

AT A SPECIAL MEETING OF THE DEVELOPMENT REVIEW COMMITTEE OF THE COUNTY OF JAMES CITY, VIRGINIA, HELD IN THE BUILDING C BOARD ROOM AT 6:30 P.M. ON THE 1<sup>st</sup> DAY OF JULY, TWO THOUSAND TWO.

1. ROLL CALL

Mr. John Hagee  
Mr. Joe Poole  
Ms. Peggy Wildman

ALSO PRESENT

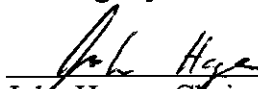
Ms. Jill Schmidle, Senior Planner  
Mr. Marvin Sowers, Planning Director

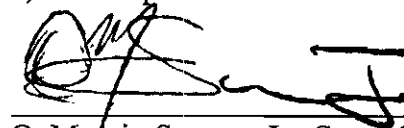
2. Case No. SP-76-02. Powhatan Secondary Future Church Parcel.

Mr. Hagee summarized conversations he had earlier in the day with Mr. Sowers and Ms. Schmidle regarding the review of a church plan on this property, and summarized last Wednesday's meeting for Ms. Wildman. Mr. Hagee stated that since a site plan for a church has not been submitted, it is not under the DRC's purview to determine the consistency of a church with the Powhatan Secondary Master Plan. Mr. Sowers and Ms. Schmidle explained that the issue before the DRC is whether a temporary parking area and a multi-purpose playing field are consistent with the Single-Family designation on the Master Plan. Ms. Schmidle reiterated staff's position that the two uses are not consistent with the Master Plan and that staff's concern is the precedent for clearing a site in order to accommodate both a temporary use and a future use without a site plan. Ms. Wildman asked for clarification on Section 24-279 of the zoning ordinance which specifies the DRC can approve uses which the DRC finds does not vary the basic concept or character of the development. Mr. Beamer provided a letter of intent from a church who plans to build on the site. Mr. Hagee expressed his position that the parking area and multi-purpose fields are consistent with the Master Plan. Mr. Poole concurred, and requested additional information be included on the site plan guaranteeing that the parking lot would contain wood chips or mulch instead of gravel, that the use of the temporary parking area be restricted to the dates of the Parade of Homes, and that the two uses (temporary parking area and multi-purpose fields) be clearly placed on the site plan. Any references to the church (including the site plan title) shall be removed. Ms. Schmidle and Mr. Romeo agreed that these notes would be on the plans prior to final site plan approval. The DRC unanimously agreed to find the temporary parking area and the multi-purpose fields consistent with the Master Plan, contingent on the addition of Mr. Poole's requested notes to the site plan.

3. Adjournment

There being no further business, the July 1, 2002, Development Review Committee meeting adjourned at approximately 7:05 p.m.

  
John Hagee, Chairman

  
O. Marvin Sowers, Jr., Secretary

**Conceptual Plan 87-02****1 Drammen Ct. Septic System Waiver Request**

Staff Report for the July 31, 2002, Development Review Committee Meeting

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***SUMMARY FACTS***

**Applicant:** Dave Johnson

**Land Owner:** Dave Johnson

**Proposed Use:** Single-family home

**Location:** 1 Drammen Court

**Tax Map/Parcel No.:** (23-4)(3-190)

**Primary Service Area:** Inside

**Parcel Size:** 0.522 acres

**Existing Zoning:** R-2, General Residential

**Comprehensive Plan:** Low Density Residential

**Staff Contact:** David Anderson      Phone: 253-6685

***BRIEF HISTORY OF THE SITE***

An unbuilt lot located in Kristiansand, for which public sewer is unavailable. Mr. Johnson recently purchased the approximately half acre site for the construction of a single-family home.

***REASON FOR DRC REVIEW***

Although this parcel is located inside the Primary Service Area, no public sewer is available; therefore, the Subdivision Ordinance requires the lots to be served with a conventional septic system (i.e., a hold tank and drainfield).

A standard septic system was not approved by the State health department for this site. The site was then evaluated by an Authorized On-Site Evaluator (i.e., a professional recognized by the Health Department as being qualified to determine septic tank acceptability) for an alternate "Puraflo" system. For the alternate "Puraflo" system, the permitted site was certified as being in compliance with the Board of Health's regulations and local ordinances.

Therefore, Mr. Johnson is requesting the use of the Puraflo septic system, which would allow him to provide individual sewer to the proposed single-family home.

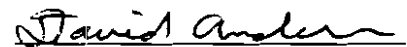
The Subdivision Ordinance states that the Commission may grant an exception to any requirement of the chapter, but not unless first receiving a recommendation from the DRC and upon finding that:

- a.) strict adherence to the ordinance requirement will cause substantial injustice or hardship;
- b.) the granting of the exception will not be detrimental to public safety, health, or welfare, and will not adversely affect the property of others;
- c.) the facts upon which the request is based are unique to the property and are not applicable generally to other property so as not to make reasonably practicable the formulation of general regulations to be adopted as an amendment to the ordinance;
- d.) no objection to the exception has been receiving in writing from the transportation department, health department, or fire chief, and
- e.) the hardship or injustice is created by the unusual character of the property, including dimensions and topography, or by other extraordinary situation or condition of such property. Personal, financial, or self-inflicted hardship or injustice shall not be considered proper justification for an exception.

STAFF RECOMMENDATION

- a.) Staff believes strict adherence to the ordinance will cause substantial injustice or hardship by not allowing for sewage disposal to be provided for this lot;
- b.) The use of a Puraflow system would not be detrimental to the public safety, health, or welfare and will not adversely affect the property of others;
- c.) The facts upon which the request is based are unique to the property and are not applicable generally to other property;
- d.) No objection to the proposal has been submitted from the health department; and
- e.) The hardship or injustice is created by the unusual character of the property - that being a standard septic system was not approved by the State health department for this property.

Since the request substantially meets the requirements listed above, staff recommends approval of the request.

  
David Anderson

attachments:

- 1. Location Map
- 2. Approval letter dated June 26, 2002
- 3. Approved plans dated June 4, 2002
- 4. Request letter from Mr. Johnson, dated July 1, 2002

C-07-02

# 1 Drammen Ct. Septic System Waiver



James City County

Newport News

Poquoson

Williamsburg

York County



# COMMONWEALTH of VIRGINIA

*Department of Public Health  
Peninsula Health District*

- 416 J. Clyde Morris Boulevard  
Newport News, Virginia 23601  
Phone (757) 594-7300

- 1033 28<sup>th</sup> Street  
Newport News, Virginia 23607  
Phone (757) 247-2170

- 710 Denbigh Boulevard, Suite 2-D  
Newport News, Virginia 23608  
Phone (757) 886-2810

- 1126 Professional Drive  
Williamsburg, Virginia 23185  
Phone (757) 253-4813

June 26, 2002

Dave Johnson  
8350 Richmond Road  
Toano, VA 23168

**RE: AOSE Permit Approval  
#1 Drammen Court  
Tax Map #:(23-4)(3-190)**

Dear Sir or Madam,

This letter, in conjunction with the approved plans (26 pages) dated June 4, 2002, which are attached, constitutes your permit to install a sewage disposal system. The application for a permit was submitted pursuant to §32.1-163.5 of the *Code of Virginia* which requires the Health Department to accept private soil evaluations and designs from an Authorized Onsite Soil Evaluator (AOSE) or a Professional Engineer working in consultation with an AOSE for residential development. The permitted site was certified as being in compliance with the Board of Health's regulations and local ordinances by: Kornell R. Davis, AOSE # 109, Phone # (804)966-9190. This letter is issued in reliance upon that certification.

The Board of Health hereby recognizes that the soil and site conditions acknowledged by this correspondence, and documented by additional records on file at the local health department, are suitable for the installation of onsite sewage disposal systems. The attached plat shows the approved area for the sewage disposal system. This letter is void if there is any substantial physical change in the soil or site conditions where a sewage disposal system is to be located.

Page 2

#1 Drammen Court

Tax Map #:(23-4)(3-190)

If modifications or revisions are necessary between now and when you construct your dwelling, please contact the Authorized Onsite Soil Evaluator (AOSE) or Professional Engineer (PE) who performed the evaluation and design on which this permit is based. The name, address, and phone number of the AOSE/PE appears on the certification form attached to this permit. Should revisions be necessary during construction, your contractor should consult with the AOSE/PE that submitted the site evaluation or site evaluation and design. The AOSE or PE is authorized to make minor adjustments in the location or design of the system or at the time of construction provided adequate documentation is provided to the Williamsburg Area Environmental Health Office.

This authorization is null and void if conditions are changed from those shown on the application or conditions are changed from those shown on the attached construction drawings, plans and specifications. No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved by the Williamsburg Area Environmental Health Office or unless expressly authorized by the Williamsburg Area Environmental Health Office. Any part of any installation which has been covered prior to approval shall be uncovered if necessary, upon the direction of the Department.

This authorization to construct a sewage disposal system and expires: December 26, 2003.

Sincerely,

A handwritten signature in cursive script that reads "Valerie Jordan".

Valerie Jordan, M.P.H.  
Environmental Health Specialist, Senior  
Williamsburg Area Environmental Health Office

**Water Supply and/or Sewage Disposal System Construction Permit**

Commonwealth of Virginia

Department of Health

James City County Health Department

Health Department

Identification Number \_\_\_\_\_

Map Reference (23-4) (3-190)**General Information**Water Supply System: New \_\_\_\_\_ Repair \_\_\_\_\_ Abandon \_\_\_\_\_ Public XX FHA/VA \_\_\_\_\_ Case No. \_\_\_\_\_Sewage Disposal System: New XX 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 Dave Johnson Telephone (757) 592-3004Address 8350 Richmond Road, Toano, VA 23168 For a Type II Sewage Disposal System or Well tobe constructed on/at #1 Drammen Court, Toano, VA 23168Subdivision Christiansand Section/Block 7 Lot 19 Actual/Est. Water Use 3 Bedroom / 450 GPD**DESIGN****NOTE: SEWAGE DISPOSAL SYSTEM INSPECTION RESULTS**Water Supply, existing: (describe) PublicWater supply location: Satisfactory yes ☐ no ☐

comments:

Completion Report

G.W.2 Received: yes ☐ no ☐ not applicable ☐

To be installed: class: \_\_\_\_\_

cased \_\_\_\_\_ grouted \_\_\_\_\_

Building Sewer: yes ☐ no ☐ comments

Satisfactory

Building Sewer:

4" I.D. PVC Schedule 40, or equivalent.Slope 1.25" per 10' (minimum).☐ Other \_\_\_\_\_Septic Tank: Capacity 1,000 gallons. (minimum)☐ Other 3" Inspection Port located at Inlet Side of Tank or EffluentFilter w/Riser, or Reduced Maintenance Septic Tank w/ BafflePretreatment unit: yes ☐ no ☐ comments

Satisfactory

Inlet-outlet structure:

PVC Schedule 40, 4" tees or equivalent.

