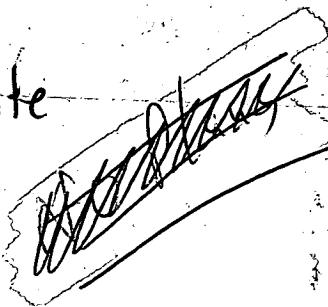


Alternative System

- ~~B~~-81 South Exit 296
- Take Right Rt 55 west 8 mi
- Take Left Rt 604 - Star Tannery Rd
- Go 1 mi bare left Gravel Springs Rd
- Go 1 mi bare left Rt 600 - Oates Rd
- Go 1 mi take left Rt 602
Paddy Run Rd
- Lot 2 1 mi on Right

Red Gate





PERMIT

COMMONWEALTH OF VIRGINIA DEPARTMENT OF HEALTH

IDENTIFICATION # 069-03-0022
DATE OF ISSUE: 06/28/04

TAX MAP # 80-A-17A
SUBDIVISION: PADDY RUN
WOODS

OPERATOR: Dale & Lynn Hawkins
ADDRESS: 642 Paddy Run Road
Star Tannery, VA 22654

*The above operator has made application and in accordance with the regulations
of the **BOARD OF HEALTH OF THE COMMONWEALTH OF VIRGINIA**
is authorized by the **FREDERICK COUNTY HEALTH DEPARTMENT**
to operate the following:*

☒ ON-SITE SEWAGE DISPOSAL SYSTEM
SYSTEM TYPE: II / BEDROOMS IN STRUCTURE: 3
DESIGN CAPACITY: 450
gpd / MAXIMUM OCCUPANCY: 6
OTHER:

☒ PRIVATE WATER SUPPLY SYSTEM
Class of non-public water well: IIIC
Based on the inspection of this water supply system, the information contained on the
water completion report and the sample results, this water supply meets the requirements
of the **PRIVATE WELL REGULATIONS**: ☒

An "X" in the ☒ indicates the system approval for which this permit has been issued.

*The issuance of an operation permit does not denote or imply any guarantee by the Virginia
Department of Health that the sewage disposal system will function, as designed, for any
specified period of time. It shall be the responsibility of the owner or any subsequent owner to
maintain, repair, or replace any sewage disposal system that ceases to operate as defined in the
operation permit and in 12 VAC 5-610-350.*

*If a conditional permit has been issued, the owner or any subsequent owner is advised to review
the conditions that have been imposed on the operation of this sewage disposal system.*

This permit not valid unless affixed with the embossed seal of the Lord Fairfax Health District.

Christina Sawyer
HEALTH OFFICIAL **VDH** VIRGINIA
DEPARTMENT
OF HEALTH
Protecting You and Your Environment

6-28-04
DATE

pg. 10 R-3
plus plans

Water Supply and/or Sewage Disposal System Construction Permit

Health Department
Identification Number 069-03-0022
Map Reference 80-A-17A

Fred. Co. / Wine Health Department

Water Supply System: New ☒ Repair ☐ Public ☐ FHA ☐ VA ☐ Case No.
Sewage Disposal System: New ☐ Repair ☐ Expanded ☐ Conditional ☐ Public ☐
Based on the application for a sewage disposal system construction permit filed in accordance with Section 2.13
E, of the Sewage Handling and Disposal Regulations and/or Section 2.13 of the Private Well Regulations a
construction permit is hereby issued to:
Owner Dale + Lynn Hawkins Telephone 703-594-2025
Address P.O. Box 304, Nokesville, VA 20182 For a Type II Sewage Disposal System or Well to
be constructed on/at 815-(R)55-(L)604 (L) Gravel Springs Rd. (L) Rt. 600 Oatris Rd. (L) Rt. 602 Paddy Run Lot 2 on (R).
Subdivision Paddy Run Woods Section/Block Lot 2 Actual or estimated water use 456 GPP - 3 BR.

NOTE: SEWAGE DISPOSAL SYSTEM INSPECTION RESULTS

Water supply, existing: (describe) None

Water supply location: Satisfactory yes ☒ no ☐
 comments *Casing / Grout bet 45' permit says 50'*

To be installed: class III C
cased 50' min. grouted 50' min.

Completion Report 45' is sufficient. Well Permitted
G. W. 2 Received: yes ☒ no ☐ not applicable ☒ 06/22/04

Building sewer: _____ I.D. PVC Schedule 40, or equivalent.
Slope 1.25" per 10' (minimum).
☐ Other _____

Building sewer: yes ☐ no ☐ comments _____
Satisfactory

Septic tank: Capacity gals. (minimum).
☐ Other

Pretreatment unit: yes ☐ no ☐ comments _____
Satisfactory _____

Inlet-outlet structure:
PVC Schedule 40, 4" tees or equivalent.
☐ Other: _____

Inlet-outlet structure: yes ☐ no ☐ comments _____

Satisfactory _____

Pump and pump station:
No ☐ Yes ☐ describe and show design.
if yes: _____

Pump & pump station: yes ☐ no ☐ comments _____
Satisfactory

Gravity mains: 3" or larger I.D., minimum 6" fall per 100', 1500 lb. crush strength or equivalent.

☐ Other _____

Conveyance method: yes ☐ no ☐ comments _____
Satisfactory _____

Distribution box:
Precast concrete with _____ ports.
☐ Other _____

Distribution box: yes ☐ no ☐ comments _____

Satisfactory _____

Header lines:
Material: 4" I.D. 1500 lb. crush strength plastic or equivalent from distribution box to 2' into absorption trench. Slope 2" minimum.
☐ Other _____

Header lines: yes ☐ no ☐ comments

Satisfactory

Percolation lines:
Gravity 4" plastic 1000 lb. per foot bearing load or equivalent,
slope 2" 4" (min. max.) per 100'
☐ Other _____

Percolation lines: yes ☐ no ☐ comments _____

Satisfactory _____

Absorption trenches:
 Square ft. required _____; depth from ground surface to
 bottom of trench _____; aggregate size _____;
 Trench bottom slope _____;
 center to center spacing _____; trench width _____
 Depth of aggregate _____;
 Trench length _____; Number of trenches _____

Absorption trenches: yes ☐ no ☐ comments _____

Satisfactory: _____

Because or well denied as of 06/22/04
Date _____ Inspected and approved by: _____

Sanitarian

C.H.S. 202A

06/17/64 - Permit approved by engineer - appears to be
in correct location proper setbacks to house and well/
at Guest/casino met. per regulations 100' from d.f. - 50' + from house

Well In correct Great/ (aring)

Schematic drawing of sewage disposal and/or water supply system and topographic features.

Show the lot lines of the building site, sketch of property showing any topographic features which may impact on the design of the well or sewage disposal system, including existing and/or proposed structures and sewage disposal systems and wells within 200 feet. The schematic drawing of the well site or area and/or sewage disposal system shall show sewer lines, pretreatment unit, pump station, conveyance system, and subsurface soil absorption system, reserve area, etc. When a nonpublic drinking water supply is to be permitted, show all sources of pollution within 200 feet.

☐ The information required above has been drawn on the attached copy of the sketch submitted with the application.

Attach additional sheets as necessary to illustrate the design.
Tax Map: 80-A-17A Paddy's Run Sub. Lot 2
Health Id#: 069-03-0022

Install as per the attached engineered plans and specifications for a Puraflo Biofilter Sewage Disposal System by (P.E) Patrick B. Racey, for Wayne Grataski dated 11/05/03 (new owners: Dale and Lynn Hawkins).

Proper function of the system hydraulics is the responsibility of the engineer. Final construction must be inspected and approved by written comments from the engineer.

The Health Department must be notified after the engineer's final construction inspection to verify proper setbacks from the sewage disposal system to the house and well were maintained as per regulations. The system can not be covered up until a Health Department EHS views the system.

Proposed III C Well:

The III C well must be cased and grouted a minimum of 50 ft.

The proposed Well location is shown on pg. 5 of the engineer plans.

A III C well must maintain a 100 ft. setback from the drainfield. A 100 ft. setback must be maintained from all neighboring proposed and existing drainfields/reserves and all other potential sources of pollution. A III C well must maintain a 50ft. setback from the Puraflo modules, sewer main, septic tank, pump tank, force main, ~~and other~~...

A III C well MUST maintain a 50 ft. setback from the termite treated house.

This sewage disposal system and/or water supply is to be constructed as specified by the permit or attached plans and specifications.

This sewage disposal system and/or well construction permit is null and void if (a) conditions are changed from those shown on the application (b) conditions are changed from those shown on the construction permit.

No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved, by the local health department or unless expressly authorized by the local health dept. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon the direction of the Department.

Date: 11/20/03 Issued by: [Signature] Sanitarian
Date: 11-20-03 Reviewed by: [Signature] Supervisory Sanitarian

This Construction Permit Valid until
05/20/05

If FHA or VA financing

Reviewed by Date _____ Date _____
Supervisory Sanitarian Regional Sanitarian

Health Department

Identification Number 069-03-0022

12 VAC 5-610-817. Maintenance.

A. In order to encourage proper maintenance and reduce the likelihood of solids being discharged to an absorption field, all septic tanks constructed after July 1, 2000, shall be designed to allow for routine inspection without being uncovered (i.e., have an inspection port as provided for in subsection B of this section) or have an effluent filter as provided for in subsection C of this section, or be designed for reduced maintenance as provided for in subsection D of this section.

B. Inspection port. An inspection port is a three-inch or larger port pipe or structure, which allows access to the septic tank for the purpose of measuring sludge and scum accumulation. The inspection port shall terminate at or above grade and be designed to allow an inspection of sludge buildup in the septic tank. The inspection port shall be constructed of schedule 40 PVC pipe, or its equivalent, and shall be fitted with a watertight threaded cap. The recommended location of the inspection port shall be in or near the manhole cover on the inlet side of the septic tank away from the inlet tee. Other locations may be approved by the district health department on a case-by-case basis.

C. Effluent filters. An effluent filter is a device which has one or more of the following purposes: (i) to manage solids to provide greater service life to a pump or other components of an onsite system; (ii) to manage the total suspended solids (TSS) passed to the absorption field, potentially enhancing absorption field life; or (iii) some other purpose recognized as beneficial by the department.

1. All effluent filters shall be designed to improve the quality of effluent leaving the tank in a manner which is consistent with their purpose.

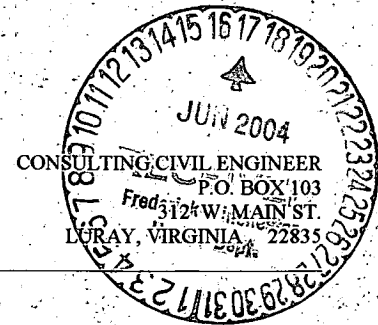
2. Septic tank outlet filters shall be constructed from a material which resists the corrosive nature of the environment within a septic tank.

3. A tamper proof child resistant at-grade access port shall be provided to assure the filter can be readily maintained as necessary.

D. Reduced maintenance septic tanks. Septic tanks which are sized 30% larger than required and which are baffled such that the first compartment is nominally the volume required shall be considered to be a reduced maintenance septic tank.

RACEY ENGINEERING, PLLC

Phone (540)743-9227
Fax (540)743-6118



June 15, 2004

Frederick County Health Department
107 North Kent Street, Suite 201
Winchester, VA 22601

Re: Engineer Inspection Report

Subject: Wayne Grataski Property-Paddy's Run Sub. Lot 2
TM #80-A-17-Frederick Co., VA

In accordance with the Sewage Disposal Regulations, a recent pre-operation inspection of the Puraflo Disposal System was made on the subject property. Based on the results of the inspection, the system was observed to be constructed [installed] in accordance with commonly-accepted practices, and the plans prepared by this office. The following comments are applicable to this project;

-A Certificate of Completion from Stoneburner's Backhoe Service must be provided to this office, which certifies and warrants the construction to be in compliance with permit requirements. The approval and operation of the subject Sewage Disposal System involves the following provisions;

-The Installer will be responsible for defective equipment for a period of a year as is common practice in this industry.

-The Owner will consult this office for advice if and when system components are not functioning in an appropriate manner. Some minor adjustments to system components can be required within 30 to 60 days of "start-up." If any portion of the system is receiving outside surface or groundwater, repairs must be made immediately.

-This office must be afforded an opportunity to review the System prior to any change in ownership of the property, at which time repairs [if necessary] must be completed prior to approval of the change of ownership.

Engineer Inspection Report

June 15, 2004

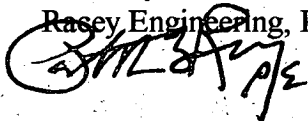
Page 2 of 2

-The Health Department has reviewed the "newly" installed system and has granted approval for operation. Deficiencies discovered by the Health Department Representative must be corrected immediately, or approval from this office will be revoked in writing.

Our services were provided in accordance with common practices for inspection of Sewage Disposal Systems, no warranty is made. If you should have any questions, or if we can be of further assistance, please do not hesitate to contact our office. Thank You.

Sincerely,

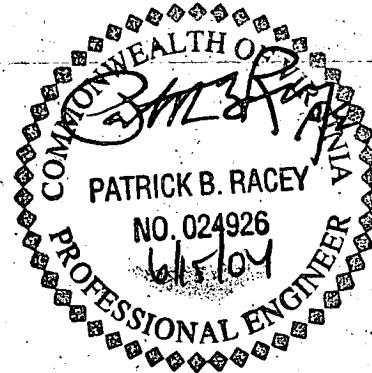
Racey Engineering, PLLC



Patrick B. Racey, PE

cc: File

Stoneburners's Backhoe Service



BURNER WELL DRILLING, Inc.

Well Drilling • Pump Installation
Industrial • Commercial • Residential • Farm

P.O. Box 98
McGaheysville, Virginia 22840

Phone 540-289-9421
FAX 540-289-9740

June 25, 2004

Dale & Lynn Hawkins
P.O. Box 304
Nokesville, VA 20182

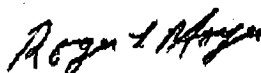
Dear Mr. & Mrs. Hawkins:

Regarding your well located in Frederick County, Virginia Health Dept.
Permit #069-03-0022. It has been double cased with 100 feet of 4" Sch.40
PVC casing and 2 well packers and pressure grouted from 95 ft. to minus
3 ft.

If you have any questions, please give me a call.

Thank you.

Sincerely,



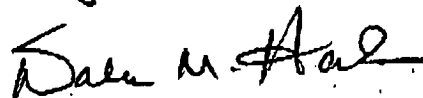
Roger L. Meyer
Supervisor

RLM:chm

6-28-04

Scott,

This letter is to Acknowledge That All
Corrections have been made to The well
to The best of my Knowledge.



(H) 703 594-2025
(W) 703 792-5844

Commonwealth of Virginia Uniform Water Well Completion Report

Owner DALE & LYNN HAWKINS
 Address P.O. Box 304
Nokesville, VA 20182
 Phone 303/594-2025
 Location L on Star Tannery Rd. (604). L on Gravel
Spring Rd. L on Paddy Run. Go 1 mile.

