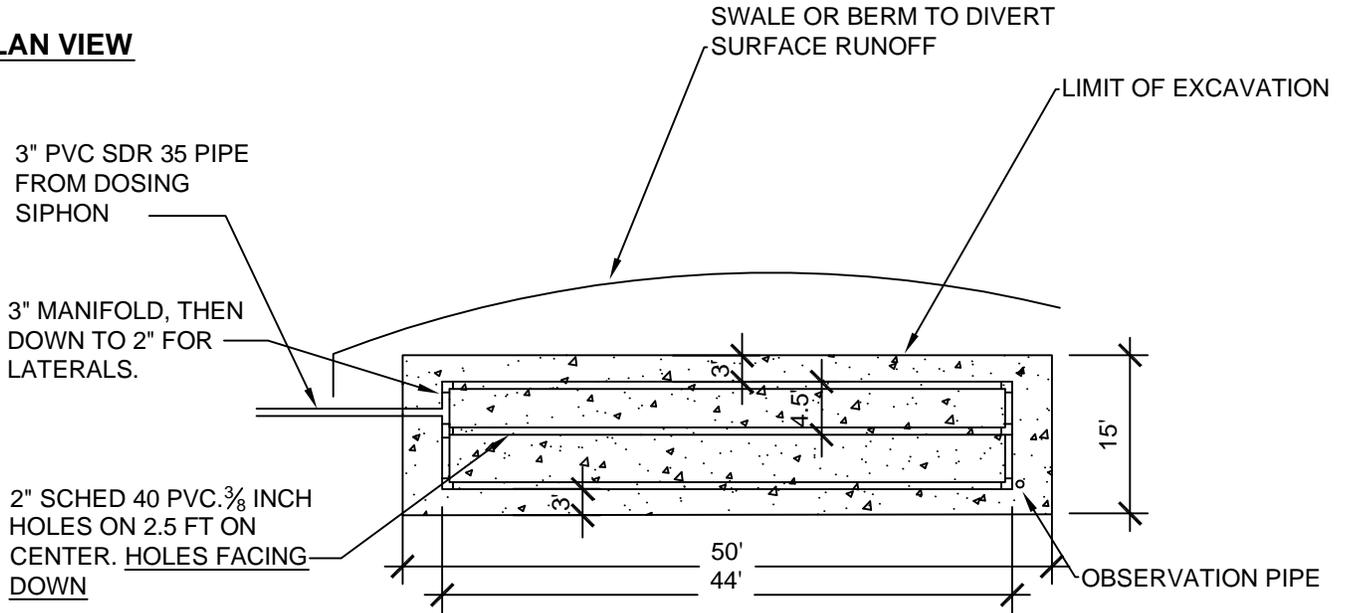
Tim Wilson
4575 Picutis Road, Indian Hills
Jefferson County Colorado