☐ Other Zabel A-300 Effluent Filter

pump and pump station:

No ☐ Yes ☒ Describe and show design.☒ Other See Plans & SpecificationsInlet-outlet structure: yes ☐ no ☐ comments

Satisfactory

Pump and 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 N/A ports.☐ Other \_\_\_\_\_Distribution box: yes ☐ no ☐ comments

Satisfactory

Header lines:

Material: 4" I.D. 1,500 lb. Crush strength plastic or equivalent from distribution box to 2' into the absorption trench. Slope 2" minimum.

☐ Other \_\_\_\_\_Header lines: yes ☐ no ☐ comments

Satisfactory

Percolation lines:

Gravity 4" plastic, 1,000 lb. per foot bearing load or equivalent, slope 2" to 4" (minimum/maximum) per 100'.

☐ Other \_\_\_\_\_Percolation lines: yes ☐ no ☐ comments

Satisfactory

Absorption trenches:

Square feet required 902;Depth from ground surface to bottom of trench / pad 12";Aggregate size N/A"; Trench/pad bottom slope N/A;Center to center spacing 2'; Trench / Pad width N/A;Trench / Pad length Varies; Number of Trenches / Pads 22Depth of aggregate in Trench / Pad N/A;☒ Other Requirements: See Plans & SpecificationsAbsorption trenches: yes ☐ no ☐ comments

Satisfactory

Date \_\_\_\_\_ Inspected and approved by:

AOSE / Engineer / EHS

**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 soils 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.

**THIS PERMIT ISSUED UNDER THE 2000 SEWAGE HANDLING AND DISPOSAL REGULATIONS and GMP-107 (Generic Drip Disposal Policy) and GMP-112 (PuraFlo General Approval)**

Install 3 drip irrigation laterals. All drip tubing to be placed on two (2) foot center to center spacing, installed at a depth of twelve (12) inches, and be placed on contour.

Maintain the following minimum separation distances:

Septic Tank / Drainfield to building foundation - ten (10) feet.

Septic Tank / Drainfield to property lines - five (5) feet.

Septic Tank / Drainfield to utilities - ten (10) feet.

Drip field to be installed with a vibratory plow and only in dry conditions. All trees and shrubs are to be removed from the drain field area by hand. **DO NOT DRIVE, PARK, or STORE BUILDING SUPPLIES** on the drain field area. Compacting the soils in this area will be cause to void the permit.

Install one (1) 1,000 gallon concrete septic tank as the primary treatment / septic tank. Install one (1) 1,000 gallon concrete septic tank as a pump chamber for dosing the PuraFlo Modules. Install one (1) 1,000 gallon concrete septic tank as the pump chamber for dosing of the drip irrigation field. All septic tanks are to be installed in accordance with applicable portions of the *Sewage Handling and Disposal Regulations*.

Install four (4) PuraFlo Modules (White). All modules are to have solid bottoms, with collection piping installed so as to be able to charge treated sewage to a one thousand gallon pump chamber for dosing a drip irrigation field.

Contact Coastal Plains Environmental Group, (804) 966-9190, prior to contacting the local health department should there be any difficulty with the installation.

Contact Coastal Plains Environmental Group a minimum of seventy-two (72) hours in advance of construction to arrange for inspection of the installation.

1. Protect the drainfield area during building construction. Heavy equipment and trucks, especially, may disturb the soil structure enough to make the sewage permit void. Do not allow anyone to drive, park, or store heavy construction materials in the drainfield area.

2. All trees should be removed from the drainfield area. Hydrophilic trees such as maples, cottonwoods, and willows must be removed from within 10 feet of the drainfield. An even greater distance is recommended. Tree roots interfere with the proper functioning of the drainfield and may lead to early failure of the system. Tree stumps should be removed with a stump grinder and not by bull-dozing or digging.

3. Pregrading of the drainfield site should only be done with the specific consent of the Health Department. The system is designed to be installed a specific depth from the original ground surface. Removing the topsoil or changing the contours of the site may make the drainfield area unusable. This will result in making the permit void.

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

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 expressly authorized by the local health department. Any part of any installation which has been covered prior to approval shall be covered, if necessary, upon the direction of the Department.



1. All construction materials and methods must conform to applicable local and state Sewage Handling and Disposal Regulations.
2. Concrete tanks are to be installed on uniformly firm and stable compacted ground. Crushed stone is recommended to provide form support to tank bottom.
3. Septic and Processing tanks shall be water tight and conform to applicable local and state Sewage Handling and Disposal Regulations, and/or GMP-112 (PuraFlo General Approval).
4. System should be installed only during dry conditions.
5. All electrical connections shall be terminated in a water tight enclosure, and be above natural grade. No "piggy back" plugs will be approved.
6. Alarm and control panel are to be placed in an area that is easily monitored.
7. Master electrical disconnect switch shall be located within sight of the pump vault, or be so equipped that it can be "locked" out for maintenance purposes.
8. Pump and Alarm are to be on separate circuits.
9. Float settings are dependant upon the type of septic tank and pump chamber installed. Float settings are to be determined at time of installation. Ideal float and timer settings for the PuraFlo Treatment System will allow for a 1 minute dose cycle, followed by a 2 hour rest cycle. A pump down and alarm test will be required prior to certifying the system.
10. Float settings for the drip disposal dosing chamber should be set as indicated on permit page titled "Pump Specifications based on a 1,000 Gallon Pump Chamber". A pump down and alarm test of this system will be required prior to certifying the system. Timer settings for timed dosing of the drip dispersal area should be set for a dose cycle of 18.12 minutes, followed by a rest cycle of 2 hours. A pump down and alarm test will be required prior to certifying the system.
11. All PuraFlo™ Treatment System components are to be installed in accordance with the appropriate "Designer / Engineering Package" manual issued to certified designers & installers.
12. Only those components and materials specified for use with the PuraFlo™ Treatment System, as specified in the "Designer / Engineering Package" are to be used. No substitutions will be approved.

**CONSTRUCTION NOTES & DETAILS CONTINUED:****Design Specifications:**

reatment system to be four (4) PuraFlo Bio Filter Treatment Modules. All additional components (pump, pump vault, motor control floats & risers) are to be compatible components as specified in the designer / installer package.

Pump to dose the PuraFlo Treatment System is to be an Orenco Model PWE-05HH or equivalent. Pump curve for Orenco Pump is included in the permit package. If contractor wishes to substitute a different pump, Contractor must provide pump curve data to Coastal Plains Environmental Group and local health department representatives for approval.  
[VASSCO, 7206 Richmond Ave., Lanexa, VA 23089, (1-800-965-8411)]

Pump to dose the drip disposal field is to be an Orenco Model PEF-50 (NOTE - This Pump Specification is Different from the PuraFlo Pump Specification) or equivalent. Pump curve for Orenco Pump is included in permit package. If contractor wishes to substitute a different pump, Contractor must provide pump curve data to Coastal Plains Environmental Group and local health department representatives for approval. Drip systems rely on proper PSI (pounds per square inch) pressure to operate.  
[VASSCO, 7206 Richmond Ave., Lanexa, VA 23089, (1-800-965-8411)]

Control Panel to be capable of duplex pump operation, and shall be an Orenco Model MVP-PTRO-HT-VA. (Suitable to operate both the PuraFlo Treatment System and the additional pump and timer used to dose the distribution area).  
[VASSCO, 7206 Richmond Ave., Lanexa, VA 23089, (1-800-965-8411)]

Drip tubing to be GeoFlow Wasteflow Pressure Compensating Drip Tubing, Model # WFPC16-2-24. (451 linear feet required)  
[VASSCO, 7206 Richmond Ave., Lanexa, VA 23089, (1-800-965-8411)]

Head works box to be GeoFlow Model WHW-100-Man. Headworks box to include a Geoflow Vortex Spin Filter, Model AP4E-100.  
[VASSCO, 7206 Richmond Ave., Lanexa, VA 23089, (1-800-965-8411)]

Air Vacuum Breaker / Air Relief Valve to be GeoFlow Model APVBK-1 (2 required). Air Vacuum Breaker shall be installed inside an appropriate valve box.  
[VASSCO, 7206 Richmond Ave., Lanexa, VA 23089, (1-800-965-8411)]

Control Panel to contain a motor control switch that allows for hand/off/automatic operation, an audio/visual alarm, and a master disconnect switch. (Master disconnect switch may be separate from the control panel, but must be physically located that it can be seen and/or monitored from the pump vault during maintenance).

All pump / motor controls are to be hard wired. No "PIGGY BACK" plugs will be approved. All electrical wiring junctions and junction boxes should be placed outside of the pump vault, unless designed specifically for installation inside a pump vault. All electrical junction boxes shall be rated and designed for water tightness.