VDH PERMIT 069-03-0022
 TAX MAP ID 80-A-17A
 VWCB Permit _____
 VWCB ID _____
 County FREDERICK

* Well Data *

General Information

Drilling Method Air Rotary
 Depth to Bedrock 9
 Static Water Level 20
 Well Disinfected (Y or N) Y

Date Completed 4/22/04
 Yield 4 (GPM)
 Stabilized Water Level _____
 Disinfectant Used _____

Total Depth of Well 400
 Length of Test 1.0 hour
 Natural Flow (Rate) No
 Amount Used _____

Casing

From +1 To 38
 Size 6" Material Steel
 Weight/Schedule 18.97/Sch 40

From +1 To 100'
 Size 4" Material PVC
 Weight/Schedule SCHEDULE 40

From _____ To _____
 Size _____ Material _____
 Weight/Schedule _____

Gravel Pack

From _____ To _____

From _____ To _____

From _____ To _____

Grout

From 0 To 38
 Bore Hole Size 10"
 Type Cement
 Method Pressure grouted

From -3 To 95
 Bore Hole Size 6"
 Type CEMENT
 Method PRESSURE

From _____ To _____
 Bore Hole Size _____
 Type _____
 Method _____

Water Zones or Screened Intervals

From _____ To _____
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

From _____ To _____
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

From _____ To _____
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

* Use Data *

Private Well: Domestic X Agricultural _____ Industrial _____ Monitoring _____
 Public Well: Community _____ Non Community _____

* Abandonment Information *

Bored or Dug Wells

Casing Removed, Y or N? _____
 If Y, Depth to which casing was removed: _____
 Depth and Type of Fill: _____
 Source of Fill _____
 Bentonite Plugs: From _____ to _____ From _____ to _____

Wells other than Bored Wells

Casing removed, Y or N? _____
 Depth to which casing was removed: _____
 Applicable, depth(s), and type of gravel/sand fill: _____
 Source of gravel or sand: _____
 Cement: From _____ to _____ From _____ to _____

Method of permanently marking location: _____

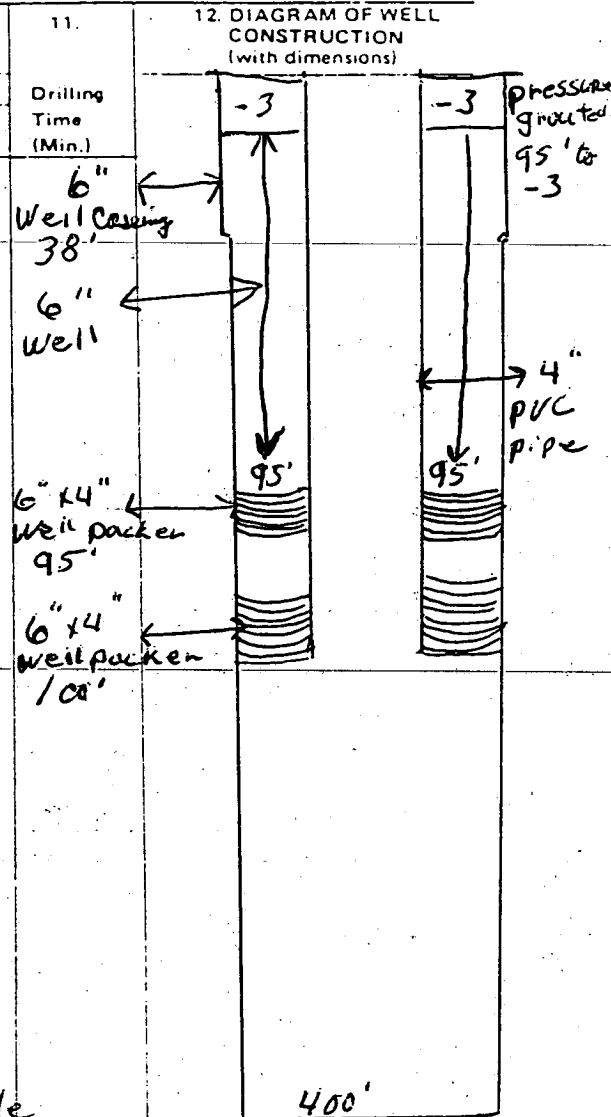
Owner **DALE & LYNN HAWKINS**

BWCM No. _____

3. State law requires submitting to the Virginia State Water Control Board information about groundwater and wells for every well made in the State intended for water, or any other non-exempt well. This information must be submitted whether the well is completed, on standby, or abandoned. Information required includes: an accurately and completely prepared water well completion report; full data from any aquifer pumping tests, drill cuttings taken at ten foot intervals (unless exemption is secured), the results of any chemical analyses, and copies of any geophysical logs. Quarterly pumpage and use reports are required from owners of public supply and industrial wells. County or State permits to drill may be required in some parts of the state. Some counties require submission of a water well completion report. The Virginia State Health Department requires a water well completion report for public supply wells.

10. DRILLERS LOG (use additional Sheets if necessary)

DEPTH (feet)		TYPE OF ROCK OR SOIL (color, material, fossils, hardness, etc.)	REMARKS (water, caving, cavities, broken, core, shot, (etc.))
From	To		
0	3	topsoil	
3	9	clay	
9	15	brown shale	
15	97	gray shale	
97	101	gray & white shale	
101	186	gray shale	
186	190	soft gray & white shale	Water
190	220	blue shale	
220	246	gray shale	
246	248	soft gray & white shale	Water
248	400	gray shale w/soft places	



Note - Not to Scale

13. Well lot dedicated? _____ Size _____ ft. X _____ ft. Well house? _____
 Distance to nearest pollutant source _____ ft. Type _____
 Distance to nearest property line _____ ft. Building _____ ft.

14. WATER SERVICE PIPE: Checked under _____ p.s.i. for _____ minutes. Pipe size _____ inches, Material _____
 Installer _____
 Date _____

State Water Control Board Regional Offices

Valley Reg. Off.
 116 North Main Street
 P. O. Box 268
 Bridgewater, Va. 22812
 703-828-2595

Piedmont Reg. Off.
 4010 West Broad Street
 P. O. Box 6616
 Richmond, Va. 23230
 804-257-1006

Southwest Reg. Off.
 408 East Main Street
 P. O. Box 476
 Abingdon, Va. 24210
 703-628-5183

Tidewater Reg. Off.
 287 Pembroke Office Park
 Suite 310 Pembroke No. 2
 Va. Beach, Va. 23462
 804-499-8742

West-Central Reg. Off.
 Executive Park
 3312 Peters Creek Road
 Roanoke, Va. 24019
 703-982-7432

Northern Virginia Reg. Off.
 5515 Cherokee Avenue
 Suite 404
 Alexandria, Va. 22312
 703-750-9111

15. I certify that the information contained herein is true and correct and that this well and/or system has been installed and constructed in accordance with the requirements for well construction as specified in compliance with appropriate county or independent city ordinances and the laws and rules of the Commonwealth of Virginia

Signature Robert M. Simpson (Seal) Date June 25, 2004
Burder Well Drilling, Inc.
 License No. 2701-013146A

**Commonwealth of Virginia
Uniform Water Well Completion Report**

Owner DALE & LYNN HAWKINS
Address P.O. Box 304
Nokesville, VA 20182
Phone 303/594-2025
Location L on Star Tannery (604). L on Gravel Spring
Rd. L on Paddy Run. Go 1 mile..

VDH Permit: 069-03-0022
Tax Map ID: 80-A-17A
VWCB Permit _____
VWCB ID _____
County FREDERICK

* Well Data *

General Information

Drilling Method Air Rotary
Depth to Bedrock 9
Static Water Level 20
Well Disinfected (Y or N) Y

Date Completed 4/22/04
Yield 4 (GPM)
Stabilized Water Level _____
Disinfectant Used _____

Total Depth of Well 400
Length of Test 1.0 hour
Natural Flow (Rate) No
Amount Used _____

Casing

From +1 To 38
Size 6" Material Steel
Weight/Schedule 18.97/Sch. 40

From _____ To _____
Size _____ Material _____
Weight/Schedule _____

From _____ To _____
Size _____ Material _____
Weight/Schedule _____

Gravel Pack

From N/A To _____

From _____ To _____

From _____ To _____

Grout

From 0 To 20
Bore Hole Size 10"
Type Cement
Method Pressure

From _____ To _____
Bore Hole Size _____
Type _____
Method _____

From _____ To _____
Bore Hole Size _____
Type _____
Method _____

Water Zones or Screened Intervals

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

* Use Data *

Private Well: Domestic X Agricultural _____ Industrial _____ Monitoring _____
Public Well: Community _____ Non Community _____

* Abandonment Information *

Bored or Dug Wells

Casing Removed, Y or N?: _____
If Y, Depth to which casing was removed: _____
Depth and Type of Fill: _____
Source of Fill: _____
Bentonite Plugs: From _____ to _____ From _____ to _____

Wells other than Bored Wells

Casing removed, Y or N? _____
Depth to which casing was removed: _____
Applicable, depth(s), and type of gravel/sand fill: _____
Source of gravel or sand: _____
Cement: From _____ to _____ From _____ to _____

Method of permanently marking location: _____

Owner: DALE & LYNN HAWKINS

Drillers Log
(Use Additional sheets if necessary)

[illegible]

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit and further that the well complies with all applicable state and local regulations, ordinances and laws.

Drilling

Contractor Burner Well Drilling, Inc.
Address _____

Address Barber Well
P.O. Box 98

McGaheysville, VA 22840

Phone (540) 289-9421

Drillers Signature Carolyn H. Meadows, office mgr.
Representing Burner Well Drilling, Inc.
Virginia Contractors License No. _____

Representing Burner Well Drilling, Inc.
Virginia Contractors Association

Virginia Contractors License Number 2701-013146A

Date 5/7/04

**SHENANDOAH BACTERIOLOGICAL
LABORATORY**VA Lab ID # 00257 WV Lab ID # 9941M MD Lab # 302
434 Reynolds Rd.
Cross Junction, VA 22625Phone: (540) 888-4500
Toll Free: (866) 888-4508
Fax: (540) 888-9960**CERTIFICATE OF ANALYSIS**

CERTIFICATE # SBL0400986

DATE: 06-12-2004

PWSID #: **N/A**Tax Map #: **80-A-17A**Health Dept #: **N/A**

CUSTOMER: - Homeowner -

CERTIFICATE TO:

SAMPLE LOCATION: Dale & Lynn Hawkins, 642 Paddy Run Rd., Star Tannery, VA 22654

SAMPLE TYPE: Drinking Water

DATE OF ANALYSIS / RESULTS: BACTERIAL ANALYSIS: BACTERIAL RESULTS:
6/11/2004 **6/12/2004**TESTS PERFORMED: *Bacterial*

<u>PARAMETER</u>	<u>RESULT</u>	<u>METHOD</u>
Total Coliform	Absent	Colilert
E-Coli	Absent	Colilert

Total Coliform and E-Coli ABSENT = Meets minimum requirement set forth by EPA and is safe for human consumption.
Total Coliform PRESENT and E-Coli ABSENT or Total Coliform PRESENT and E-Coli PRESENT = Does Not meet minimum requirement set forth by EPA and is NOT SAFE for human consumption.

LEGEND:
NT in "Results" field = Not Tested
Authorized Signature

well / Septic
\$ 190.00
21878090

Commonwealth of Virginia
Application for a Sewage Disposal and/or Water Supply Permit

Health Department ID# 069-03-0022 ^{SF} (VDH Use)
Date Received 9-10-03 (VDH Use)

Owner DALE + LYNN HAWKINS Address P.O. Box 304 Phone 703-594-2025
Nokesville, Va 20182

Agent WAYNE J GRATSKI Address 61 River Ct Phone (540) 436-8271
CONST CO INC Toms Brook Va 22660 325-6945 *Please call*

Directions to Property: _____

Subdivision PADDY RUN WOODS Section NA Block NA Lot 2

Other Property Identification _____ Map Reference 80-A-17A

Dimension/size of Lot/Property _____

Residential Use	☒ Yes	_____ No
Termite Treatment	☒ Yes	_____ No
	☒ Single Family	_____ Multi-family
Number of bedrooms	<u>2</u>	Number of Units _____
Basement	☒ Yes	_____ No
Fixtures in Basement	☒ Yes	_____ No

Proposed Sewage Disposal Method:

Onsite Sewage Disposal System: ☒ Septic Tank Drainfield _____ LPD _____ Mound _____ Other _____

Water Supply: _____ Public _____ New _____ Existing
☒ Private ☒ New _____ Existing

Describe: Well to be drilled

The property lines, building location and sewage disposal system site are clearly marked and the property is sufficiently visible to see the topography. I give permission to the Department to enter onto the property described for the purpose of processing this application and to perform quality assurance checks as necessary until the sewage disposal system has been constructed and approved.

Wayne J Gratski 9-10-03
Signature of Owner/Agent Date

IMPORTANT NOTICE
PLEASE READ AND COMPLETE WHEN SUBMITTING
YOUR APPLICATION

When submitting an application, you must select one of the following options. This information is very important. Your application will be processed according to your selection in order of priority.

- ☐ 1D. Application to replace a dry well.
- ☐ 1W. Application to repair a well.
- ☐ 1S. Application to repair a failing onsite sewage system.
- ☒ 2A. Application for a Sewage Disposal/Well Construction Permit. I have attached a soil review by a private soils consultant. AOSE # (if applicable): ✓. I intend to apply for a building permit within 18 months from issuance of a sewage disposal (and well) permit. I intend to install the septic system (and well) within 18 months from issuance of a sewage disposal permit.
- ☐ 2B. Application for a Sewage Disposal/Well Construction Permit or Conditional Letter. I would like the Health Department to conduct the soil review. I intend to apply for a building permit within 18 months from issuance of a sewage disposal permit. I intend to install the septic system (and well) within 18 months from issuance of a sewage disposal permit. Permit renewal? Y N
- ☐ 2C. Application for an approved Certification Letter to be converted into a Construction Permit.
- ☐ 2D. Application for a Well Permit only. (This includes new construction or well abandonment)
- ☐ 2E. Application for a sewage disposal Construction Permit for expansion of an existing septic system.
- ☐ 3A. Application for a Certification Letter. I am not ready to build at this time, but I have attached a soil review by a private soils consultant. AOSE # (if applicable): . If approved I will provide the Frederick County Health Department with a survey of the approved drainfield and well area (if applicable), which I will record in the land records office with my Certification Letter. I understand my Certification Letter will be valid twenty-four hours after I show proof of recordation to the Frederick County Health Department.
- ☐ 3B. Application for a Certification Letter. I am not ready to build at this time. I would like the Health Department to conduct the soil review. If approved I will provide the Frederick County Health Department with a survey of the approved drainfield and well area (if applicable), which I will record in the land records office with my Certification Letter. I understand my Certification Letter will be valid twenty-four hours after I show proof of recordation to the Frederick County Health Department.

NOTE: This application will be denied for lack of information if it is inactive for three months. After that time, a new application and fee will be required to continue processing. Applications to repair failing systems or dry wells (category 1) and applications with concurrent building permit application (category 2) will receive either a construction permit or denial letter, depending on site and soil conditions. These applications will receive priority processing. Applications for certification letters (category 3) will receive either a denial or a certification letter indicating whether the site is suitable for an onsite sewage system (and water supply). These applications will receive a lower priority for processing.

I have read and understand the above and attached procedures for obtaining a Construction Permit and/or Certification Letter. I give permission to the Virginia Department of Health to enter onto property described in this application for the purpose of processing the application and to perform quality assurance checks as necessary until the sewage disposal system and water supply have been constructed and approved.

Signature: Wayne J. Dumas

Date: 9-10-03

IMPORTANT NOTICE

PLEASE READ BEFORE FILING YOUR APPLICATION AND PAYING YOUR FEE

This is to inform you that the fees for Environmental Health Permits mandated by the State CANNOT be REFUNDED once the application has been filed, the fee paid, and a site visit has been made, except for the following reasons:

1. The Health Department is unable to issue a permit (unless the permit is denied due to lack of information or action by owner), and only then if
2. You own the lot and are seeking to construct your principal place of residence, and only if
3. You provide written notification to the Health Department that you are foregoing your right to appeal the denial of your request for a permit.

In order for you to then appeal at a later date, the above-mentioned refunded fee would need to be reinstated before a hearing date would be scheduled.

PLEASE INDICATE IF THIS IS TO BE YOUR PRINCIPAL PLACE OF RESIDENCE.

YES

NO

I have read and understand the above statement and understand that my fee can be returned under the above conditions.