Project Number: E4

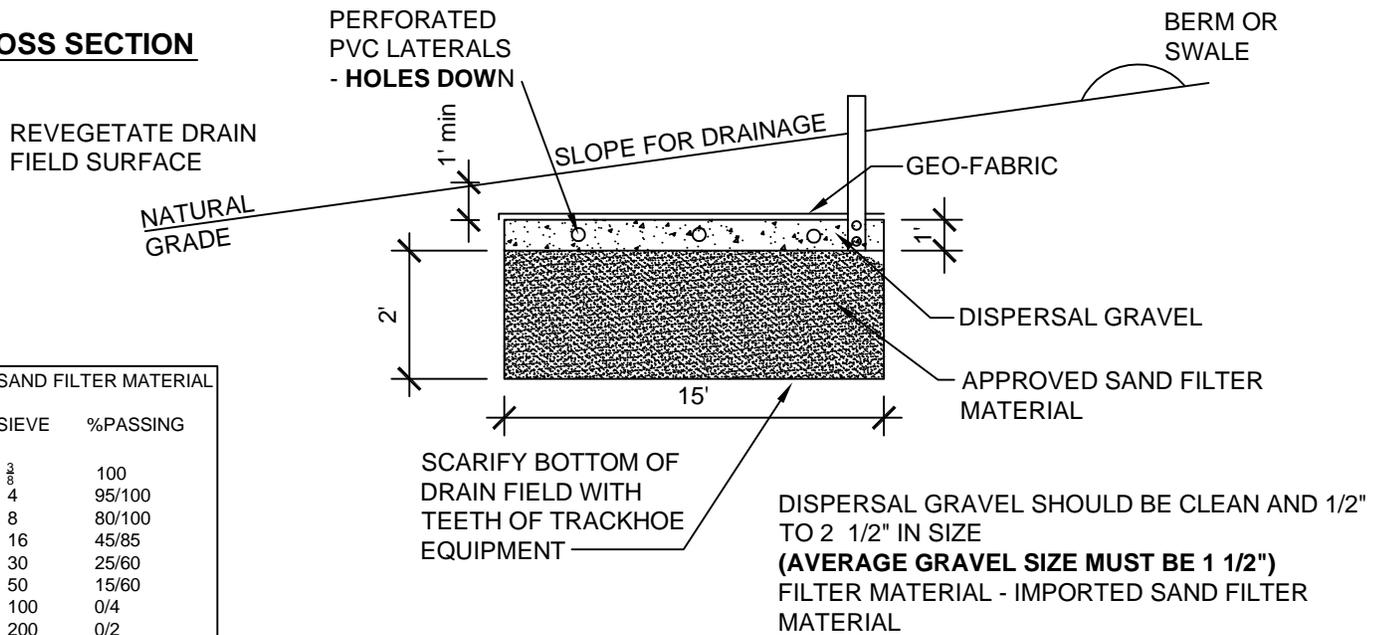
W1

OVER-EXCAVATED DRAIN FIELD SPECIFICATIONS

PLAN VIEW



CROSS SECTION



SAND FILTER MATERIAL	
SIEVE	%PASSING
20#	100
4	95/100
8	80/100
16	45/85
30	25/60
50	15/60
100	0/4
200	0/2

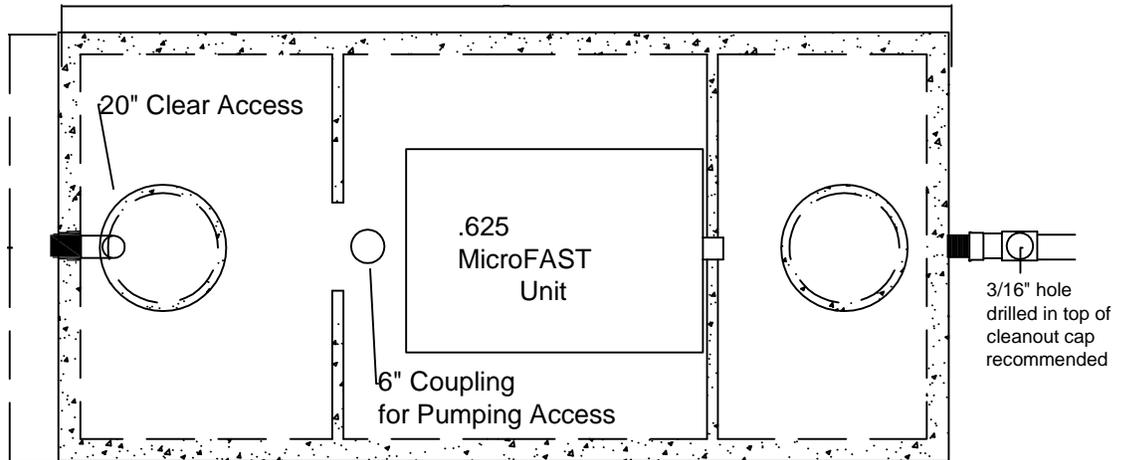


6147 Braun Court
 Arvada, Colorado 80004
 Phone 303.908.7823
 Fax 303.206.2796

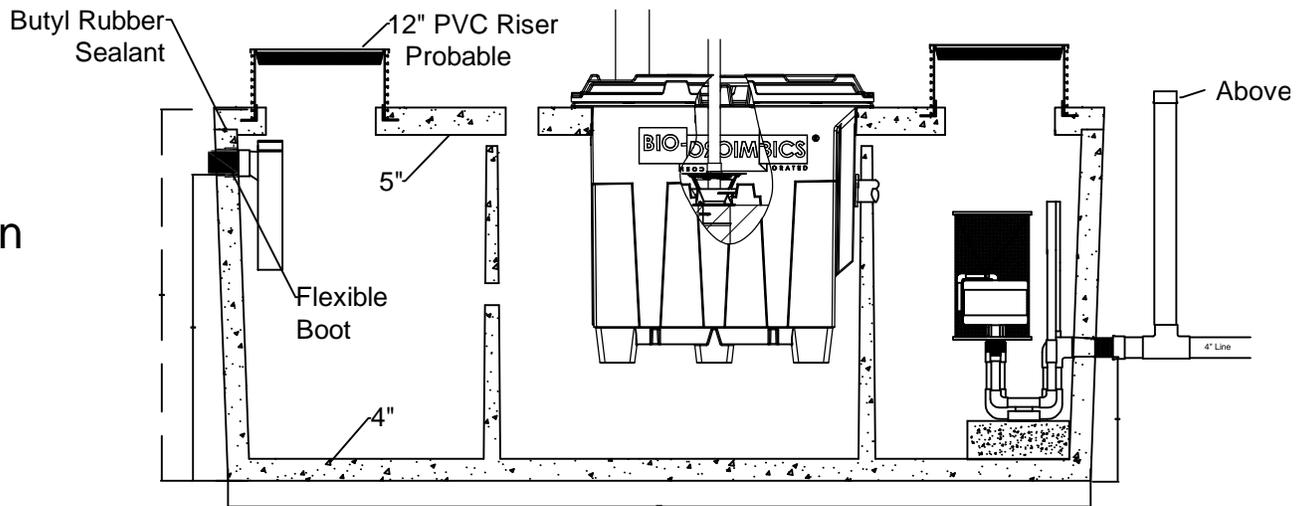
Tim Wilson
 4575 Picutis Road, Indian Hills
 Jefferson County Colorado
 Project Number: E4

W2

Top View



Section View



Tank:
***Meets ASTM C-1227 spec including C-1644-06 for resilient connectors**

- 4000 psi concrete
- Complete installation available in some areas

Digging Specs	Invert		Dimensions		
15' Long x 8' Wide 56" below inlet invert	Inlet 56"	Outlet 23"	Length 162"	Width 78"	Height 80"



Net Capacity				Net Weight		
Inlet Side 604 gallons	Middle 917 gallons	Outlet Side 505 gallons	Total 2,026 gallons	Lid 4,340 lbs	Tank 16,240 lbs	Total 20,630 lb



6147 Braun Court
 Arvada, Colorado 80004
 Phone 303.908.7823
 Fax 303.206.2796

Tim Wilson
 4575 Picutis Road, Indian Hills
 Jefferson County Colorado
 Project Number: E4

W4

Dosing Siphon Pressure Chart

4575 Picutis Road
Project E4

Discharge Line size	3 inches
Transport Length	20 inches
Pipe Schedule	40
Transport Pipe Diameter	3 inches
Pipe Laterals Per Cell	3
Pipe Lateral Length	44 feet
Pipe Lateral Size	2 inches
Elevation Drop	2.9 feet
Drawdown in Tank	12 inches
Dosing Siphon Tank Size	505 gallons
Orifice Size	0.375 inches
Orifice Spacing	2.5 feet
Friction loss	8 percent
Distal Pressure in Last Orifice	0.75 feet (squirt height)

*approximately 109 gallon dose per dose

** approximately 3 doses per day