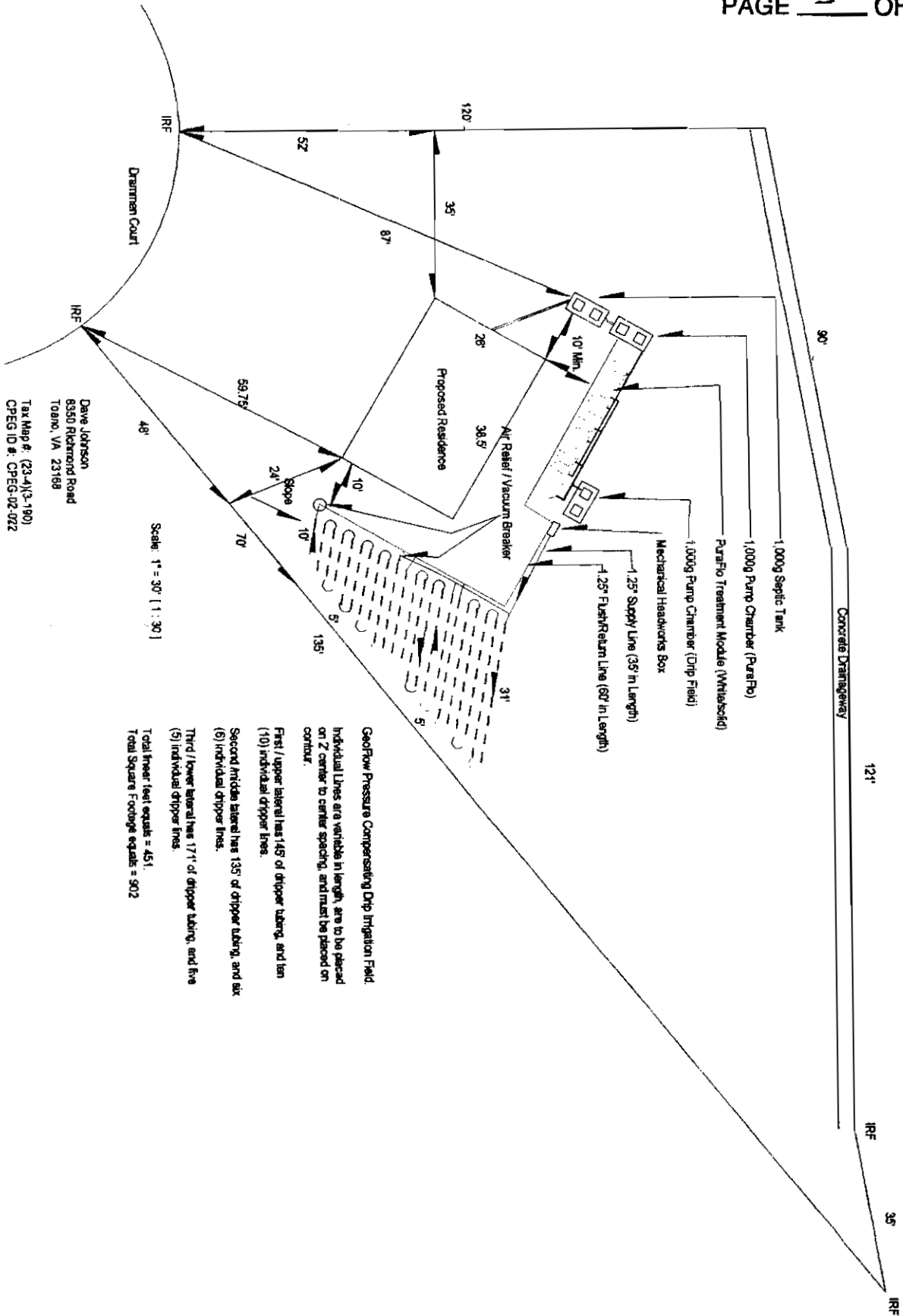
Supply Line and Flush Line for drip field is to be 1.25" PVC pressure rated pipe. All fittings are to be pressure rated. All fittings and joints are to be chemically welded and be water tight. Use of Drain Waste Vent piping is prohibited. Supply Line and Flush Line should be left exposed at all joints for inspection. Supply Line and Flush Line should be buried a minimum of eighteen inches below grade to prevent freezing. (A total of 150 linear feet of 1.25" PVC plus fittings is required (Supply Line / Flush Line & Return Line))

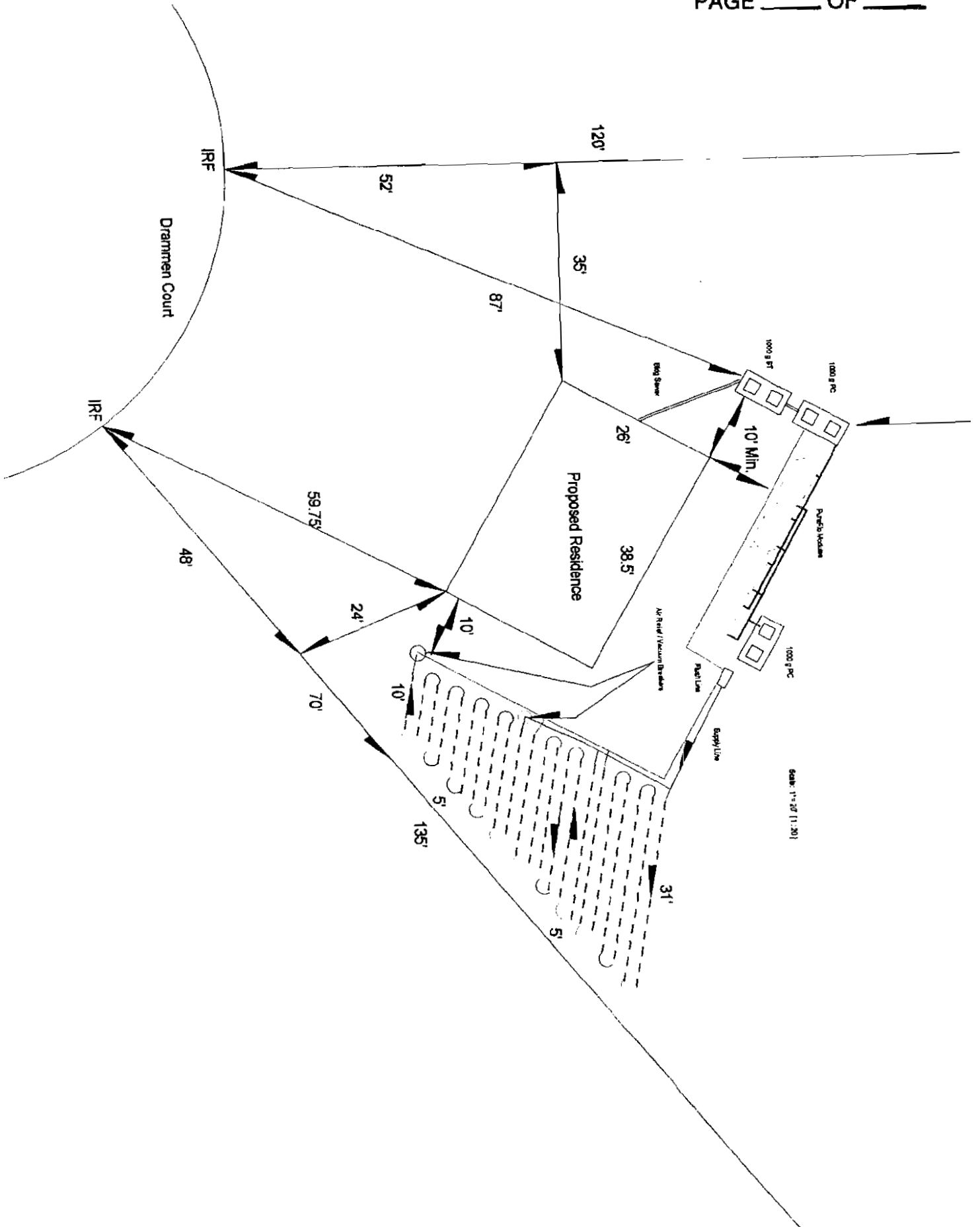
Backfill with suitable loose material free of large or damaging objects. Seed and straw backfilled area(s).

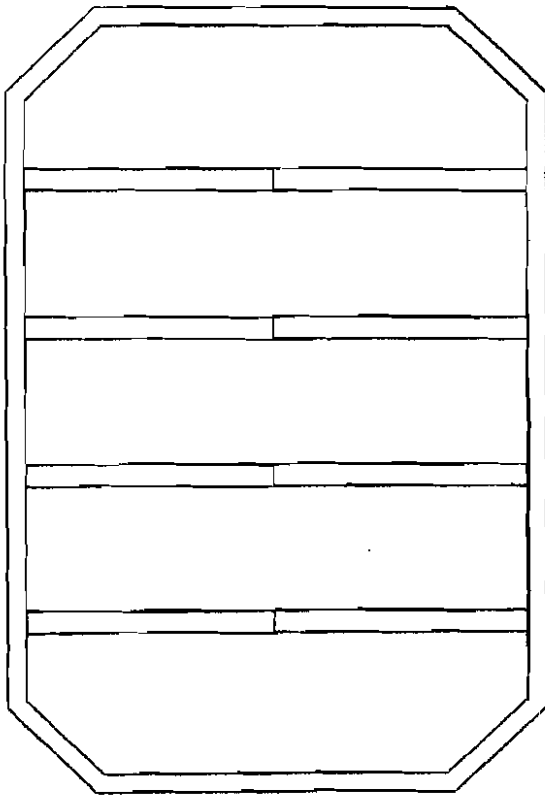
Backfill should be graded to prevent the infiltration of surface water, and to divert storm water run-off away from the system.

Contact Coastal Plains Environmental Group at (804) 966-9190 should there be any difficulties with the installation.

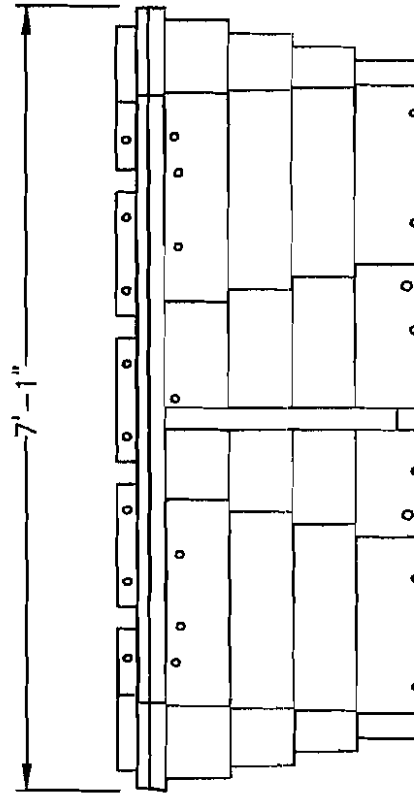
Contact Coastal Plains Environmental Group at (804) 966-9190 a minimum of seventy-two (72) hours prior to beginning installation to arrange for onsite inspection(s).