SIGNATURE: *Wayne D. Quatman* (AGENT)

DATE: 9-18-03

SOCIAL SECURITY NUMBER: 108-54-3248

Soil Evaluation Form

PAGE 1 OF 6Commonwealth of Virginia
Department of HealthHealth Department
Identification Number
Tax Map Number80-A-17

General Information

Date 2/27/01 FREDERICK County Health Department
Applicant J. H. Yost III Telephone No. 665-2826
Address 25 W. Piccadilly St., Winchester, VA. 22601
Owner Same Address _____
Location Paddy Run Road
Subdivision PADDY'S RUN WOODS Block/Section _____ Lot 2

Soil Information Summary

1. Position in landscape satisfactory Yes ☒ No ☐ Describe Lower Sideslope
2. Slope 22 %
3. Depth to rock/impervious strata Max. _____ Min. _____ None ☒
4. Depth to seasonal water table (gray mottling or gray color) No ☐ Yes ☒ 28 inches
5. Free water present No ☒ Yes ☐ _____ range in inches
6. Soil percolation rate estimated Yes ☒ Texture group I II III IV
No ☐ Estimated rate 60 min/inch
7. Percolation test performed Yes ☐ Number of percolation test holes _____
No ☒ Depth of percolation test holes _____
Average percolation rate _____

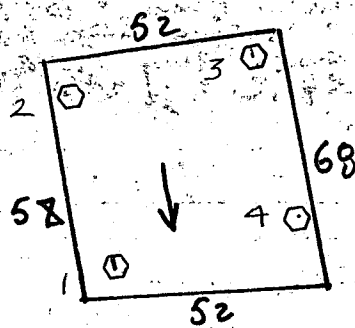
Name and title of evaluator: DAVID RALEY, CPSS, AOSE #139Signature: David Raley

Department Use

☐ Site Approved: Drainfield to be placed at _____ depth at site designated on permit.☐ Site Disapproved:

Reasons for rejection:

1. ☐ Position in landscape subject to flooding or periodic saturation.
2. ☐ Insufficient depth of suitable soil over hard rock.
3. ☐ Insufficient depth of suitable soil to seasonal water table.
4. ☐ Rates of absorption too slow.
5. ☐ Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
6. ☐ Proposed system too close to well.
7. ☐ Other Specify _____



3 Bedroom
Pump #10.

4 52 Linear Inset

2 52 Linear Resave

11 foot Casing

Appendix 7

Page 4 of 6

Certification Statement

County: FREDERICK Date: 2/27/01

Property Identification: T.M. # 80-A-17

Submitted by: DAVID RACEY, AOSE #139

This is to certify according to §32.1-163.5 of the Code of Virginia that work submitted for the referred property is in accordance to and complies with the Sewage Handling and Disposal Regulations of the Virginia Department of Health. I recommend a SUBDIVISION APPROVAL¹ be approved².

AOSE David Racey Date: 2/27/01

Soil Consultant _____ Date: _____

¹ This blank must be filled in with one of the following terms: 'permit', 'certification letter', or 'subdivision approval'.

² This blank must be filled in either the term 'approved' or 'denied'.

If the submission contains a certification by a professional engineer in consultation with an AOSE, the following statement shall be signed and sealed:

I hereby certify that the evaluations and designs contained herein (refer to subdivision, lot, etc.) were conducted in accordance with the Sewage Handling and Disposal Regulations (12 VAC 5-610-10 et seq., the "Regulations") and the policies of the Virginia Department of Health for implementation of those Regulations. Furthermore, I certify that the evaluations and designs comply with the minimum requirements of the Regulations.

I recommend a _____¹ be _____².

Licensed PE: _____ Date: _____

Seal

¹ This blank must be filled in with one of the following terms: 'permit', 'certification letter', or 'subdivision approval'.

² This blank must be filled in either the term 'approved' or 'denied'.

ABBREVIATED DESIGN FORM-PURAFLO PEAT MOSS SYSTEM
(based on GMP # 112)

ESTIMATED PERCOLATION RATE

60

NUMBER OF BEDROOMS

3

Depth to rock, pans or impervious strata

N/A

Depth to gray mottles

28"

% slope

22

Trench width

3'

Center to center spacing

11'

Recommended installation depth

16"

Length of available area

52

Number of trenches

4

Width of available area (including reserve if required)

58'

Reserve required?

Yes/50%

TOTAL LINEAR FEET REQUIRED

203

TOTAL LINEAR FEET IN DESIGN

208

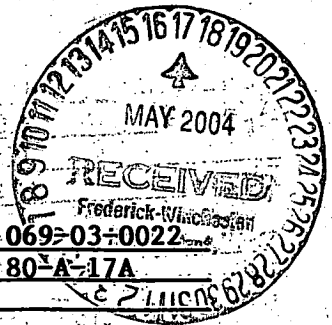
Page 6 of 6

SANITARY SURVEY

RE: Paddy's Run Woods

There were not any wells or drainfields noted within the 200' conflict zone.

Commonwealth of Virginia
Uniform Water Well Completion Report



Owner DALE & LYNN HAWKINS
Address P.O. Box 304
Nokesville, VA 20182
Phone 303/594-2025
Location L on Star Tannery (604). L on Gravel Spring
Rd. L on Paddy Run. Go 1 mile..

VDH Permit: 069-03-0022
Tax Map ID: 80-A-17A
WVCB Permit 62110086282
WVCB ID 62110086282
County FREDERICK

* Well Data *

General Information

Drilling Method Air Rotary
Depth to Bedrock 9
Static Water Level 20
Well Disinfected (Y or N) Y

Date Completed 4/22/04
Yield 4 (GPM)
Stabilized Water Level _____
Disinfectant Used _____

Total Depth of Well 400
Length of Test 1.0 hour
Natural Flow (Rate) No
Amount Used _____

Casing

From +1 To 38
Size 6" Material Steel
Weight/Schedule 18.97/Sch. 40

From _____ To _____
Size _____ Material _____
Weight/Schedule _____

From _____ To _____
Size _____ Material _____
Weight/Schedule _____

Gravel Pack

From N/A To _____

From _____ To _____

From _____ To _____

Grout

From 0 To 20
Bore Hole Size 10"
Type Cement
Method Pressure

From _____ To _____
Bore Hole Size _____
Type _____
Method _____

From _____ To _____
Bore Hole Size _____
Type _____
Method _____

Water Zones or Screened Intervals

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

* Use Data *

Private Well: Domestic X Agricultural _____ Industrial _____ Monitoring _____
Public Well: Community _____ Non Community _____

* Abandonment Information *

Bored or Dug Wells

Casing Removed, Y or N? _____
If Y, Depth to which casing was removed: _____
Depth and Type of Fill: _____
Source of Fill _____
Bentonite Plugs: From _____ to _____ From _____ to _____

Wells other than Bored Wells

Casing removed, Y or N? _____
Depth to which casing was removed: _____
Applicable, depth(s), and type of gravel/sand fill: _____
Source of gravel or sand: _____
Cement: From _____ to _____ From _____ to _____

Method of permanently marking location: _____

Owner: DALE & LYNN HAWKINS

Drillers Log
(Use Additional sheets if necessary)

[illegible]

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit and further that the well complies with all applicable state and local regulations, ordinances and laws.

Drilling Contractor Burner Well Drilling, Inc.
Address P.O. Box 98
McGaheysville, VA 22840
Phone (540) 289-9421

Drillers Signature Caryn H. Meadows, Office Mgr. Date 5/7/04
Representing Burner Well Drilling, Inc.
Virginia Contractors License Number 2701-013146A

Completion Statement

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number 069-03-0022

Shen. Co. Health Department

Name of Company/Corporation/Individual: Stoneburner Backhoe Service

Address: 105 Fairview Rd. Woodstock, Va Telephone: 540-459-4358

Owner's Name Dale + Lynn Hawkins

Owner's Address P.O. Box 304 Nokesville, Va. 20182

Location of Installation: Lot 2 Block N/A

Section: _____ Subdivision: Paddy Run Woods

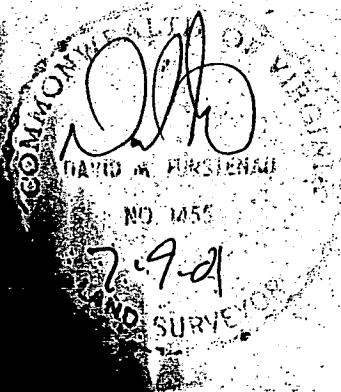
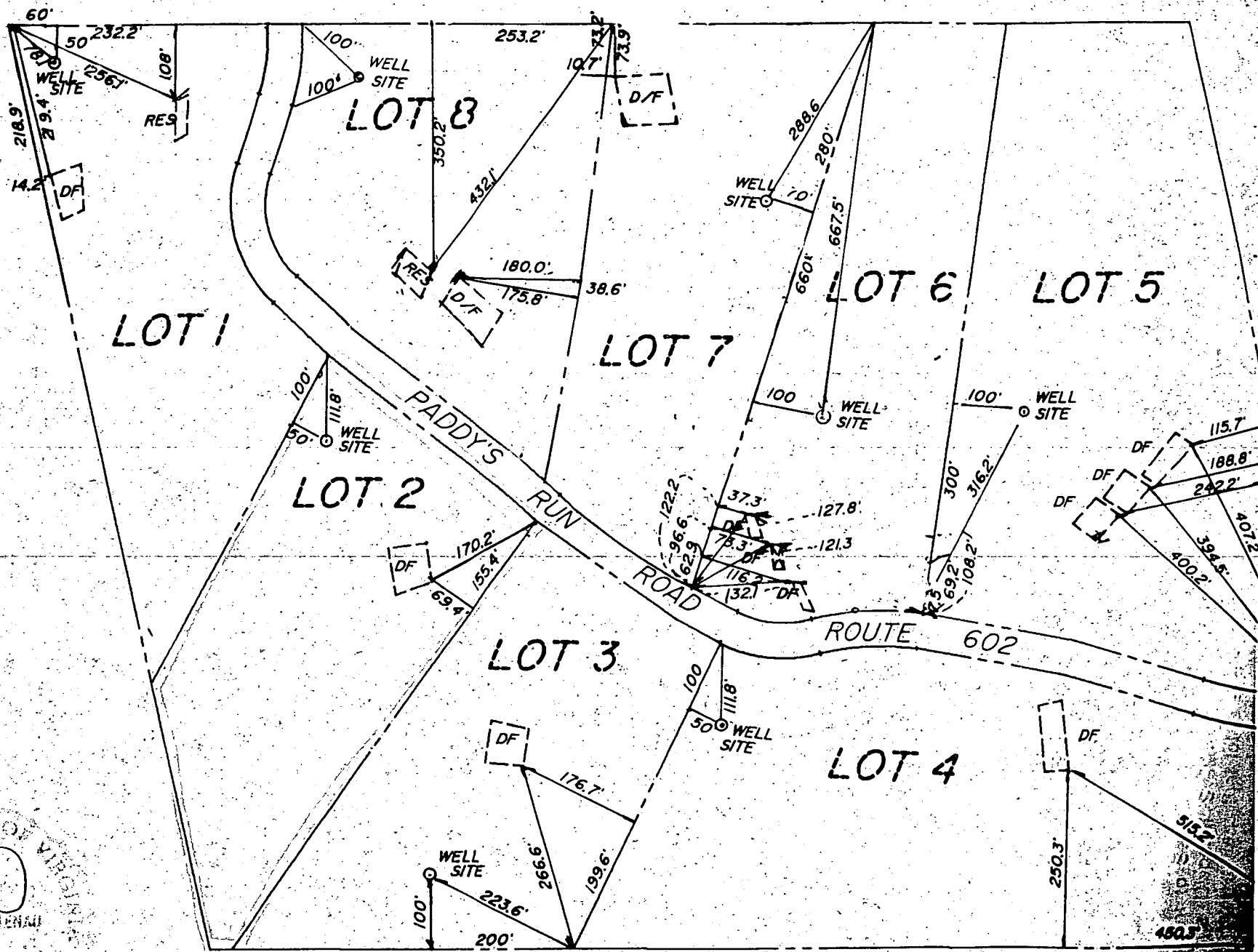
Other: _____

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) 11/20/03 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

11/14/04
Date

Charles Lee Stoneburner (OWNER)
Signature and Title

0185



FURSTENAU SURVEYING (640)
111 SOUTH I OUDOUIN ST. WING

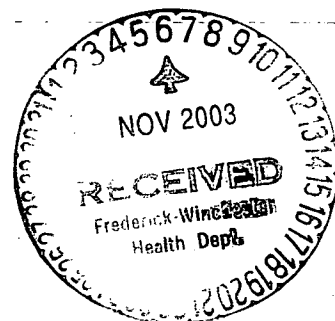
SEWAGE DISPOSAL PLAN

FOR

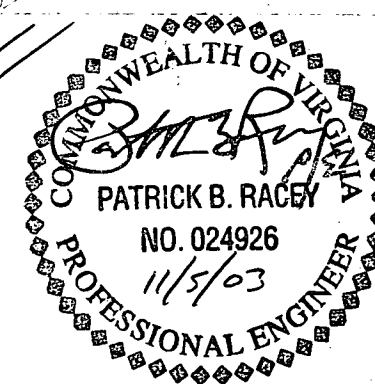
PADDY'S RUN SUB. LOT 2

TAX MAP #80-A-17
FREDERICK COUNTY, VIRGINIA

PREPARED FOR:
WAYNE GRATASKI
61 RIVER COURT
TOMS BROOK, VA 22660



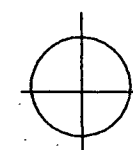
Health Dept. Copy



PURAFLO BIOFILTER SEWAGE DISPOSAL SYSTEM
SYSTEM DESIGN LOAD: 450 GALLONS/DAY...

RACEY PROJECT NO. PRO1187///NOV. 4, 2003

RACEY ENGINEERING, PLLC
CONSULTING CIVIL ENGINEER
47 WEST MAIN ST., POB 103
LURAY, VIRGINIA 22835
PH: 540-743-9227
FAX: 540-743-6118



JAH

CONSTRUCTION INSTRUCTIONS

IMPORTANT

I. NOTIFY THE ENGINEER PRIOR TO THE START OF EXCAVATION TO DISCUSS THE BASIC MECHANICS OF THE SYSTEM... THIS WILL BE A GOOD OPPORTUNITY TO DISCUSS THE PRE-CAST TANK ORDER AND ANY CONCERNS REGARDING AVAILABILITY OF CONTROL PANELS, PUMPS, PIPE, ETC, AND TO ANALYZE SITE CONDITIONS THAT MAY BE OF SOME CONCERN TO EITHER PARTY...

A MANDATORY PRE-CONSTRUCTION CONFERENCE MUST BE SCHEDULED BY THE CONTRACTOR, AND WITH THE ENGINEER AND THE LOCAL HEALTH DEPARTMENT. THE COST FOR THE PRE-CONSTRUCTION CONFERENCE SHALL BE BORNE BY THE CONTRACTOR (ESTIMATED @ \$175) AND IS CONSIDERED MANDATORY. IF WORK IS PURSUED WITHOUT THIS CONFERENCE, RACEY ENGINEERING, PLLC WILL NOT APPROVE ANY PROJECT WORK, AND ASSUME NO RESPONSIBILITY FOR APPROVALS OR CERTIFICATIONS OF WORK THAT ARE REQUIRED BY THE REGULATIONS.

II. THIS REPORT AND DESIGN HAS BEEN PREPARED IN ACCORDANCE WITH GENERALLY-ACCEPTED ENGINEERING PRACTICE AS IT APPLIES TO THE FIELD OF "SMALL FLOWS" WASTEWATER TREATMENT. NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE.. THE CONTRACTOR IS RESPONSIBLE FOR REVIEW OF THE PLANS, AND FOR BRINGING ANY DISCREPANCIES TO THE ATTENTION OF THE ENGINEER.

III. DO NOT CHANGE THE STATED MAKE, MODEL, TYPE, OR CONFIGURATION OF ANY COMPONENT OR THE SYSTEM, WITHOUT EXPRESSED WRITTEN CONSENT OF THE ENGINEER.

IV. A FORMAL FINAL SYSTEM INSPECTION IS REQUIRED, IN ORDER TO FAMILIARIZE THE ENGINEER, THE CONTRACTOR, THE OWNER, AND ANY INTERESTED PARTY WITH THE MECHANICS OF THE SYSTEM, AND TO VERIFY COMPLIANCE WITH PLANS AND DESIGN REQUIREMENTS. A PRE-BACKFILL INSPECTION OF ALL COMPONENTS IS REQUIRED BEFORE COMPONENTS CAN BE COVERED; CONTACT THE HEALTH DEPARTMENT TO ARRANGE FOR THE INSPECTION.

V. CONSTRUCTION CONSULTATION IS PROVIDED, BY PHONE & FREE OF CHARGE, AND THE ENGINEER SHALL BE CONTACTED ON A PERIODIC BASIS TO DISCUSS PROGRESS AND TO VERBALLY VERIFY THE SUITABILITY OF THE INSTALLATION PROCESSES. FINAL INSPECTIONS AND SYSTEM SETUP WILL BE PERFORMED AND BILLED TO THE RESPONSIBLE PARTY [I.E. IN MOST CASES THE RESPONSIBLE PARTY WILL BE THE INSTALLER].

VI. OUR SCOPE OF SERVICES DID NOT INCLUDE ANY SUBSURFACE SOIL, ROCK, OR UTILITY SURVEY. IF SUSPECT CONDITIONS WITH UTILITIES, ROCK, OR GROUNDWATER ARE ENCOUNTERED CONTACT THE ENGINEER IMMEDIATELY!!!! THE EXCAVATOR IS RESPONSIBLE FOR NOTIFYING "MISS UTILITY" IN ACCORDANCE WITH THE STATE LAW...

VII. MANUFACTURES CERTIFICATIONS ARE REQUIRED ON ALL SYSTEM COMPONENTS. THESE CERTIFICATIONS MUST BE FORWARDED TO THE ENGINEER FOR APPROVAL PRIOR TO MAKING AN ORDER, AND FAILURE TO RECEIVE ENGINEER'S APPROVAL ON ALL MATERIALS WILL WAIVE ENGINEER'S RESPONSIBILITY FOR ADEQUACY OF AND ACCEPTANCE OF FINAL INSTALLATION.

VIII. ALL PVC FITTINGS SHALL BE PRESSURE-TYPE [GRADE] FITTINGS AS REQUIRED BY HEALTH DEPARTMENT REGULATIONS. ALL PIPING IS TO BE PRESSURE TESTED PRIOR TO BACKFILL UNLESS PUMP ENHANCED FLOW WILL BE AVAILABLE TO CONFIRM INTEGRITY OF PIPING. ALL ELECTRICAL WIRING MUST BE PLACED IN CONDUIT THAT COMPLIES WITH THE NATIONAL ELECTRICAL CODE AS WELL AS BOCA CODES FOR ELECTRICAL CONDUIT INSTALLATION. ALL PIPING MUST BE BEDDED IN VDOT #68 AGGREGATE, AND WHEN A BEDDING MATERIAL IS NOT USED THE ENGINEER MAY OPT TO REJECT ALL PIPING SYSTEMS.

IX. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL APPLICABLE STAND-OFF & SETBACK DISTANCES AS REQUIRED BY LOCAL ORDINANCES & HEALTH REGULATIONS, AND PAYMENT FOR ALL INSPECTIONS AS REQUIRED BY THE HEALTH REGULATIONS.

X. CONSTRUCTION STAKEOUT AND CONFIRMATION OF GROUND GRADES MUST BE CONFIRMED IN THE FIELD PRIOR TO ORDER PRECAST MANHOLE STRUCTURES, OR BEGINNING PIPE INSTALLATION PROCEDURES. CONTACT THE ENGINEER FOR SITE STAKEOUT AND ELEVATION REVIEWS AND CONSULTATION.

//////////RACEY ENGINEERING, PLLC//////////CONSULTING CIVIL ENGINEER//////////NOVEMBER 2003//////////

SPECIAL PROVISIONS

◆ PADDY'S RUN SUB. LOT 2 : SEWAGE DISPOSAL SYSTEM
TAX MAP # 80-A-17
FREDERICK COUNTY, VIRGINIA
NOVEMBER 4, 2003

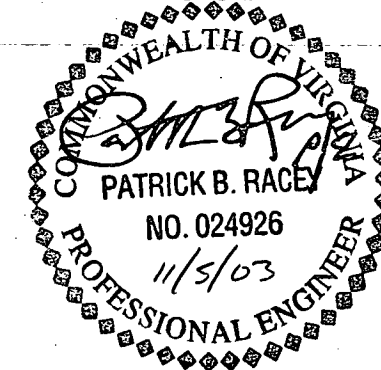
-THE ATTACHED DESIGN DOCUMENTS REPRESENT DETAILS FOR THE INSTALLATION OF A "PURAFLOR" TREATMENT SYSTEM FOR EFFLUENT DISCHARGE AT A PRE-APPROVED DRAINFIELD LOCATION ON THE SUBJECT PROPERTY.

-THE DESIGN OF THE TREATMENT COMPONENTS IS PROPRIETARY IN NATURE; AND IS ONLY TO BE DESIGNED OR INSTALLED BY DESIGNATED REPRESENTATIVES OF BORD na MONA ENVIROMENTAL PRODUCTS U.S. INC.

-TREATMENT COMPONENTS; INCLUDING THE PUMP MAKE, TYPE, SIZING AND DESIGN HAVE BEEN SPECIFIED BY THE ENGINEER WITH INPUT FROM THE MANUFACTURE'S DESIGNATED REPRESENTATIVE[S]. THIS DESIGN MEETS THE REQUIREMENTS ESTABLISHED BY THE SUBJECT MANUFACTURE FOR USE AND APPLICATION ON THIS PROPERTY.

-THIS DESIGN OR INSTALLATION MAY NOT BE APPLIED TO ANY OTHER SITE OR APPLICATION WITHOUT THE EXPRESSED WRITTEN CONSENT OF BORD na MONA OR ITS AGENTS AND/OR REPRESENTATIVES.

-THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE FUNCTIONING OF THE TREATMENT COMPONENTS, OR ANY EQUIPMENT, THAT ARE PROVIDED UNDER THE PROPRIETARY CONDITIONS OF THIS DESIGN APPROACH.



DESIGN BY: RACEY
ENGINEERING PLLC
CONSULTING CIVIL ENGINEER
P.O. BOX 103
LURAY, VIRGINIA 22835
PH 540-743-9227
FAX 540-743-6118

JOB NO. PRO1187 //// 11/4/2003

SPECIAL PROVISIONS FOR GROUND CONDITIONS AND RESTORATION OF SHALLOW PLACED AND SURFACE INSTALLED SEWAGE DISPOSAL SYSTEMS

DESCRIPTION

This item describes proper ground conditions and methods for construction of surface and shallow installed sewage disposal system; trenching, cover, soil preparation, seeding, fertilizing and liming the disposal areas [upon completion of installation as] shown on the plans or as directed by the Engineer in accordance with these specifications.

TRENCHING: Trenching is to be accomplished with the use of a "ditch witch" [or similar grinding type trencher]. ~~The use of a vibratory plow or any other device that smears the soil interface is strictly prohibited.~~ → *N/A For PuraFlo Systems*

GROUND CONDITIONS: Surface and shallow placed sewage disposal systems may not be installed when ground conditions are wet [under foot] and where and when equipment will rut or deform the surface of the sewage disposal site. Shallow and surface systems require the use of existing surface soil structures and if the integrity of the surface soil profile is compromised, the system will not function. Improper and unsuitable work in wet conditions will serve as grounds or basis for rejection of the installation work, at which time the Contractor will be required to locate and gain approval of an alternate site [and the contractor must bear the burden of costs for said activities and related losses incurred by the Owner].

SEED. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein.

Seed shall be applied as follows:

Virginia & Maryland Seeding and Restoration application rates [Minimum]

SEED TYPE	MINIMUM SEED PURITY %	MAX % WEED	MIN. % GERMINATION	RATE PER 1000 SFT (MIN)
Kentucky 31 Tall Fescue	98	0.5	90	10 lbs.
Red Top	90	0.75	90	0.5 lbs.
Kentucky Bluegrass (Domestic Origin)	85	0.40	75	2.5 lbs.
TOTAL				13.0 lbs

Seeding shall be performed during the period between March 15 to May 1 and August 15 to October 1 inclusive, unless otherwise approved by the Engineer. If the Contractor's installation schedule does not comply with the planting seasons [outlined herein], then provisions must be made for overseeding and re-seeding of the sewage disposal area at such time as the next term of the referenced planting seasons is encountered after construction.

LIME. Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 100 mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of 150 lbs. per 1,000 square feet. All liming materials shall conform to the requirements of ASTM C 602.

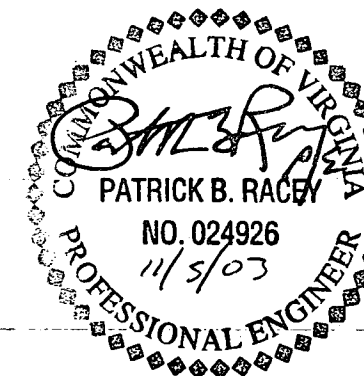
FERTILIZER. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified herein, and shall meet the requirements of Fed. Spec. O-F-241 and applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 10 lbs per 100 square feet (second application) after (6) weeks.

SOIL FOR REPAIRS. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the Engineer before being placed.

CONSTRUCTION METHODS

ADVANCE PREPARATION AND CLEAN-UP. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than two (2) inches (50mm) in any diameter, sticks, stumps, and other debris which might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.



**SPECIAL PROVISIONS FOR GROUND CONDITIONS
AND RESTORATION OF SHALLOW PLACED
AND SURFACE INSTALLED SEWAGE DISPOSAL SYSTEMS**

An area to be seeded shall be considered a satisfactory seedbed without addition treatment if it has recently been thoroughly loosened and worked to a depth of not less than five (5) inches (125 mm) as a result of grading operations and, if immediately prior to seeding, the top three (3) inches (75 mm) of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

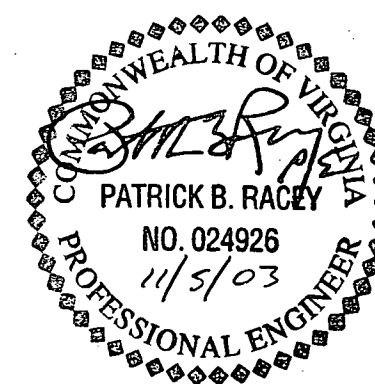
However, when the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise loosened to a depth not less than five (5) inches (125 mm). Clods shall be broken and the top three (3) inches (75 mm) of soil shall be worked into a satisfactory seedbed by disking, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

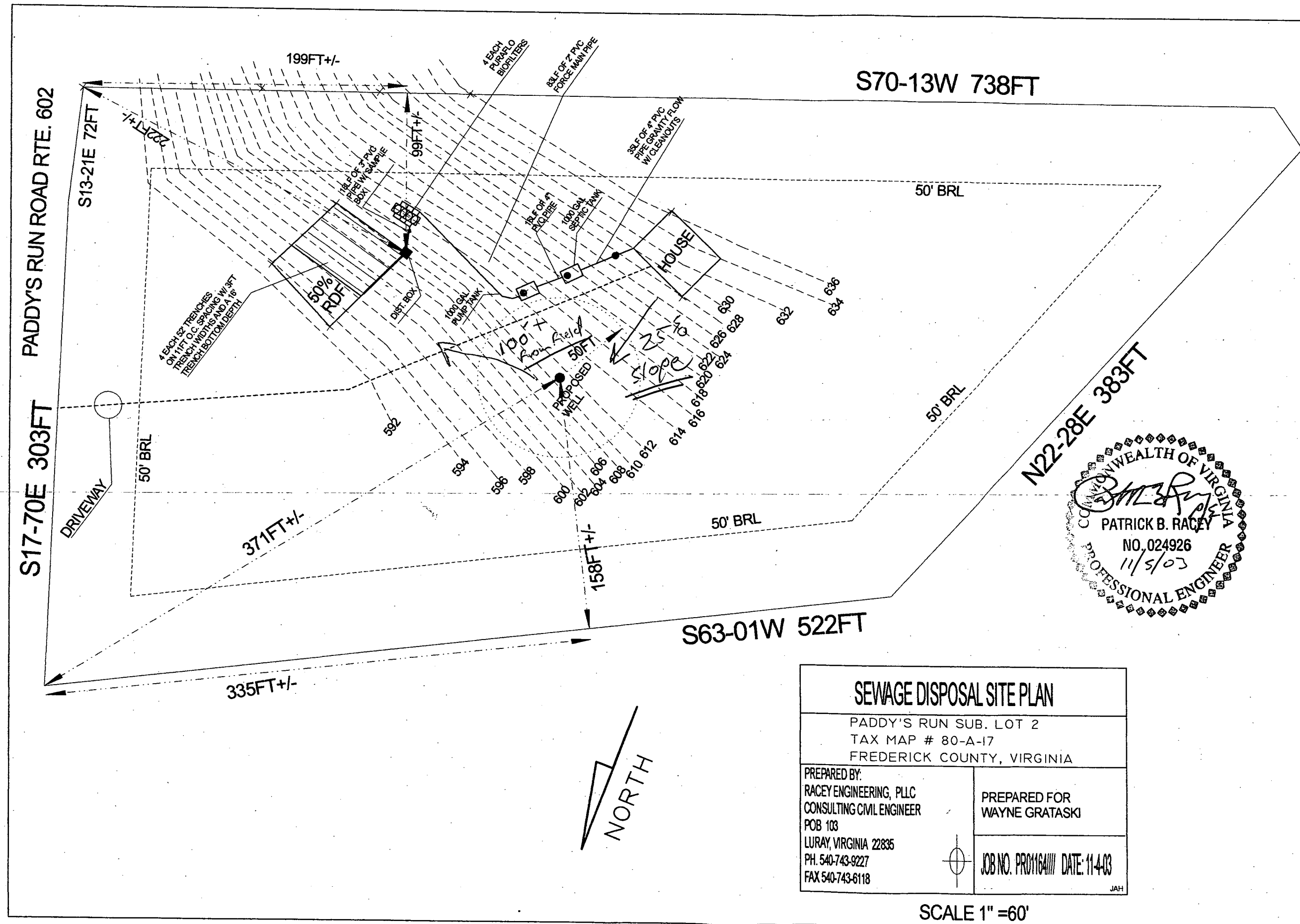
DRY APPLICATION METHOD.

- a. **Liming.** Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds which have previously been prepared as described above. The lime shall then be worked into the top three (3) inches (75 mm) of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.
- b. **Fertilizing.** Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate which will provide not less than the minimum quantity stated in paragraph 901-2.3.
- c. **Seeding.** Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing, and the fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in special provisions, a cover crop shall be sown by the same methods require for grass and legume seeding.
- d. **Rolling.** After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawnroller, weighing 40 to 65 pounds per foot (60 to 97 kg per meter) of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot (223 to 298 kg per meter) of width for sandy or light soils.

MAINTENANCE OF SEEDED AREAS. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the Engineer. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of work.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contract establish a good stand of grass of uniform color and density to the satisfaction of the Engineer. If at the time when the contract has otherwise been completed it is not possible to make an adequate determination of the color, density, and uniformity of such stand of grass, payment for the unaccepted portions of the areas seeded out of season will be withheld until such time as these requirements have been met.





SEWAGE DISPOSAL SITE PLAN

PADDY'S RUN SUB. LOT 2
TAX MAP # 80-A-17
FREDERICK COUNTY, VIRGINIA

PREPARED BY:
RACEY ENGINEERING, PLLC
CONSULTING CIVIL ENGINEER
POB 103
LURAY, VIRGINIA 22835
PH. 540-743-9227
FAX 540-743-6118

PREPARED FOR
WAYNE GRATASKI

JOB NO. PR01164111 DATE: 11-4-03

JAH

SCALE 1" = 60'

FINAL PLAT
MAJOR RURAL SUBDIVISION
PADDY'S RUN WOODS
 BACK CREEK DISTRICT
 FREDERICK COUNTY, VIRGINIA

AREA TABULATION

AREA IN LOTS	47,508 AC.
ROAD DEDICATION	2,379 AC.
TOTAL AREA	49,887 AC.