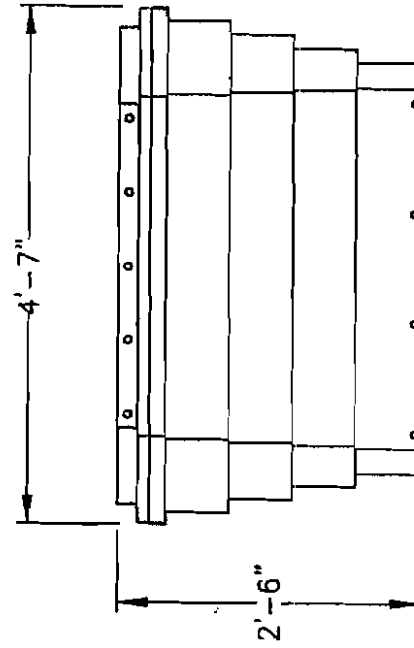




Plan View

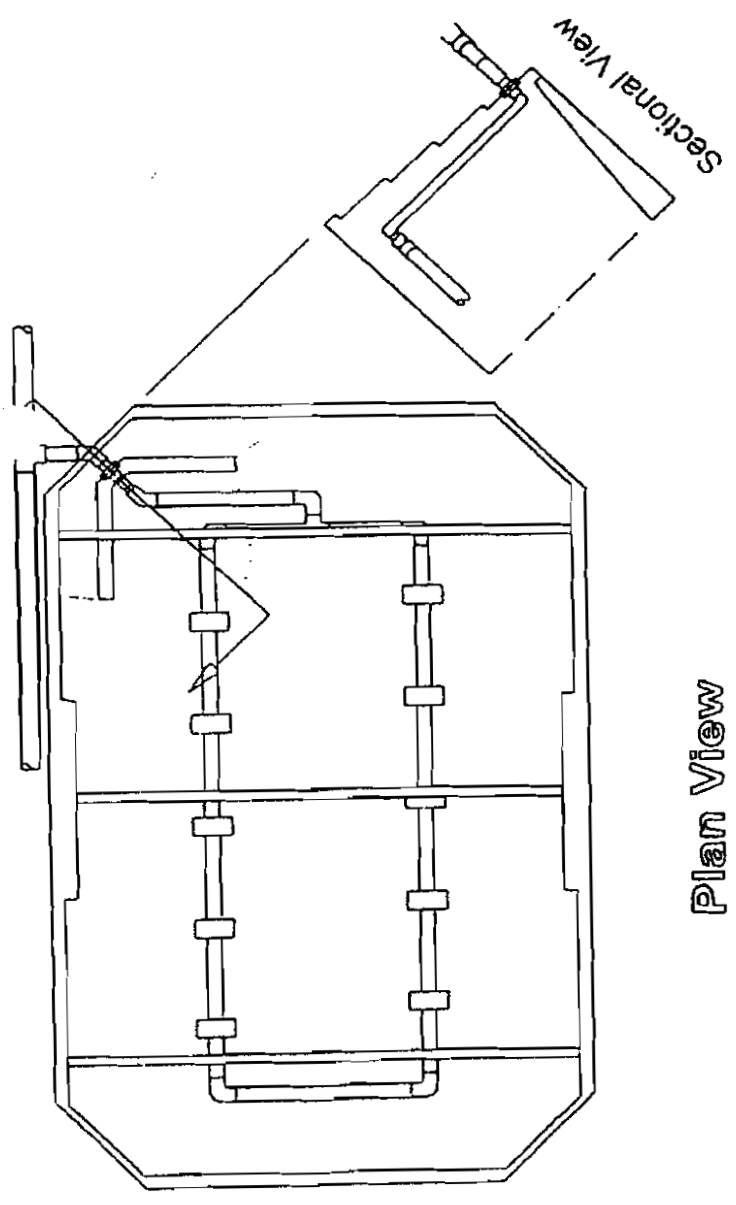


Elevational View

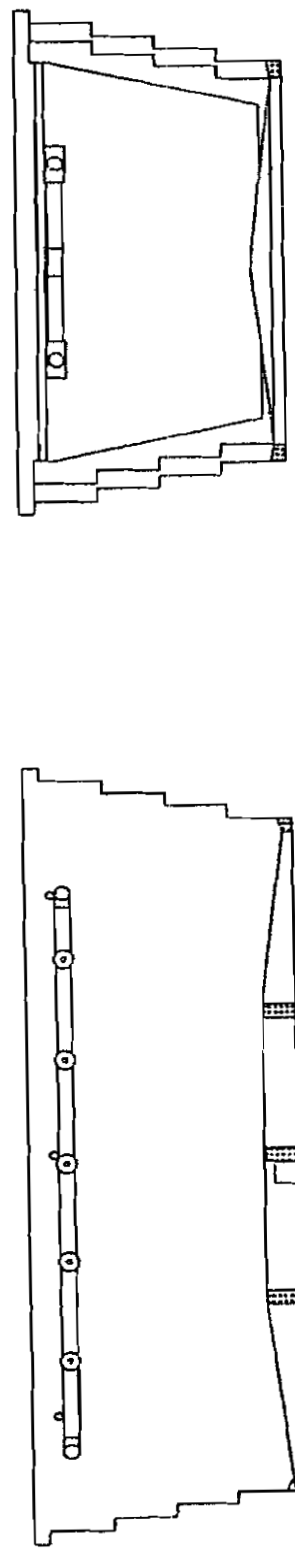


End View

<p>JAN. 15, 1998 DWC. BY: GMD REVISED MAR. 19, 1999</p>	<p>Scale 1:20</p>	<p>Drawing Title: ASSEMBLED MODULE DETAIL</p>	<p>Project Reference: PURAFO PEAT BIOFILTER</p>
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Plan View



Sectional Elevation View

Sectional End View

JAN. 15, 1998 DWG. BY: GMD'D	Scale 1:20	Drawing Title: MODULE GRID DETAIL	Project Reference: PURAFL0 PEAT BIOFILTER
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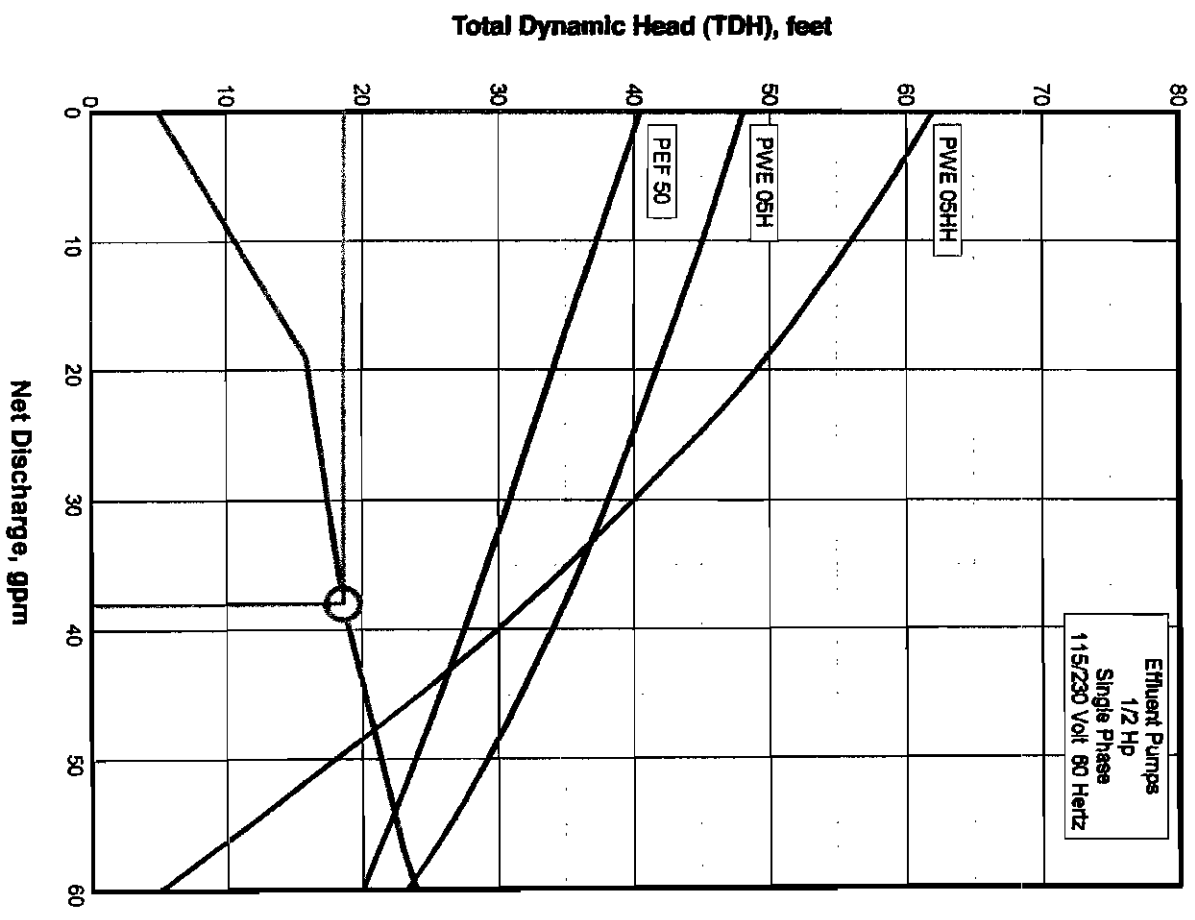
**Pump Selection for a Non-Pressurized System**

**Input Parameters**

Design Flow Rate	38 gpm
Distributing Valve Model	None
Lift to Discharge	5.0 feet
Transport Length	30.0 feet
Transport Line Size	2.00 inches
Transport Pipe Class/Schedule	40
Discharge Assembly Size	2.00 inches
Flow Meter	None
'Add-on' Friction Losses	10.0 feet

**Calculations**

Head Loss Through Distributing Valve	0.0 feet
Head Loss in Transport Pipe	0.7 feet
Head Loss Through Discharge	2.9 feet
Head Loss Through Flow Meter	0.0 feet
'Add-on' Friction Losses	10.0 feet
<b>Total Flow Rate</b>	<b>38.0 gpm</b>
<b>TDH</b>	<b>18.6 feet</b>



**Oreco Systems<sup>®</sup>**  
Incorporated

814 AIRWAY AVENUE  
SUTHERLIN, OREGON

97479-9012

TELEPHONE:

(541) 459-4449

FACSIMILE:

(541) 459-2884

P.O. Box 236, New Kent, Virginia 23124  
Office: (804) 966-9190      www.cpegllc.com      Fax: (804) 966-2739

**Pump Chamber Volume Specifications**

Gallons per Day Peak Flow:	450 gallons	
Pump Chamber Size:	8 Length	96 inches
	4 Width	48 inches
	4.5 Depth	54 inches
Gallons per Inch in Pump Chamber	19.95 gallons	
Pump Chamber Size in Gallons:	1077.3 gallons	
Gallons per Dose:	38 gallons	
Pump Run Time:	1 minute	
Number of Doses Required:	12 doses	
Number of Minutes for 24 hour Dosing:	12 minutes	
Dosing Interval:	120 minutes	
Number of Doses per Day:	12 doses	
Pump Rest Time:	119 minutes	
Total Operating Volume (18 hour)	337.5 gallons	
Gallons 1/4 Day Storage:	112.5 gallons	
Liquid Depth Available for Use:	33.4 inches	
Operating Volume Required:	16.9 inches	
Free Board / Void Space:	12 inches	
Inlet to High Water Line:	1 inch	
Minimum 1/4 Day Storage	5.6 inches	
Alarm On	2 inches	
Operating Volume	16.9 inches	
Liquid Depth Leftover:	16.5 inches	
Total Depth of Pump Chamber Required:	37.5 inches	



# Pump Specifications based on a 1000 Gallon Pump Chamber

## PuraFlo Dosing Pump

Pump Chamber Size in Gallons: 1000 Gallons

18 Per Cycle: 38 Gallons

Drawdown in Inches: 1.9 Inches

Maximum Pump Cycle Time: 1 Minutes 0 Seconds  
(Gallons Per Cycle x's 21 GPM)

Type of Pump Required: Submersible Turbine Effluent Pump capable of 38 GPM at 18.6 Feet of Head. (Orencia Model PWE-05HH)

The Pump Station must be provided with controls for automatically starting and stopping the pump based on water level.