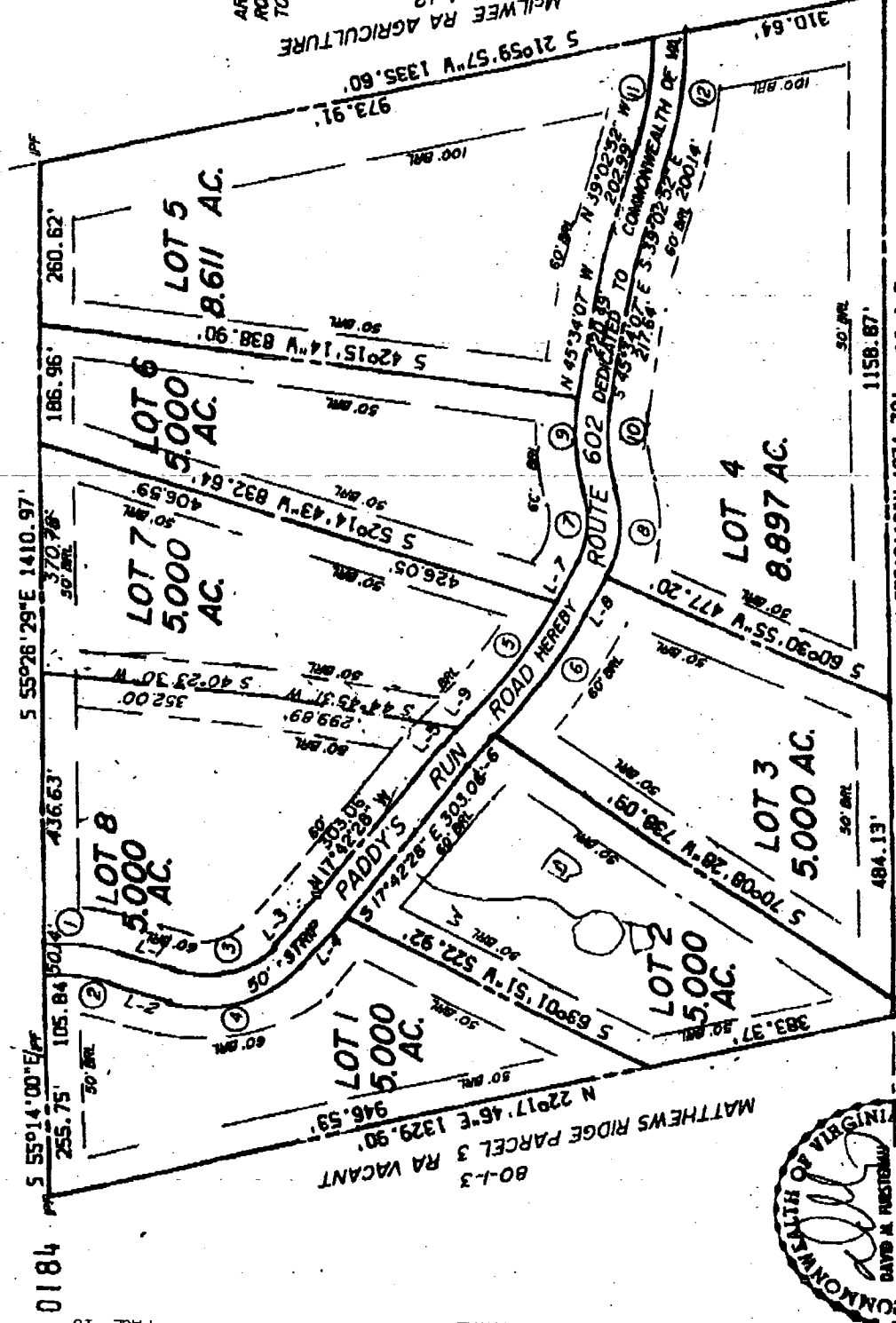
McILWEE RA AGRICULTURE
 88-A-12
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 P. 429



LINE & DISTANCE TABLE

L-1	S 52°46'19" W	100.0'
L-2	N 52°46'19" E	100.0'
L-3	N 13°12'25" W	106.06'
L-4	S 13°12'25" E	108.02'
L-5	N 13°12'25" W	50.39'
L-6	S 13°12'25" E	72.37'
L-7	N 27°50'49" W	72.37'
L-8	S 27°50'49" E	72.37'
L-9	N 13°12'25" W	23.96'

NOTE: ROUNDED SET AT ALL PROPERTY CORNERS

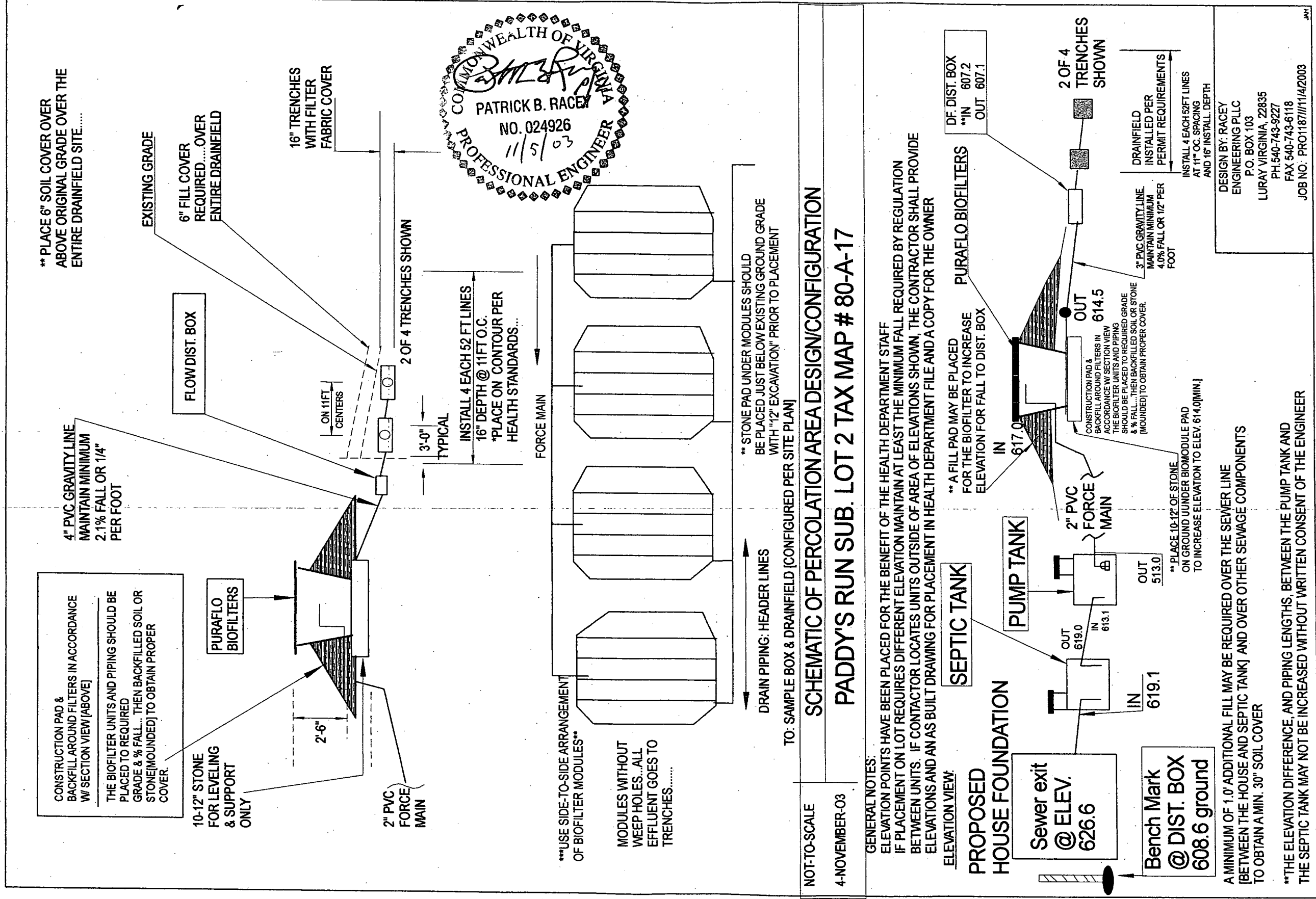


FURSTENAU SURVEYING (840) 662-9323
111 SOUTH LOUDOUN ST. WINCHESTER, VA.

SHENANDOAH PREBETERY
 RA CHURCH CAMP



0184



COMMONWEALTH OF VIRGINIA
 PATRICK B. RACEY
 NO. 024926
 11/5/03
 PROFESSIONAL ENGINEER

TDH CALCULATIONS FOR SYSTEM CURVE

Assumes f = 0.022 for 2 inch pipe typical operating range
Static Head in Feet = Measured/Estimated
Friction Head in Feet = $(fLv^3)/(2gD) = (2.1355 \times 10^{-5})LQ^2$ (Q in gpm, L in feet)
Pressure Head in Feet = $0.10524(Q/\text{No. Mod.})^2$ (Q in gpm) from Orifice Equations

BOX 1.

Q (gpm)	No. Mod.	L (feet)	h_{stat} (feet)	h_f (feet)	h_p (feet)	TDH
0	4	220.00	8.00	0.00	0.00	8.00
10	4	220	8.00	0.47	0.66	9.13
20	4	220	8.00	1.88	2.63	12.51
30	4	220	8.00	4.23	5.92	18.15
40	4	220	8.00	7.52	10.52	26.04
50	4	220	8.00	11.75	16.44	36.19
60	4	220	8.00	16.91	23.68	48.59
70	4	220	8.00	23.02	32.23	63.25
80	4	220	8.00	30.07	42.10	80.16
90	4	220	8.00	38.05	53.28	99.33

RANGE

PADDY'S RUN SUB LOT 2
TAX MAP # 80-A-17
FREDERICK COUNTY, VIRGINIA

BOX 2.

EQUIVALENT LENGTH ESTIMATE				
Element	2" Ftg. Eq. Length	Number	Eq. Length	
Length	83.00	1.00	83.00	83.00
Reg. 90 deg	9.00	5.00	45.00	45.00
Reg. 45 deg	4.00	2.00	8.00	8.00
T (Diversion)	11.00	1.00	11.00	11.00
Coupling (Disconnect)	2.00	1.00	2.00	2.00
Check Valve	17.00	1.00	17.00	17.00
Ball Valve (fully open)	54.00	1.00	54.00	54.00
TOTAL EQ. LENGTH				220.00

BOX 3 - Programmable Timer Settings

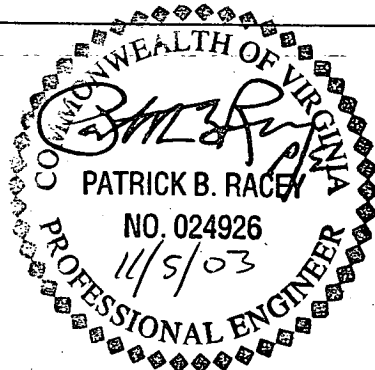
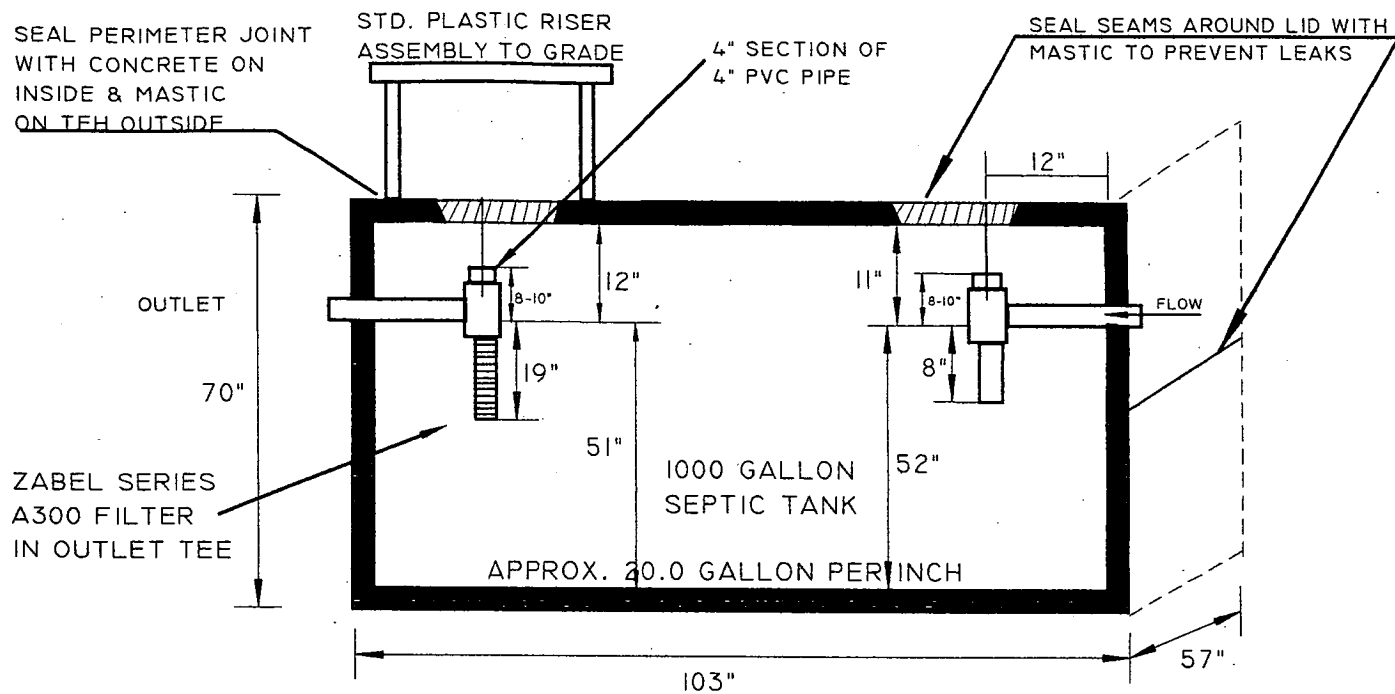
Anticipated pump rate	30 gpm
Treatment design flow	450 gpd
Recirc. volume	0 gpd
Drainback volume per dose	0 gal.
Dosing interval (pump rest time)	2.00 hrs.
Number of doses	12 d ⁻¹
Drainback volume per day	0 gpd
Pump design flow	450 gpd
Approx. volume per dose	37.50 gal.
Dose volume per module	9.38 gal.
Pump run time per dose	1.25 min.
Pump run time per dose	75.00 sec.
Tank volume (gal. per inch)	20.00 gal. in. ⁻¹
Draw down per dose*	1.88 in.

From system versus pump curve for selected pump
From design flow for facility
As applicable (1:1 recirc ratio will add a volume equal to that of the design flow)
16 gallons per 100 feet of 2 inch force main if applicable
Typically 2 hrs. for single pass and 1 hr. for 1:1 recirculation
(Treatment plus Recirc. plus Drainback)
(Generally should not exceed 12.5 gallons - decrease dosing interval if necessary)
From pump tank dimensions or manufacturers' data
*Prior to drainback

Loss through drainback hole while pump is active is assumed to be negligible

SEPTIC TANK LAYOUT
SIDE VIEW OF SEPTIC TANK

NOT-TO-SCALE



NOT TO SCALE

THE USE OF ONE 1000 GALLON SEPTIC TANKS SHOULD BE SUFFICIENT TO PROVIDE SOLIDS REMOVAL, IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS.

IF BASEMENT PLUMBING FIXTURES ARE INCORPORATED THE CONTRACTOR MUST SITUATE THE SEPTIC TANKS TO ACCOMODATE.

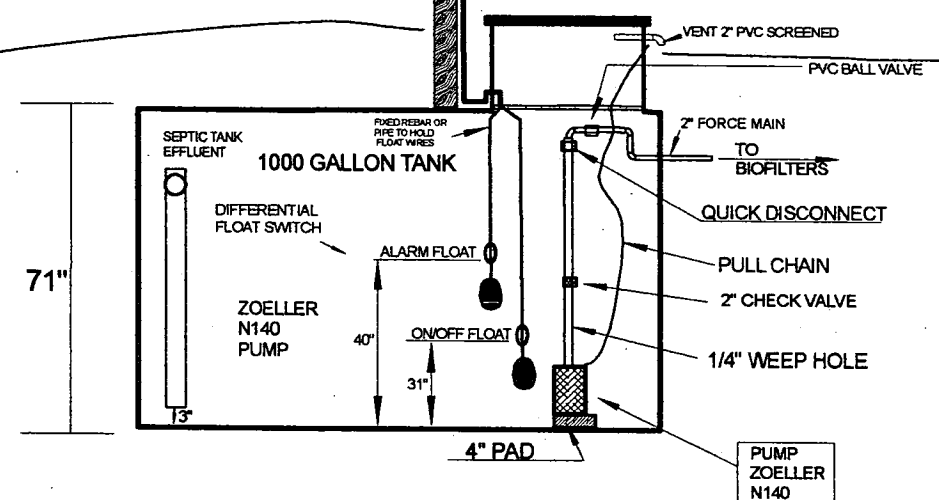
TANKS ABOVE ARE GENERIC DESIGN;SIMILAR TO TANKS DESIGNED BY WHICHESTER BUILDING SUPPLY, INC, USE OF OTHER TANKS MAY CHANGE MEASUREMENTS. CONTRACTOR MUST MAKE PROVISIONS IF USING SIMILAR DESIGNED TANKS.

8

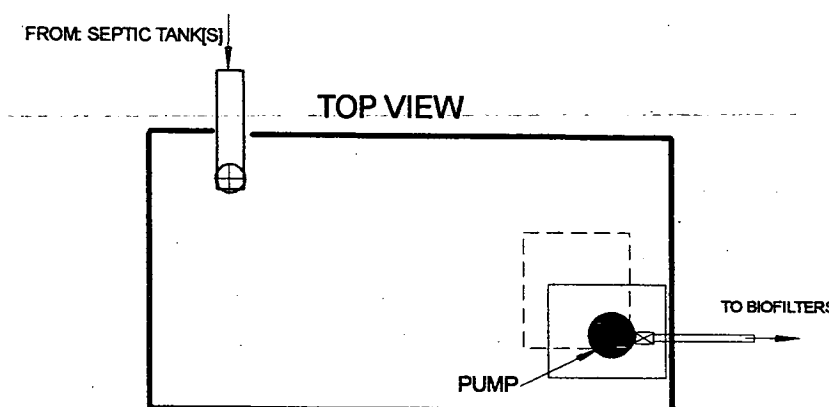
PUMP TANK PLAN VIEW

PURAFLO BIOFILTERS DOSE PUMP

TO: SIMPLEX ALARM AND CONTROL PANEL IN HOUSE...PANEL TO BE SIZED IN ACCORDANCE WITH PUMP MANUFACTURERS SPECIFICATIONS



CROSS SECTION VIEW



TOP VIEW

****DRAWING NOT TO SCALE****

Standard 1000 gallon tank to be used
Pump draw down calculations
based on standard 20 gallon
per inch in 1000 gallon tank.

* TANKS MUST BE
WATERTIGHT!!!!

FLOAT SWITCH LINES TO BE CLAMPED TO FIXED BARF WITH ROMEX
CONNECTORS, OR SIMILAR-TYPE CLAMP.

FLOAT SWITCHES TO REQUIRE WEIGHTED FLOAT ASSEMBLY IN
ACCORDANCE WITH HEALTH DEPARTMENT REQUIREMENTS...

*TANK VOLUMES CORRELATE WITH DIMENSIONS PROVIDED BY WINCHESTER
BUILDING SUPPLY, INC. FOR A 1000 GALLON PRECAST TANK...

GENERAL NOTES:

Contractors to contact Miss Utility prior to construction.

Do not install when weather conditions will not allow for complete compaction of fill materials around units.

Pump to be activated in conjunction with the "ON" float.

Pump shall generate a minimum of 7 gpm to EACH OF THE FOUR BIOFILTERS.

Use of a Zoeller Model N140, 1 HP[115 V] submersible septic pump is recommended for dosing the BIOFILTER units. If NECESSARY, a throttle valve must be used to reduce flow to the above requirements. Attach a length of rope or chain to the pump or pump assembly to facilitate the removal of the unit.

Pump Control unit for BIOFILTER dose pump is needed; ORENCO SIMPLEX CONTROL PANEL MOD. # S1-PT [OR S2-PT] [WITH PROGRAMMABLE TIMER, EVENT COUNTER AND ALARM] or equal. Use on pump circuit; MDRU TIMER BY ORENCO SYSTEMS, INC. TO CONTROL DOSING OF BIOFILTERS. A COPY OF THE TIMER CATALOG SHEETS IS INCORPORATED IN THIS PLAN ASSEMBLY. THE TIMER PANEL MUST BE ABLE TO SUPPORT A 2 HP PUMP LOAD AS PER THE PUMP REQUIREMENTS.

All electrical work to comply with National Electrical code. Hard wire electrical connections at NEMA 4 box, do not use piggy back plug or receptacle plug type connections in pump chamber. Protect all electrical connections from corrosion by use of filler putty or chalk in the EMT or PVC conduit where wires enter and exit NEMA 4 box.

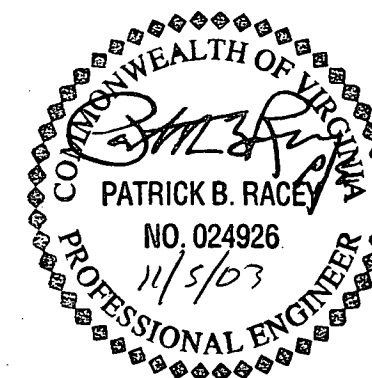
Pump and alarms to be on separate circuits.

Prime and glue all PVC pipe and fittings. Install with lettering upwards to facilitate inspection requirements.

Following normal engineering practice, thrust blocks are not normally required on 2 inch force mains. If contractor and owner dictate that a thrust block is to be incorporated the following can be used: 1 bag or ready mix cement mixed as per suppliers specs. Pour over 90 degree ell to a depth of 4 inches x 12 inches square. THE USE OF THRUST BLOCKS WILL BE REQUIRED AT ALL 90 DEG. ELL(S) FOR THIS DESIGN....IF QUESTIONS ARISE, CONTACT THE ENGINEER.

After excavation the site should be seeded with 25 pounds of kentucky 31 fescue per 5000 sq. ft. of disturbed soil and cover with 1 inch of straw to prevent erosion prior to grass reclamation.

****THE CYCLE TIMER SHALL BE SET TO DOSE THE BIOFILTERS A MAXIMUMK OF ONE DOES PER 2 HOURS. THE LENGTH OF CYCLE SHALL BE SET BY THE ENGINEER AT THE TIME OF THE RINAL INSPECTION.****THE TIMER MECHANISM SHALL OVERRIDE THE FLOATS WHEREBY WHEN THE FLOATS REMAIN IN THE "ON" POSITION, THE TIMER CAN DISENGAGE THE PUMP MOTOR.*******



"Quality Pumps Since 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624



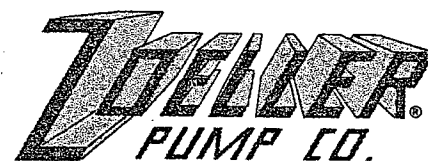
SECTION: 2.20.045
FM1502
0902
Supersedes
0701

visit our web site:
<http://www.zoeller.com>

COMPARE THESE FEATURES

- Durable Cast Iron construction.
- Non-Clogging engineered thermoplastic vortex impeller design, passes 1/2" solids.
- Motor - 60Hz, 3450 RPM, oil-filled, hermetically sealed, automatic reset, thermal overload protected.
- Available in both single or double shaft seal designs.
- Carbon/Ceramic seals.
- Assembled with Stainless Steel bolts.
- Upper sleeve and lower ball bearing running in bath of oil.
- 15' UL Listed Neoprene cord with molded plug cap and ground wire.
- 1 1/2" NPT vertical discharge.
- Stainless steel lifting handle.
- BN and BE models include a variable level float switch and 1 1/2" X 2" PVC adapter fitting.
- Operates at temperatures to 130°F - 54°C in effluent or dewatering applications.
- Corrosion resistant powder coated epoxy finish.

Note: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.



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Manufacturers of ...

"Quality Pumps Since 1939"

140 / 4140 Cast Iron Series

(For Pump Prefix Identification see News & Views 0052)

"FLOW-MATE"

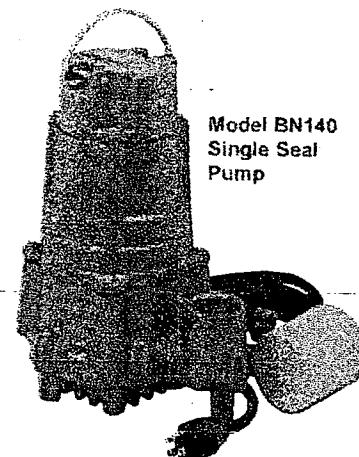
FOR SEPTIC TANK - LOW PRESSURE PIPE (LPP)
AND ENHANCED FLOW STEP SYSTEMS

EFFLUENT

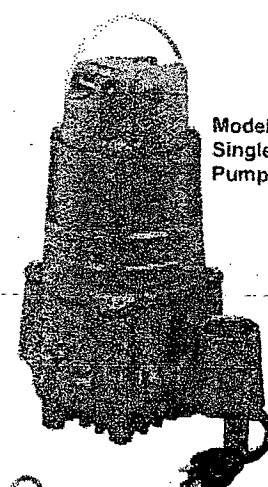
OR DEWATERING PUMPS

SUBMERSIBLE

1 1/2" NPT DISCHARGE



Model BN140
Single Seal
Pump

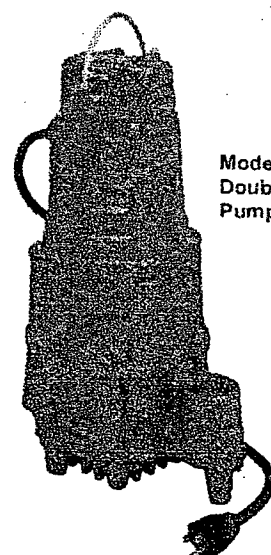


Model 140
Single Seal
Pump

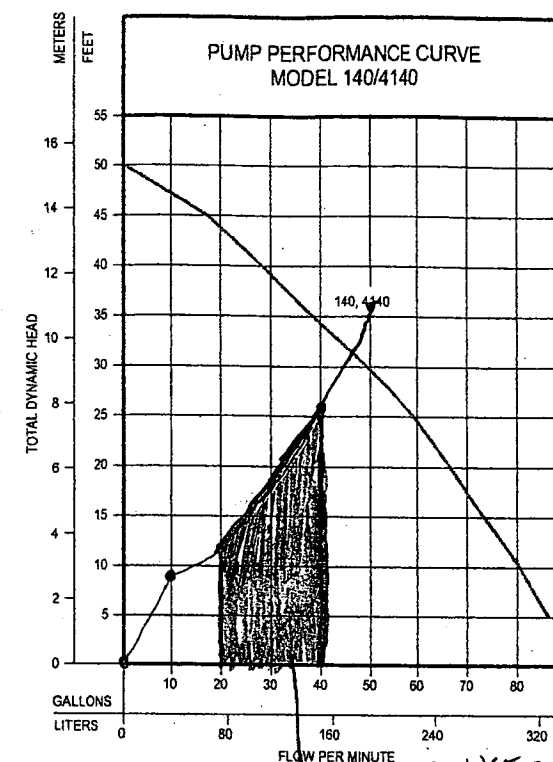


MODELS AVAILABLE

- Nonautomatic
- 1 HP, 1Ph 115V or 230V

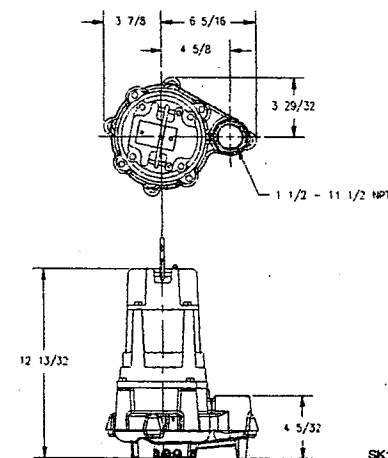


Model 4140
Double Seal
Pump

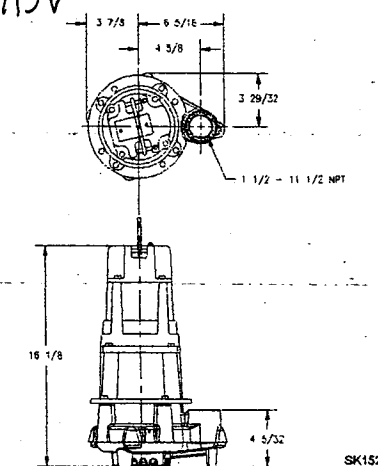


TOTAL DYNAMIC HEAD/FLOW
PER MINUTE
EFFLUENT AND DEWATERING

MODEL		140/4140	
Feet	Meters	Gal.	Liters
5	1.5	86	326
10	3.1	80	303
15	4.6	73	276
20	6.1	66	250
25	7.6	59	223
30	9.1	49	185
35	10.7	38	144
40	12.2	28	106
45	13.7	17	64
Shut-off Head:		50 ft. (15.2m)	



Double Seal Design
Weight 63 lbs



CONSULT FACTORY FOR SPECIAL APPLICATIONS

- Electrical alternators, for duplex systems, are available and supplied with an alarm.
- Mechanical alternators, for duplex systems, are available with or without alarms.
- Control alarm systems are available for 1 phase pumps used in simplex system. See FM0732.
- Variable level control switches are available for controlling single phase systems.
- Double piggyback variable level float switches are available for variable level long cycle controls.
- Sealed Qwik-Box available for outdoor installations. See FM1420.
- Refer to FM0806 for applications above 130°F (54°C).

140 Series - 43 lbs. 4140 Series - 63 lbs.

140/4140 MODELS					Control Selection	
Model	Model	Volts-Ph	Mode	Amps	Simplex	Duplex
N140	N4140	115	1	Non	1 or 2	3
E140	E4140	230	1	Non	1 or 2	3
BN140	BN4140	115	1	Non	*	---
BE140	BE4140	230	1	Non	*	---

*Single piggyback switch included.

SELECTION GUIDE

1. For automatic use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
2. See FM1228 for correct model of simplex control panel.
3. See FM0712 for correct model of duplex control panel.

CAUTION

All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).

RESERVE POWERED DESIGN

For unusual conditions a reserve safety factor is engineered into the design of every Zoeller pump.



<http://www.zoeller.com>



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Manufacturers of ...

"Quality Pumps Since 1939"

Soil Evaluation Form

Commonwealth of Virginia
Department of Health

Pat Raley

243-9227

PAGE 1 OF 6

Health Department

Identification Number

Tax Map Number 80-A-17

General Information

Date 2/27/01

FREDERICK COUNTY

Health Department

Applicant J. H. Yost III

Telephone No. 665-2826

Address 25 W. Piccadilly St., Winchester, VA. 22601

Owner Same

Address

Location Paddy Run Road

Subdivision Paddy's Run Woods Block/Section

Lot 2

Soil Information Summary

1. Position in landscape satisfactory Yes ☒ No ☐ Describe Lower Sideslope

2. Slope 22 %

3. Depth to rock/impervious strata Max. Min. None ☒

4. Depth to seasonal water table (gray mottling or gray color) No ☐ Yes ☒ 28 inches

5. Free water present No ☒ Yes ☐ range in inches

6. Soil percolation rate estimated Yes ☒ Texture group I ☒ II ☐ III ☐ IV
No ☐ Estimated rate 60 min/inch

7. Percolation test performed Yes ☐ Number of percolation test holes
No ☒ Depth of percolation test holes
Average percolation rate

Name and title of evaluator DAVID RALEY, CPSS, AOSE #139

Signature David Raley

Department Use

☐ Site Approved: Drainfield to be placed at depth at site designated on permit

☐ Site Disapproved:

Reasons for rejection:

- ☐ 1. Position in landscape subject to flooding or periodic saturation.
- ☐ 2. Insufficient depth of suitable soil over hard rock.
- ☐ 3. Insufficient depth of suitable soil to seasonal water table.
- ☐ 4. Rates of absorption too slow.
- ☐ 5. Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- ☐ 6. Proposed system too close to well.
- ☐ 7. Other Specify

Date of Evaluation 2/27/01

Profile Description
SOIL EVALUATION REPORT

Health Department
Identification No.