The electrical motor control center and master disconnect switch shall be placed in a secure location above grade and remote from the pump station.

Each motor control center shall be provided with a manual override switch.

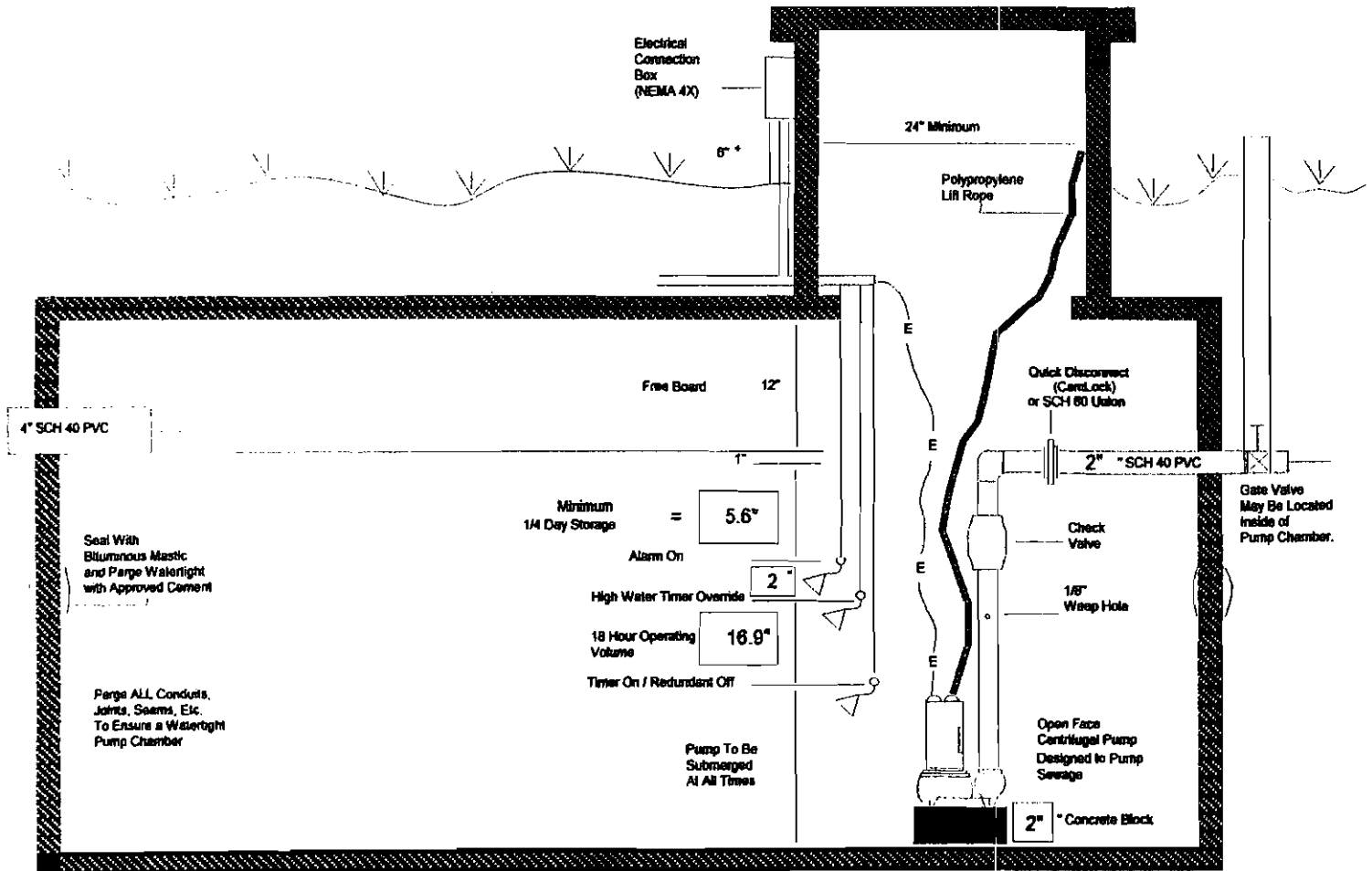
A highwater alarm with remote sensing and electrical circuitry separate from the motor control center shall be provided.

The alarm shall be audiovisual and shall alarm in an area where it may be easily monitored.

All electrical connections shall be hardwired in the electrical connection / junction box.

All piping shall be of the pressure type with pressure type joints that are chemically fused.

Contractor to provide pump statistics and pump curve data to Health Department for approval, prior to installation.





# Zabel A300 Commercial and Industrial Wastewater Filter

## SPECIFICATIONS

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

**FLOW RATE:** 3,000 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 Disc Dams @ 1/32 inch provide 205 lineal 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.

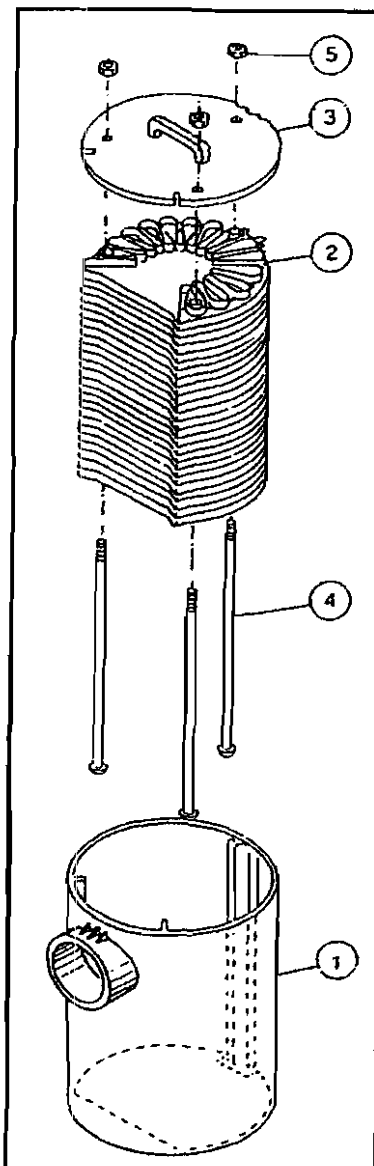
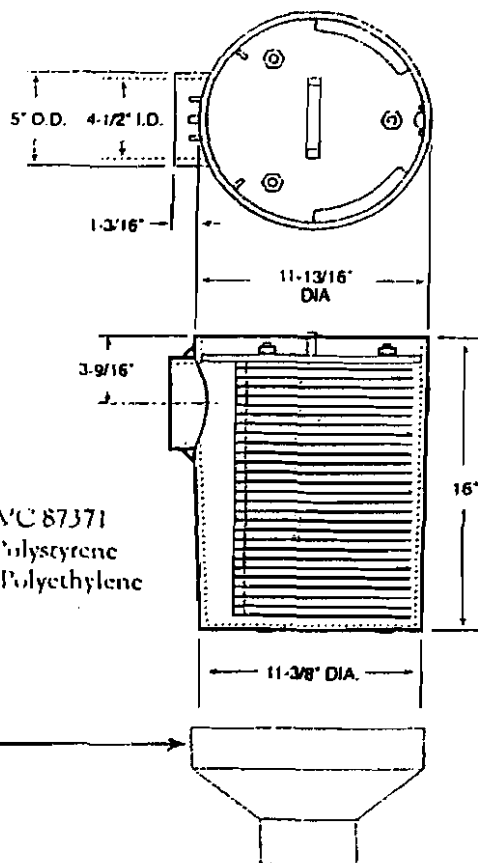
### SERVICE:

The Zabel A300 Filter is designed to be easily serviced. However the A300 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 87371
Discs	High Impact Polystyrene
Rods, Nuts	High Density Polyethylene

"Optional" Extension Reducer



MATERIAL LIST	ITEM	QUAN.	DESCRIPTION
	1	1	Case
	2	27	Filter disc
	3	1	Cover
	4	3	Rod
	5	3	Nut

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

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

# DRIP IRRIGATION CALCULATION WORKSHEET

PAGE 13 OF 26

Number of Bedroom Residence 3 B.R. @ 150 gpd  
 Water Conservation Percentage 0 %  
 Total Gallons Per Day Sewage Flow 450 gpd

Soil Percolation Rate 30 mpi  
 Texture Group 2 Texture Group (Use Numeric 1,2,3, or 4)  
 LPD Square Footage Per Bedroom 255 ft<sup>2</sup> / bedroom (Table 4.6)  
 Minimum Square Footage Required by Regs. 1147.5 ft<sup>2</sup> / gpd sewage disposal  
 GMP-114 Loading Rate for 2' Trenches 1.66 gpd / ft<sup>2</sup> (GMP-114, Table 4)  
 Site Reduction Allowed by GMP-114 271 ft<sup>2</sup>.

Minimum Linear Feet of LPD Trench Required 135.5 linear ft.  
 Minimum Number of Laterals Required 3 Laterals (50' max. length)  
 Total Area Required for LPD System 1000 ft<sup>2</sup> of area required  
 Maximum Target Soil Loading Rate 0.3 gpd / ft<sup>2</sup> (Table 1 of Drip Manual)  
 Minimum Soil Loading Rate for DF Area Found 0.45 gpd / ft<sup>2</sup>

Designed Soil Loading Rate 0.45 gpd / ft<sup>2</sup>  
 Area Required for Installation 813 ft<sup>2</sup> of area required  
 Total Length of Dripper Line Required 406.5 linear feet  
 Number of Emitters Required 203.25 emitters

Absorption Field Dosing Rate in GPH 123.98 gph  
 Absorption Field Dosing Rate in GPM 2.07 gpm

Suction Line Size 2 inches  
 Suction Line Length 8 feet  
 Suction Line Lift (elevation change) 4 feet  
 Friction Loss for Suction Pipe 0.09 per 100' of pipe (Chart 1A)  
 P.S.I. Loss for Suction Pipe 0 psi

## ZONE # 1

Total Absorption Area 902 ft<sup>2</sup>.  
 Linear Feet of Dripper Line 451 ft.  
 Longest Lateral Length 171 ft.  
 Dripper Line Pressure Requirements 7 per 100' of pipe (Chart 3A)  
 PSI Loss for Lateral 5.18 psi

Diameter of Supply Line 1.25 inches  
 Length of Supply Line 35 ft.  
 Supply Line Friction Loss 0.27 per 100' of pipe (Chart 1A)  
 PSI Loss for Supply Line 0.04 psi

Diameter of Flush Line 1.25 inches  
 Length of Flush Line 60 ft.  
 Flush Line Friction Loss 0.27 per 100' of pipe (Chart 1A)  
 PSI Loss for Friction Line 0.07 psi

Elevation Change 10 ft.  
 G.P.M. Dosing Flow Rate 2.07 gpm  
 Number of Return Field Flush Connections 3  
 G.P.M. Field Flush Flow Rate 4.8 gpm  
 G.P.M. Total Flow Required 6.87 gpm

## ZONE # 2

Total Absorption Area ft<sup>2</sup>.