Page 2 of 6

Where the local health department conducts the soil evaluation the location of profile holes may be shown on the schematic drawing on the construction permit or the sketch submitted with the application. If soil evaluations are conducted by a private soil scientist, location of profile holes and sketch of the area investigated including all structural features i.e., sewage disposal systems, wells, etc., within 100 feet of site (See section 4) and reserve site shall be shown on the reverse side of this page or prepared on a separate page and attached to this form.

☐ See application sketch

☐ See construction permit

☒ See sketch on reverse side or page attached to this form.

Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group
1	A	0-4	Gravish Brown (10YR5/2) Loam	II
	B1	4-14	Yellowish Brown (10YR5/6) Loam	II
	B1-2	14-20	Weak Silty Subangular blocky structure Yellowish Red (5YR5/6) and Yellowish Brown (10YR5/6) clay loam; moderate medium subangular blocky structure gray (10YR6/1) mottled 2-3 inches 2-3 inch fragments	III
2	A	0-2	Gravish Brown (10YR5/2) Loam	II
	B1	2-8	Yellowish Brown (10YR5/6) Loam	II
	B1-2	8-40	Weak Silty Subangular blocky structure Yellowish Brown (10YR5/6) clay loam moderate medium subangular blocky structure; gray (10YR6/1) mottled 2-3 inches; 2-3 inch fragments	III
3	A	0-2	Gravish Brown (10YR5/2) Loam	II
	B1	2-15	Yellowish Brown (10YR5/6) Loam	II
	B1-2	15-38	Weak Silty Subangular blocky structure Yellowish Brown (10YR5/6) clay loam moderate medium subangular blocky structure; gray (10YR6/1) mottled 2-3 inches	III
4	A	0-2	Gravish Brown (10YR5/2) Loam	II
	B1	2-12	Yellowish Brown (10YR5/6) Loam	II
	B1-2	12-37	Weak Silty Subangular blocky structure Yellowish Brown (10YR5/6) clay loam moderate medium subangular blocky structure; gray (10YR6/1) mottled 2-3 inches; 2-3 inch fragments	III

Remarks

ABBREVIATED DESIGN FORM-PURAFLO PEAT MOSS SYSTEM
(based on GMP # 112)

ESTIMATED PERCOLATION RATE

60

NUMBER OF BEDROOMS

3

Depth to rock, pans or impervious strata

N/A

Depth to gray mottles

28"

% slope

22

Trench width

3'

Center to center spacing

11'

Recommended installation depth

16"

Length of available area

52

Number of trenches

4

Width of available area (including reserve if required)

58'

Reserve required?

Yes/50%

TOTAL LINEAR FEET REQUIRED

203

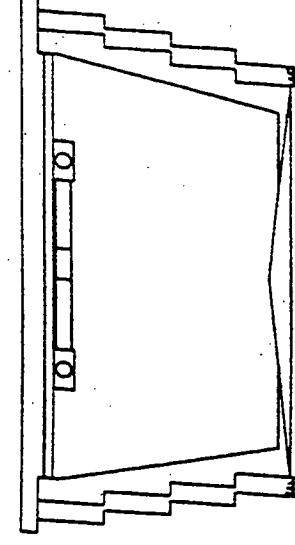
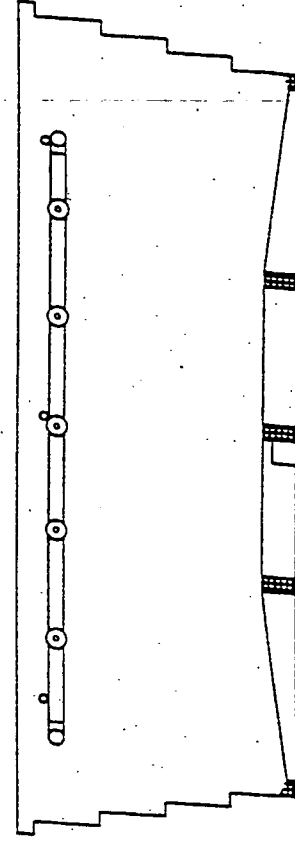
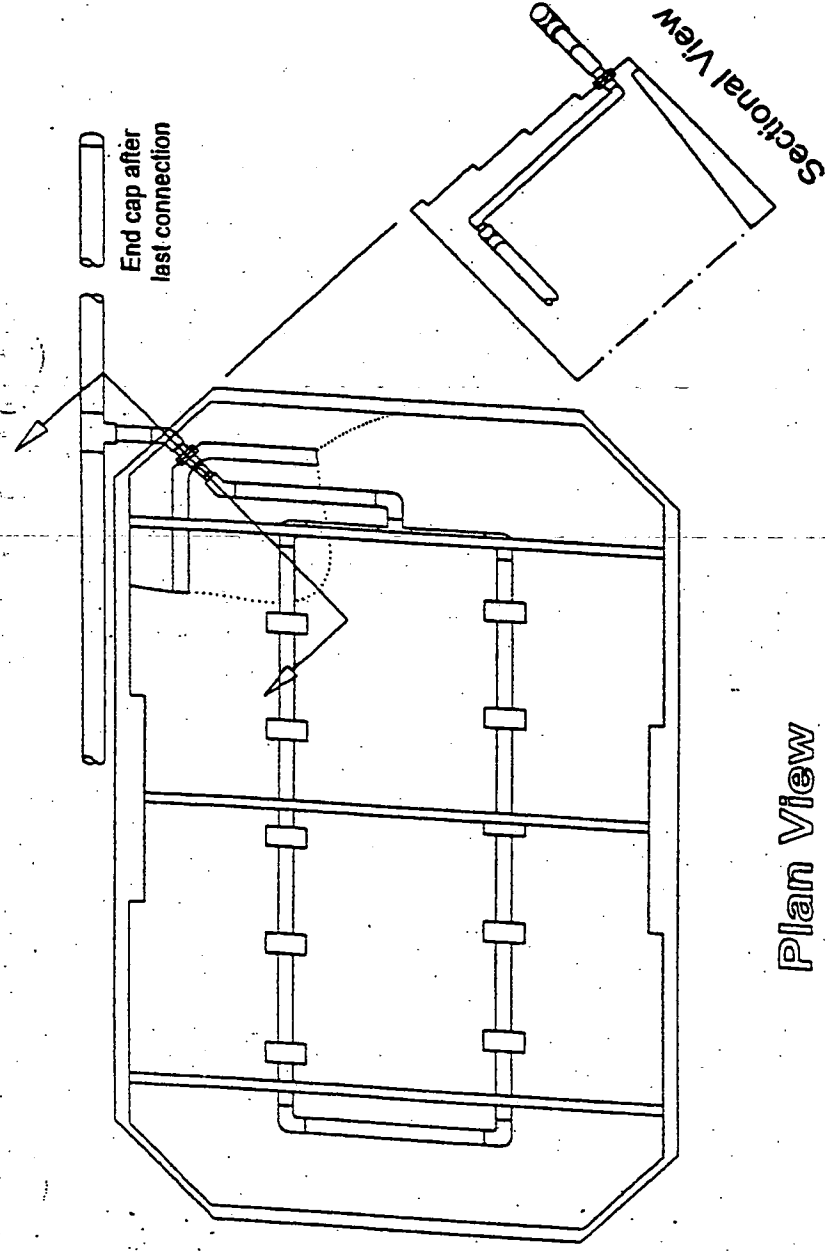
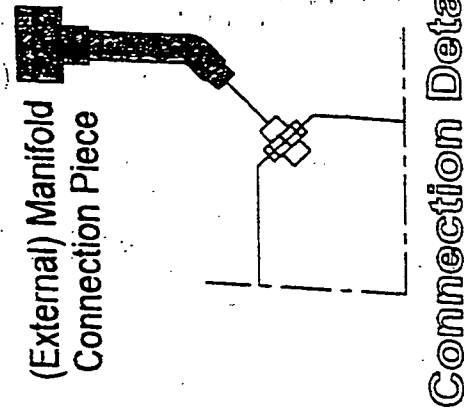
TOTAL LINEAR FEET IN DESIGN

200

SANITARY SURVEY

RE: Paddy's Run Woods

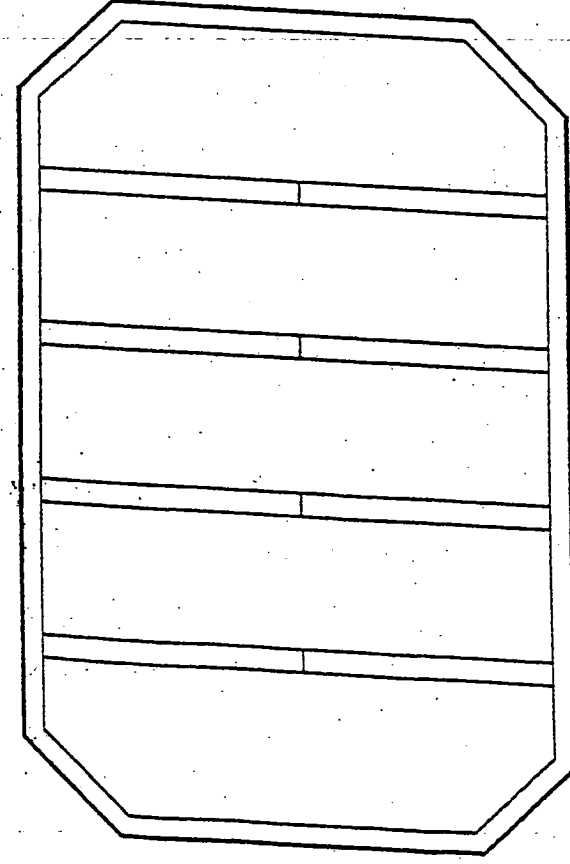
There were not any wells or drainfields noted within the 200' conflict zone.



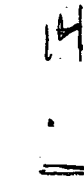
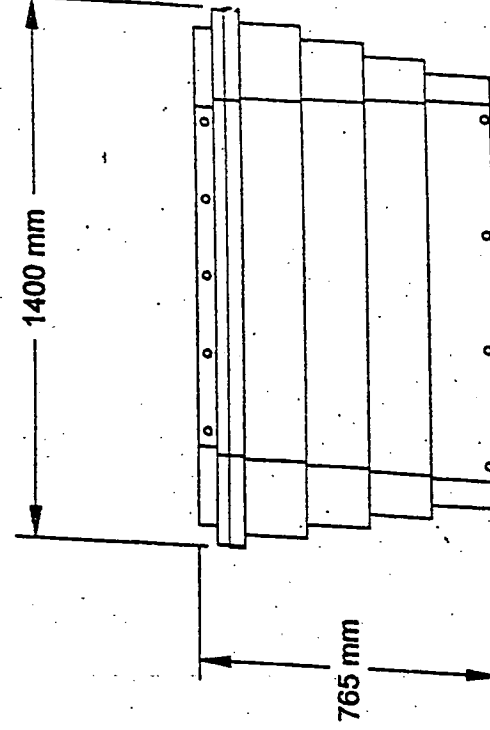
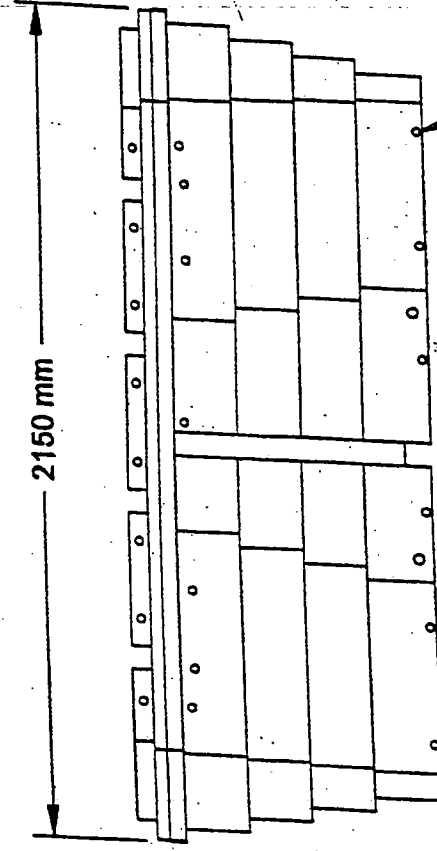
Sectional Elevation View

Sectional End View

JAN. 15, 1998 DWG. BY: GMOD	Scale 1:20	Drawing Title: MODULE GRID DETAIL	Project Reference: PURAFLO PEAT BIOFILTER
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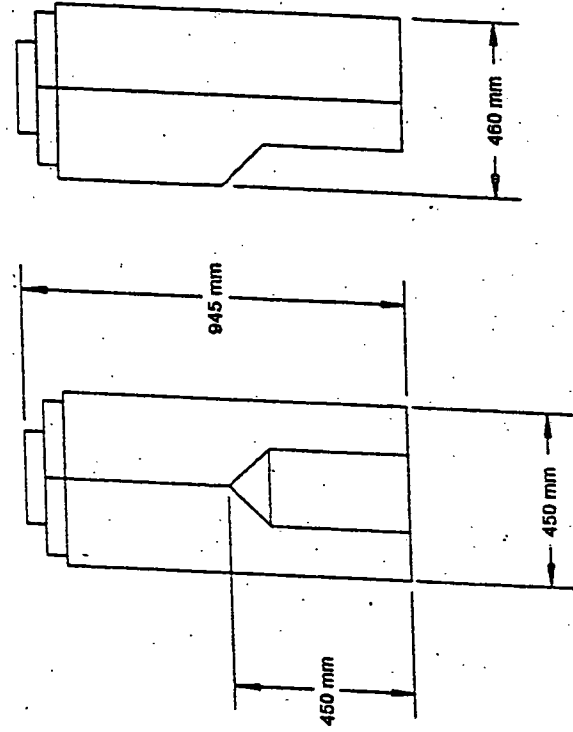
Plan View



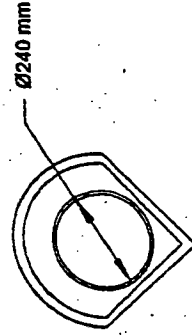
Elevational View

End View

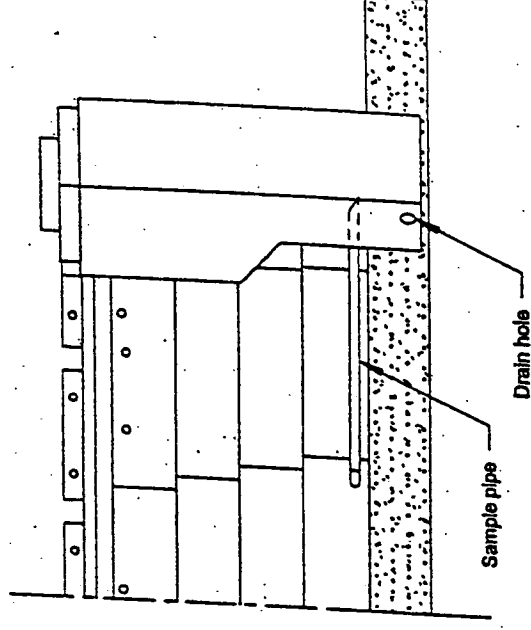
JAN 15 1998	Drawing Title: MODIFIED MODULE DETAIL	Project Reference: PIRAFLO PEAT BIOFILTER
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ELEVATIONAL VIEW END VIEW



PLAN VIEW



JAN. 15, 1998
DWG. BY: GMO'D

Drawing Title:

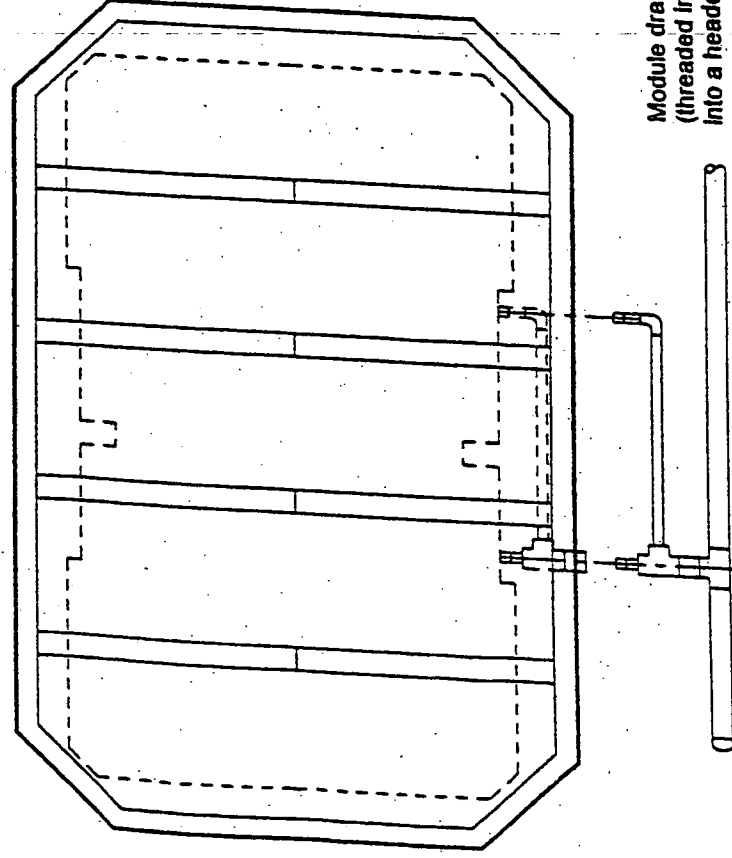
Scale 1:20

Project Reference:

SAMPLE CHAMBER DETAIL

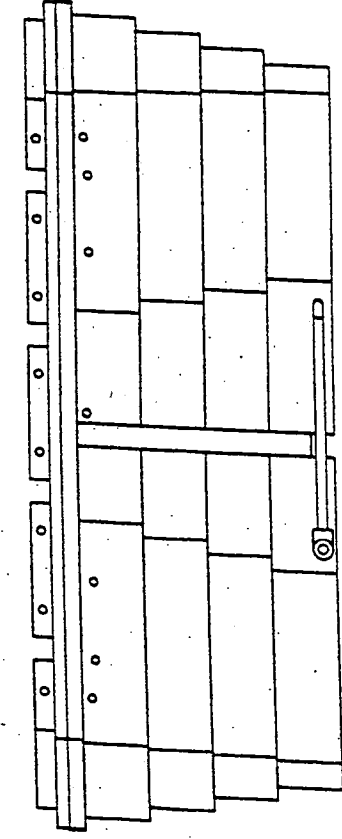
PURAFLO PEAT BIOFILTER

Threaded inserts not used for drainage
(opposite those in use) should be plugged

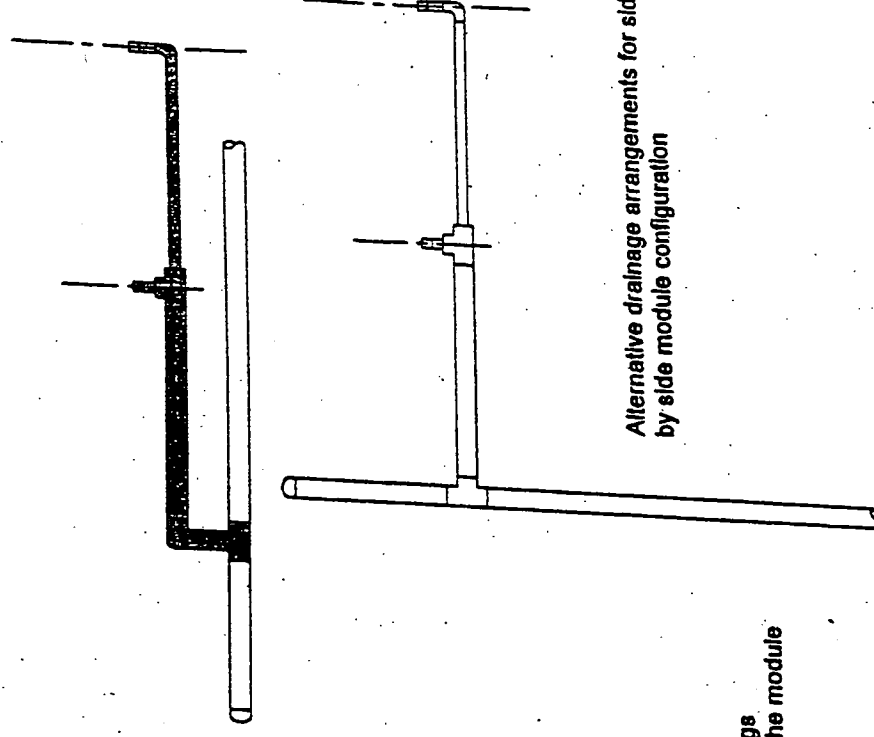


End cap after last
drainage assembly

Module drained through 2 openings
(threaded inserts) at the base of the module
into a header/collection line



Sealed module has no weep-holes
around the base, all effluent exits the
module through drain-pipe assembly
as shown



Alternative drainage arrangements for side
by side module configuration

JAN. 15, 1998
DWG. BY: GMO'D

Drawing Title:

Scale 1:20

Project Reference:

DRAIN PIPE DETAIL

PURAFLO PEAT BIOFILTER

Simplex Control Panels

Submittal
Data Sheet



Orenco System
Incorporated

814 AIRWAY AVENUE

SUTHERLIN, OREGON

97479

TELEPHONE

(541) 459-4449

(800) 348-9843

FACSIMILE

(541) 459-2884

General

Orenco Simplex Control Panels are specifically engineered for pressure sewer (STEP) systems, onsite septic treatment systems, and for pump control into conventional gravity systems. Standard features include circuit breakers, an automatic/manual/off toggle switch, automatic motor control operation, and an audio/visual high water level with auto reset. Other standard features and options are listed on page 2. Orenco Panels are designed for use with mechanical and/or mercury float switches. Listed per UL 508; a UL-Canada listing is available.

Applications

Orenco Simplex Control Panels are used to control effluent pumps, alarms, and other equipment as specified in pressure sewers and onsite septic systems.

Standard Models

S1, S2

Model Code Nomenclature:

S X XXXX

Indicates selected options (see p.2).

Indicates voltage.

1 = 120 VAC.

2 = 240 VAC.

Specifications

Panel Enclosure:

Measures 11.5" high x 9.3" wide x 5.4" deep. NEMA 4X rated. Constructed of UV resistant fiberglass; hinge and latch are stainless steel.

S1 Panel Ratings:

120 VAC, 3/4 hp, 14 amps, single phase, 60 Hz.

S2 Panel Ratings:

240 VAC, 2 hp, 14 amps, single phase, 60 Hz.

Simplex Control Panels (continued)

Standard Features

Feature	Specification(s)
Motor-Start Contactor	120 VAC: 14 FLA, 3/4 hp, 60 Hz; 2.5 million cycles at FLA (10 million at 50% of FLA). 240 VAC: 14 FLA, 2 hp, 60 Hz; 2.5 million cycles at FLA (10 million at 50% FLA).
Pump Circuit Breaker	20 amps, OFF/ON switch. Single-pole 120 VAC, double-pole 240 VAC. DIN rail mounting with thermal magnetic tripping characteristics.
Controls Circuit Breaker	10 amps, OFF/ON switch. Single pole 120 VAC. DIN rail mounting with thermal magnetic tripping characteristics.
Toggle Switch	Single pole-double throw HOA switch rated at 20 amps.
Audio Alarm	95 dB at 24", warble-tone sound.
Audio Alarm	120 VAC, automatic reset. DIN rail mount.
Silence Relay	
Visual Alarm	7/8" diameter red lens, "Push-to-silence." NEMA 4X, 1 watt bulb, 120 VAC.

Optional Features

Feature	Specification(s)	Product Code Adder
Intrinsically Safe Control Relays	120 VAC. Listed per UL 913, for Class 1 Div. 1, Groups A, B, C, D hazardous locations. Larger enclosure required.	IR
Programmable Timer	120 VAC, Repeat cycle from 0.05 seconds to 30 hours. Separate variable controls for OFF & ON time periods.	PT
Redundant Off Relay	120 VAC provides a secondary off. Sounds alarm on low level condition. DIN rail mount.	RO
Heater	Anti-condensation heater. Self-adjusting; radiates additional wattage as temperature drops.	HT
Disconnect Switch	Single pole-single throw, 20 amps, motor rated at 1 hp.	DS
Elapsed Time Meter	120 VAC, 7-digit, non-resettable. Limit of 99,999 hours; accurate to 0.01 hours.	ETM
Event Counter	120 VAC, 6-digit, non-resettable.	CT
Pump Run Light	7/8" green lens. NEMA 4X, 1 watt bulb, 120 VAC.	PRL

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Zabel™ Wastewater Filter System

Model A300 - 1/32" Filtration

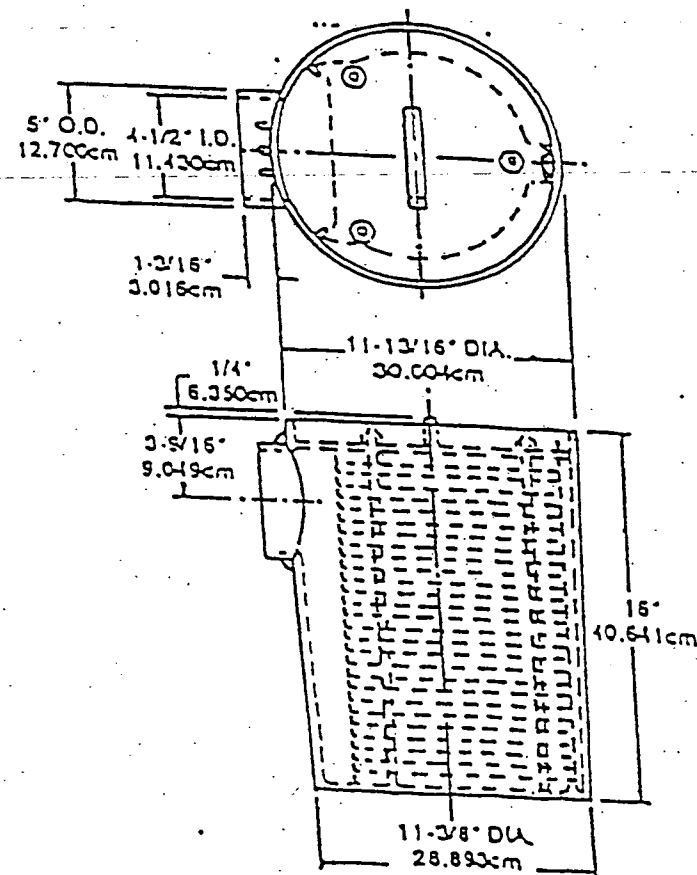
The Zabel Filter™ performs two primary functions:

- Retains solids in the tank
- Reduces BOD's

Servicing the filter in septic tank installations is required only when the tank is normally serviced.

When you have your septic tank pumped, have your contractor wash down the filter with a hose into the tank and pump it out.

Servicing the filter in the septic tank depends on the volume of grease discharged by the home.



Zabel A300 Commercial and Industrial Wastewater Filter

SPECIFICATIONS

APPLICATIONS:

The A300 is used in commercial and industrial, paper and sewer systems where grease, hair, lint and high suspended solids are present in the wastewater. This includes installations such as restaurant grease interceptors, dog kennels, laundromats, wineries, bakeries, poultry farms and anywhere wastewater must be pretreated before entering a private septic or public sewer system.

FLOW RATE:

1,000 gpd per filter. You may install two or more filters in a PVC or concrete manifold to achieve flow of 6,000 gpd or more. Check with Zabel for details.

FILTRATION:

The 27 Dual Drain® 1/32 inch provide 103 linear feet of filtration.

INSTALLATION:

The filter may be installed inside the tank or installed in a Zabel Container Assembly outside the tank. Ground level access for servicing is recommended.

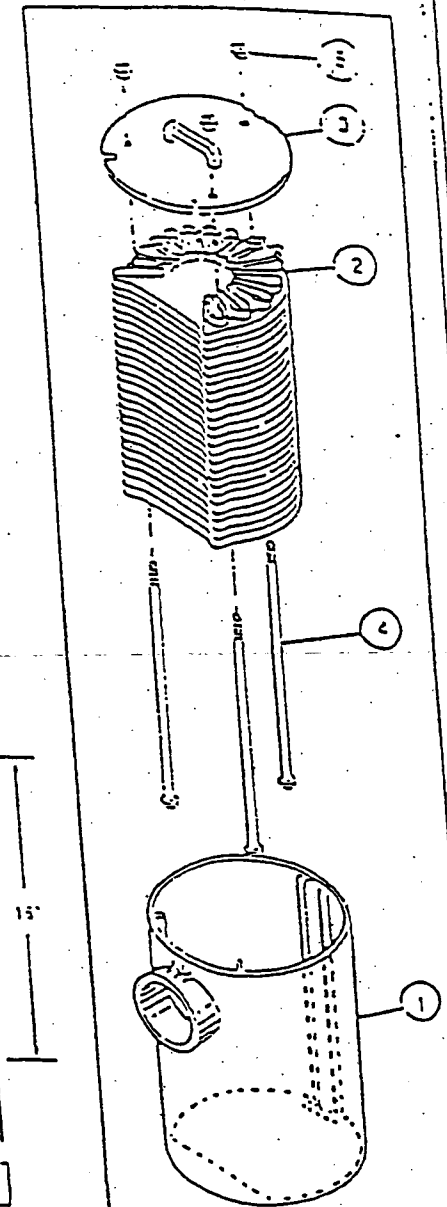
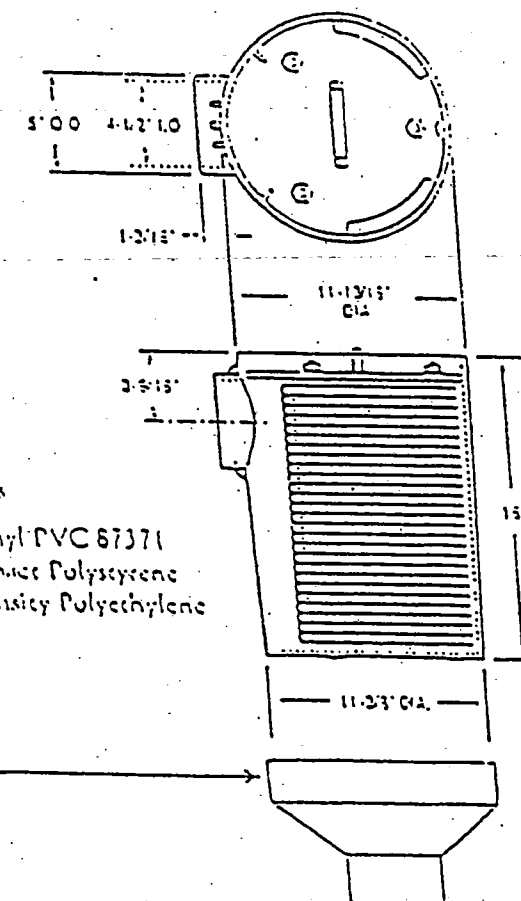
SERVICE:

The Zabel A300 Filter is designed to be easily serviced. However the A300 is installed in such a wide variety of applications, each application will require a different service schedule. Please check with Zabel for service specification details.

Material Specifications

Cases, Lids, Reducers	Rigid Vinyl PVC 67371
Dues	High Impact Polystyrene
Rods, Nuts	High Density Polyethylene

Optional Extension Reducer



MATERIAL LIST	QTY	DESCRIPTION
1	1	Case
2	27	Filter Rods
3	1	Case
4	3	Red
5	3	Nut

U.S. Patent No. 4,710,295

Call 1-800-221-5742 or Fax (502) 267-8801 for further information

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