Linear Feet of Dripper Line	0 ft.	
Longest Lateral Length	0 ft.	
Friction Loss for Lateral	0 per 100' of pipe	(Chart 3A)
PSI Loss for Lateral	0 psi	
Diameter of Supply Line	0 inches	
Length of Supply Line	0 ft.	
Supply Line Friction Loss	0 per 100' of pipe	(Chart 1A)
PSI Loss for Supply Line	0 psi	
Diameter of Flush Line	0 inches	
Length of Flush Line	0 ft.	
Flush Line Friction Loss	0 per 100' of pipe	(Chart 1A)
PSI Loss for Friction Line	0 psi	
Elevation Change	0 ft.	
G.P.M. Dosing Flow Rate	2.07 gpm	
Number of Return Field Flush Connections	0	
G.P.M. Field Flush Flow Rate	0 gpm	
G.P.M. Total Flow Required	2.07 gpm	

ZONE # 3

Total Absorption Area	ft <sup>2</sup> .	
Linear Feet of Dripper Line	0 ft.	
Longest Lateral Length	0 ft.	
Friction Loss for Lateral	0 per 100' of pipe	(Chart 3A)
PSI Loss for Lateral	0 psi	
Diameter of Supply Line	0 inches	
Length of Supply Line	0 ft.	
Supply Line Friction Loss	0 per 100' of pipe	(Chart 1A)
PSI Loss for Supply Line	0 psi	
Diameter of Flush Line	0 inches	
Length of Flush Line	0 ft.	
Flush Line Friction Loss	0 per 100' of pipe	(Chart 1A)
PSI Loss for Friction Line	0 psi	
Elevation Change	0 ft.	
G.P.M. Dosing Flow Rate	2.07 gpm	
Number of Return Field Flush Connections	0	
G.P.M. Field Flush Flow Rate	0 gpm	
G.P.M. Total Flow Required	2.07 gpm	

ZONE # 4

Total Absorption Area	ft <sup>2</sup> .	
Linear Feet of Dripper Line	0 ft.	
Longest Lateral Length	0 ft.	
Friction Loss for Lateral	0 per 100' of pipe	(Chart 3A)
PSI Loss for Lateral	0 psi	
Diameter of Supply Line	0 inches	
Length of Supply Line	0 ft.	
Supply Line Friction Loss	0 per 100' of pipe	(Chart 1A)
PSI Loss for Supply Line	0 psi	
Diameter of Flush Line	0 inches	
Length of Flush Line	0 ft.	
Flush Line Friction Loss	0 per 100' of pipe	(Chart 1A)

PSI Loss for Friction Line 0 psi

Elevation Change 0 ft.

G.P.M. Dosing Flow Rate 2.07 gpm

Number of Return Field Flush Connections 0

G.P.M. Field Flush Flow Rate 0 gpm

G.P.M. Total Flow Required 2.07 gpm

PAGE 15 OF 26

PSI Loss for Pump / Headworks Box 2 psi

G.P.M. Total Flow Required 6.87 gpm

(Chart 2A)

TOTAL PSI LOSS TO OVERCOME 11.62 psi

Pump Chamber Size 1000 gallons

Numbr of Gallons per Inch 19.95 gallon / inch

Gallons per Day for Zone # 1 450 gallons per day

Total Time Required to Dose Zone # 1 217.39 minutes per day

The Zone should be dosed for no longer than  
twenty (20) minutes, and no less than six (6)  
minutes. How many times per day do you wish  
to dose the field(s) / zone(s).

12 times per day

Gallons per Dose for Zone # 1 38 gallons per dose

Time per Dose for Zone # 1 18.12 minutes per dose

Gallons per Dose for Zone # 2 0 gallons

Total Time Required to Dose Zone # 2 0 minutes per day

Gallons per Dose for Zone # 2 0 gallons per dose

Time per Dose for Zone # 2 0 minutes per dose

Gallons per Dose for Zone # 3 0 gallons

Total Time Required to Dose Zone # 3 0 minutes per day

Gallons per Dose for Zone # 2 0 gallons per dose

Time per Dose for Zone # 2 0 minutes per dose

Gallons per Dose for Zone # 4 0 gallons

Total Time Required to Dose Zone # 4 0 minutes per day

Gallons per Dose for Zone # 2 0 gallons per dose

Time per Dose for Zone # 2 0 minutes per dose

Maximum Gallons per Dose 38 Gallons per Dose

Pump Chamber Depth in Inches 48 inches

Pump Chamber Working Volume Available 36 inches (minus 12" freeboard)

Quarter Day Storage Volume Required 5.64 inches

Recommended Eighteen Hour Operating Volume 15.01 inches (minus the dosing volume)

Alarm Float set 2" above operating Volume 2 inches

Volume of Effluent to be dosed 1.9 inches

Total Pump Chamber Volume Utilized 24.55 inches

Pump Chamber Volume Left Available 11.45 inches

# Pump Selection for a Pressurized System

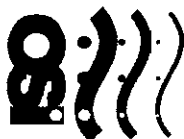
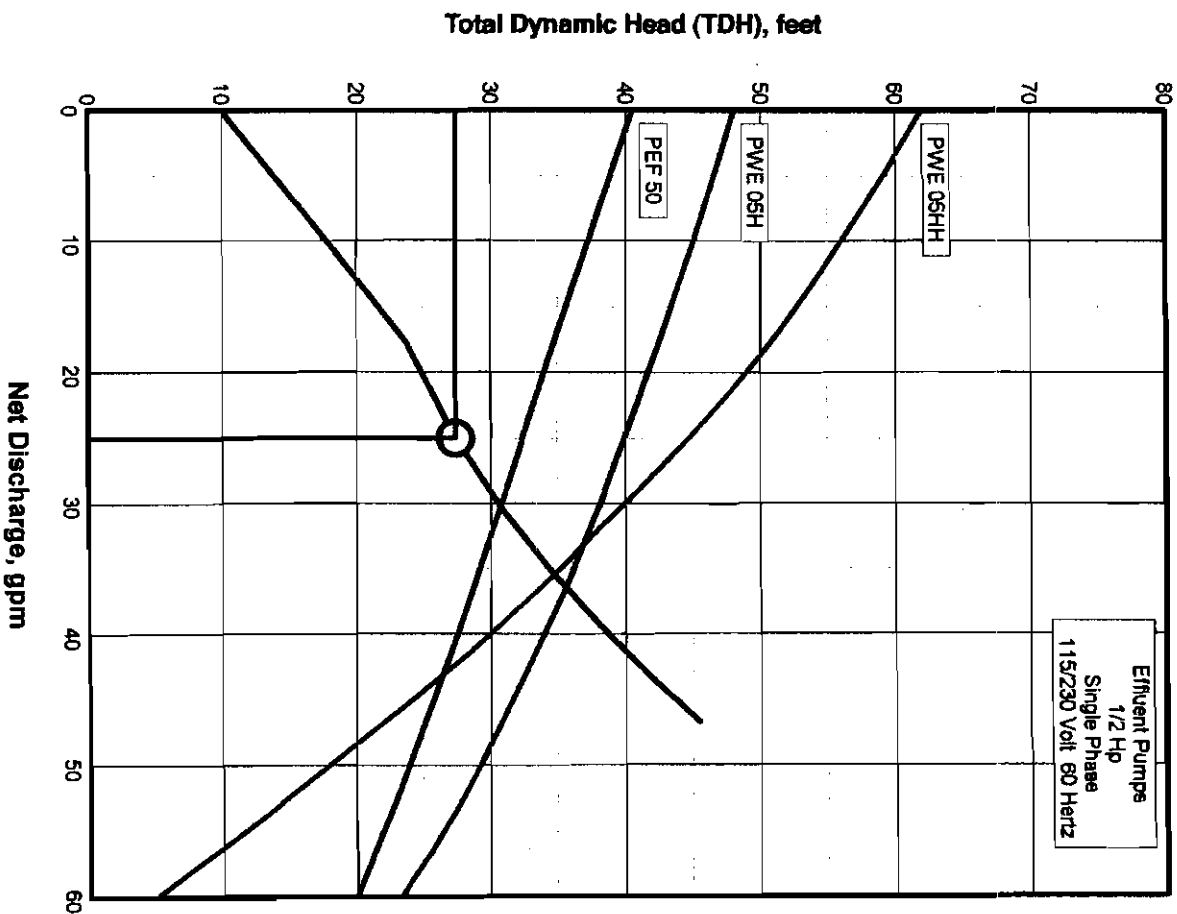
Input Parameters

PAGE 16

Orifice Size	1/18 inches
Residual Head at Last Orifice	5.0 feet
Orifice Spacing	2.00 feet
Number of Laterals per Cell	3
Lateral Length	150.0 feet
Lateral Line Size	1.25 inches
Lateral Pipe Class/Schedule	40
Distributing Valve Model	None
Manifold Length	8.0 feet
Manifold Line Size	1.25 inches
Manifold Pipe Class/Schedule	40
Lift to Manifold	10.0 feet
Transport Length	35.0 feet
Transport Line Size	2.00 inches
Transport Pipe Class/Schedule	40
Discharge Assembly Size	2.00 inches
Flow Meter	None
Add-on Friction Losses	10.0 feet

Calculations

Minimum Flow Rate per Orifice	0.11 gpm
Number of Orifices per Zone	228
Total Actual Flow Rate	25.0 gpm
Number of Lines per Zone	3
% Flow Differential 1st and Last Orifice	5.3 %
Lift to Manifold	10.0 feet
Residual Head at Last Orifice	5.0 feet
Head Loss in Laterals	0.6 feet
Head Loss Through Distributing Valve	0.0 feet
Head Loss in Manifold	0.2 feet
Head Loss in Transport Pipe	0.4 feet
Head Loss Through Discharge	1.3 feet
Head Loss Through Flow Meter	0.0 feet
Add-on Friction Losses	10.0 feet
Total Flow Rate	25.0 gpm
TDH	27.4 feet



**Oreco Systems**  
Incorporated

814 AIRWAY AVENUE  
SUTHERLIN, OREGON  
97479-9012

TELEPHONE:

(541) 459-4449

FACSIMILE:

(541) 459-2884

P.O. Box 236, New Kent, Virginia 23124  
Office: (804) 966-9190      www.cpegllc.com      Fax: (804) 966-2739

**Pump Chamber Volume Specifications**

Gallons per Day Peak Flow:	450 gallons	
Pump Chamber Size:	8 Length	96 inches
	4 Width	48 inches
	4.5 Depth	54 inches
Gallons per Inch in Pump Chamber	19.95 gallons	
Pump Chamber Size in Gallons:	1077.3 gallons	
Gallons per Dose:	38 gallons	
Pump Run Time:	20 minute	
Number of Doses Required:	12 doses	
Number of Minutes for 24 hour Dosing:	240 minutes	
Dosing Interval:	120 minutes	
Number of Doses per Day:	12 doses	
Pump Rest Time:	100 minutes	
Total Operating Volume (18 hour)	337.5 gallons	
Gallons 1/4 Day Storage:	112.5 gallons	
Liquid Depth Available for Use:	33.4 inches	
Operating Volume Required:	16.9 inches	
Free Board / Void Space:	12 inches	
Inlet to High Water Line:	1 inch	
Minimum 1/4 Day Storage	5.6 inches	
Alarm On	2 inches	
Operating Volume	16.9 inches	
Liquid Depth Leftover:	16.5 inches	
Total Depth of Pump Chamber Required:	37.5 inches	

# Pump Specifications based on a 1000 Gallon Pump Chamber

## Drip Field Dosing Pump

Pump Chamber Size in Gallons: 1000 Gallons

Gallons Per Cycle: 38 Gallons

Drawdown in Inches: 1.9 Inches

Maximum Pump Cycle Time: 18 Minutes 10 Seconds  
(Gallons Per Cycle x's 21 GPM)

Type of Pump Required: Submersible Turbine Effluent Pump capable of 25.0 GPM at 27.4 Feet of Head. (Orencia Model PEF-50)

The Pump Station must be provided with controls for automatically starting and stopping the pump based on water level.

The electrical motor control center and master disconnect switch shall be placed in a secure location above grade and remote from the pump station.

Each motor control center shall be provided with a manual override switch.

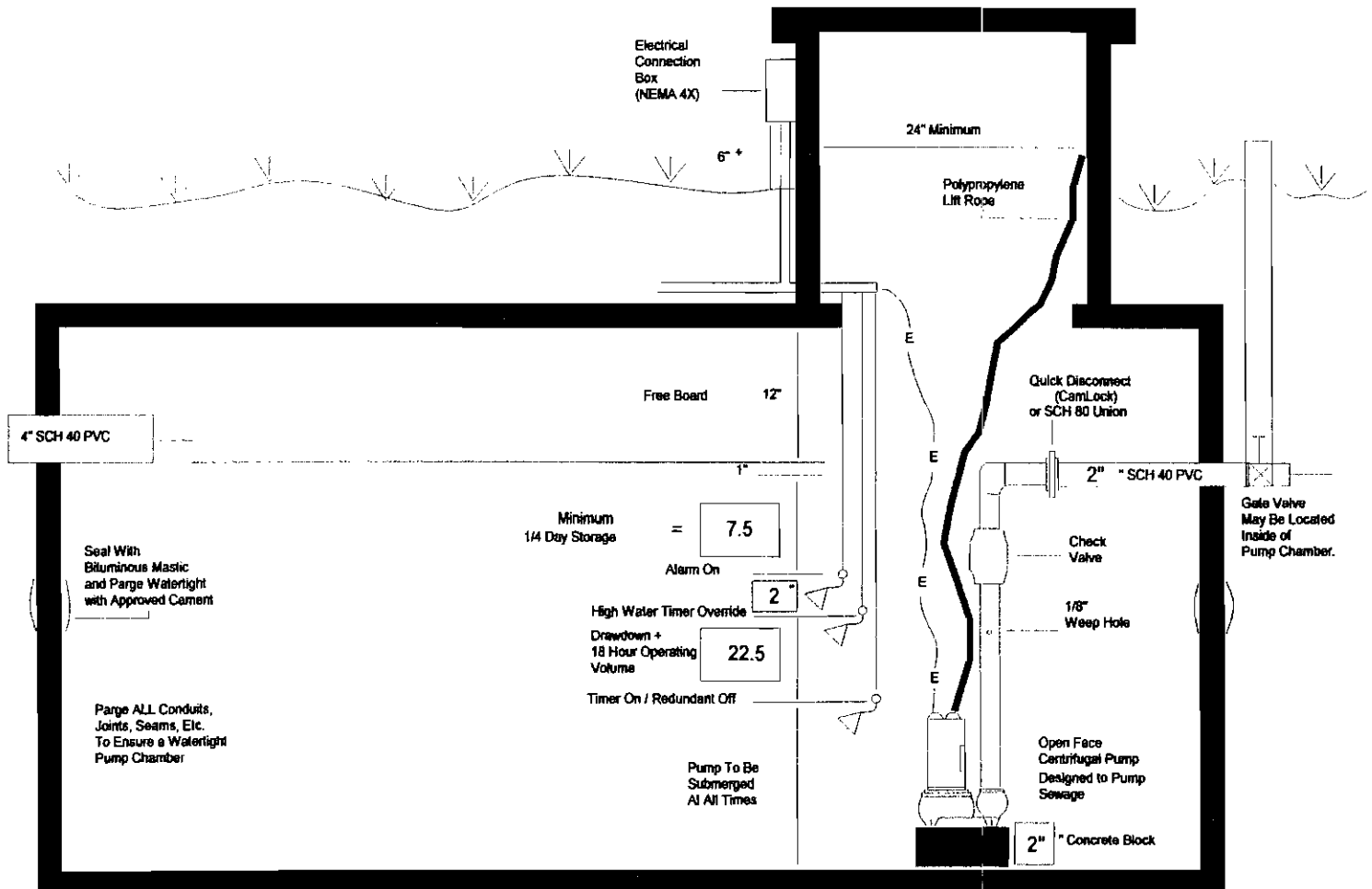
A highwater alarm with remote sensing and electrical circuitry separate from the motor control center shall be provided.

The alarm shall be audiovisual and shall alarm in an area where it may be easily monitored.

All electrical connections shall be hardwired in the electrical connection / junction box.

All piping shall be of the pressure type with pressure type joints that are chemically fused.

Contractor to provide pump statistics and pump curve data to Health Department for approval, prior to installation.







# Coastal Plains Environmental Group

P.O. Box 236, New Kent, Virginia 23124

Office: (804) 966-9190

Facimile: (804) 966-2739

PAGE 19 OF 26

## Soil Evaluation Form

Page 1 of 3

### General Information

Date 04 - 01 - 02 02 - 022 CPEG ID Number

Applicant Dave Johnson Telephone No. (757) 566-4664

Address 8350 Richmond Road, Toano, VA 23168

Owner Same As Above Address Same As Above

Location 1 Drammen Court, Norge, VA

Subdivision Christiansand Block/Section 7 Lot 19

### Soil Information Summary

1. Position in landscape satisfactory YES ☒ No ☐ Describe Side Slope bordered by drainageways - lightly forested

2. Slope 04 - 16 %

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

4. Depth to seasonal water table (gray mottling or gray color) NO ☐ YES ☒ 18 inches

5. Free water present NO ☒ YES ☐            range in inches

Soil percolation rate estimated YES ☒ Texture group I II III IV  
NO ☐ Estimated rate 30 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: Kornell R. Davis Jr., AOSE # 109

Signature:

### Department Use

- ☒ Site Approved: Drainfield to be placed at 12" 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:

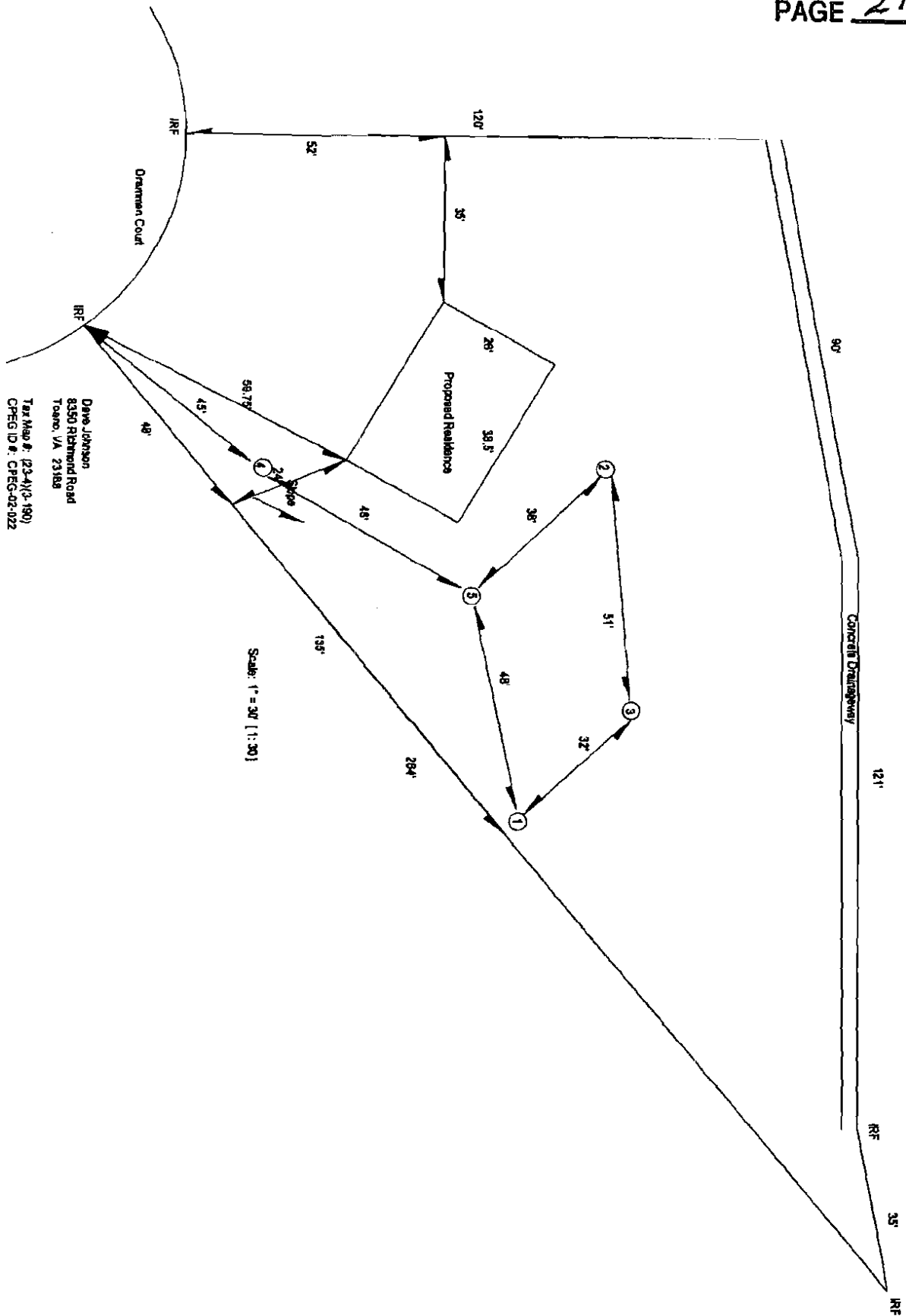
Date of Evaluation <u>04-01-02</u>	<b>Profile Description</b> <b>SOIL EVALUATION REPORT</b>	Identification No. <u>02 - 022</u>
Page <u>2</u> of <u>3</u>		

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	00 - 03	Brown (10yr 5/3) - Sandy Loam -	IIa
	E	03 - 12	Light Yellowish Brown (10yr 6/4) - Sandy Loam	IIa
	Bt1	12 - 26	Brownish Yellow (10yr 6/6) - Sandy Clay Loam	IIb
	P	26 - 27	Brownish Yellow (10yr 6/6) - Sandy Clay Loam - with indicators of iron pan	IIb
	Bt2	27 - 48	Strong Brown (7.5yr 5/6) - Sandy Clay Loam to Clay Loam - with many Light Gray (2.5y 7/2), and few Yellowish Red (5yr 5/6) Mottles	IIb / III
2	A	00 - 03	Brown (10yr 5/3) - Sandy Loam -	IIa
	E	03 - 12	Light Yellowish Brown (10yr 6/4) - Sandy Loam to light Sandy Clay Loam -	IIa / b
	Bt1	12 - 20	Brownish Yellow (10yr 6/6) - Sandy Clay Loam -	IIb
	Bt2	20 - 42	Reddish Yellow (7.5yr 6/6) - heavy Sandy Clay Loam to light Clay loam - with few Pale Yellow (2.5y 7/4) and few Light Gray (10yr 7/2) Mottles	IIb / III
3	A	00 - 08	Brown (10yr 5/3) - Sandy Loam -	IIa
	Ep	08 - 12	Yellowish Brown (10yr 5/6) - Sandy Loam - with few iron pan indicators	IIa
	Bt1	12 - 16	Brownish Yellow (10yr 6/6) - light Sandy Clay Loam -	IIb
	Bt2	16 - 28	Brownish Yellow (10yr 6/6) - light Clay Loam - with few Light Gray (10yr 7/2) and few Pale Yellow (10yr 7/4) Mottles	III
4	A	00 - 02	Grayish Brown (10yr 5/2) - Sandy Loam -	IIa
	E	02 - 06	Light Yellowish Brown (10yr 6/4) - Sandy Loam -	IIa
	Bt1	06 - 14	Brownish Yellow (10yr 6/6) - Sandy Clay Loam -	IIb
	Bt2	14 - 18	Strong Brown (7.5yr 5/6) - light Clay Loam -	III
	Bt3	18 - 24	Strong Brown (7.5yr 5/6) - Clay Loam - with few Light Brownish Gray (10yr 6/2) Mottles	III
5	A1	00 - 01	Grayish Brown (10yr 5/2) - Sandy Loam -	IIa
	A2	01 - 09	Yellowish Brown (10yr 5/4) - Sandy Loam -	IIa
	Bt1	09 - 13	Yellowish Brown (10yr 5/6) - heavy Sandy Loam -	IIb
	Bt2	13 - 24	Strong Brown (7.5yr 5/6) - Sandy Clay Loam -	IIb
	Bt3	24 - 35	Strong Brown (7.5yr 5/6) - Clay Loam - with many Light Brownish Gray (10yr 6/2) Mottles	III
	Bt4p	35 - 38	Strong Brown (7.5yr 4/6) - Sandy Clay Loam - with indicators of iron pan	IIb
	Bt5	38 - 54	Strong Brown (7.5yr 5/6) - Sandy Clay Loam to Clay Loam -	IIb / III
	Bt6	54 - 60	Strong Brown (7.5yr 4/6) - Clay Loam - with many Gray (10yr 6/1) Mottles	III

Remarks: Borings #2 & #3 downslope from proposed drip irrigation site ... not used to define drain field area.  
 Propose drip irrigation at 12" install depth @ 30 mpi = 450 gpd / 1.66 hr = 271 sq' x 3 = 813 sq' = 29' x 29' install area [P] using PuraFlo as secondary treatment



## Soil Evaluation Form

PAGE 1 OF 3Commonwealth of Virginia  
Department of Health

Health Department

Identification Number 147-92-0033Tax Map Number (23-4)(3-190)

## General Information

Date MAR 27, 1992 JAMES CITY COUNTY Health Department  
 Applicant ATECH CONSTRUCTION, INC (STEINWOLF, AGENT) Telephone No. 599-5305  
 Address 421 NORTH AVE NEWPORT NEWS, VA 23602  
 Owner KRISTIAN SAND PARTNERSHIP Address \_\_\_\_\_  
 Location 1 DREAMMAN COURT  
 Subdivision KRISTIAN SAND Block/Section 7 Lot 190

## Soil Information Summary

1. Position in landscape satisfactory Yes ☒ No ☐ Describe SUITABLE AREA ON SIDE SLOPE, BUT A LARGE PORTION OF LOT IS IN DRAINAGEWAY
2. Slope 23-31 %
3. Depth to rock/impervious strata Max. 68" Min. 18" None \_\_\_\_\_
4. Depth to seasonal water table (gray mottling or gray color) <sup>(PERCHED)</sup> No ☐ Yes ☒ 24-60 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 50 min/inch @ 48" INSTALLATION DEPTH
7. Percolation test performed Yes ☐ Number of percolation test holes \_\_\_\_\_  
 No ☒ Depth of percolation test holes \_\_\_\_\_  
 Average percolation rate \_\_\_\_\_
- Name and title of evaluator: JAMES H. BOWLES, SANITARIAN SUPERVISOR
- Signature: James H. Bowles

## 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. <sup>(PERCHED)</sup>
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 INSUFFICIENT DEPTH OF SUITABLE SOIL TO IMPERMEABLE STRATA

Date of Evaluation MAR 27 1992Profile Description  
SOIL EVALUATION REPORTHealth Department  
Identification No. 147-92-003 3Page 2 of 3

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.

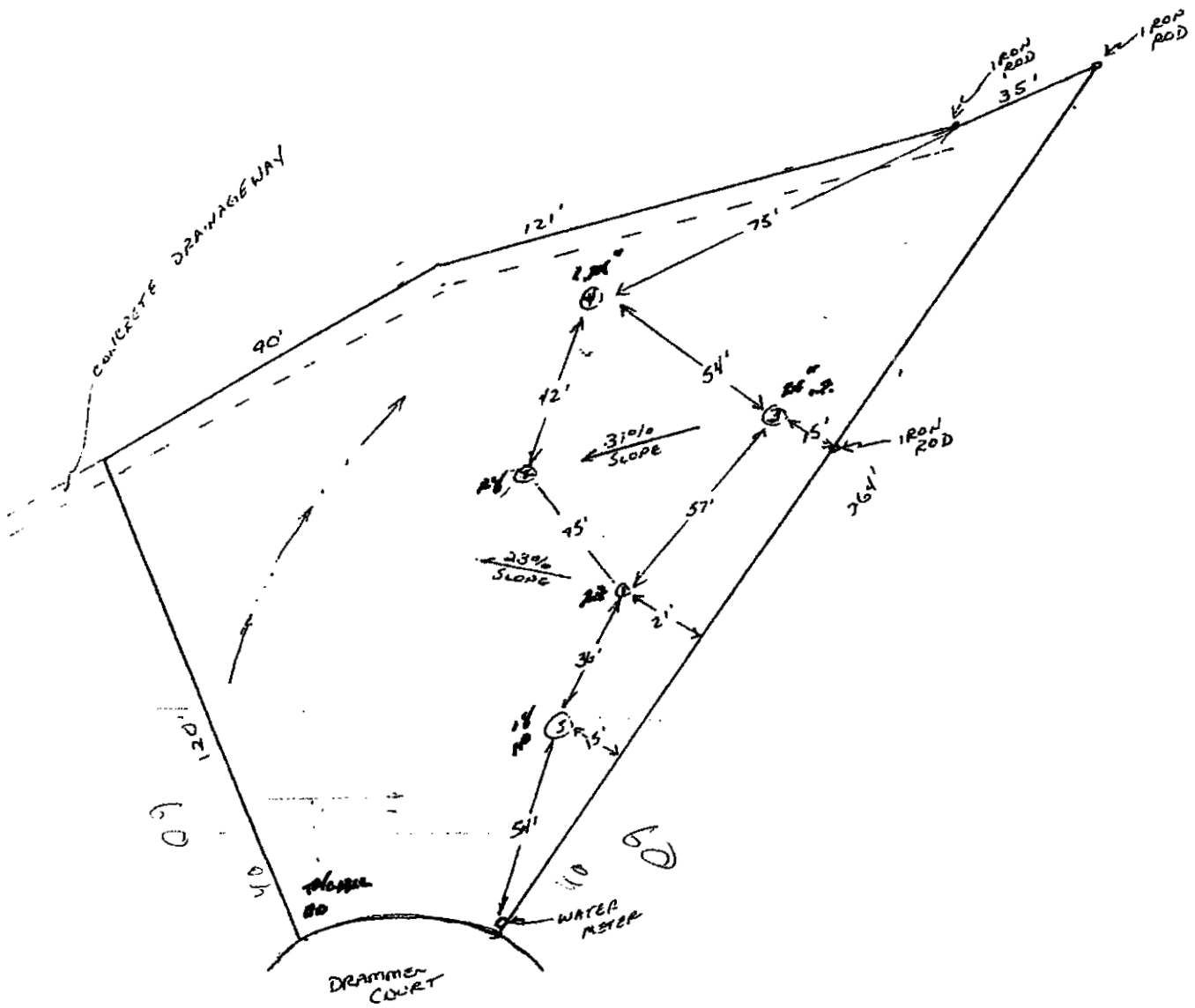
☐ See application sketch☐ See construction permit☒ See sketch on reverse side or page attached to this form.

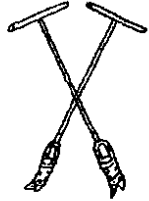
Hole #	Horizon	Depth (Inches)	Description of, color, texture, etc.	Texture Group
1	A	0-4	GRAYISH BROWN (10YR 5/4); SANDY LOAM	II
	E	4-16	YELLOW (10YR 7/6); SANDY LOAM	II
	Bt 1	16-37	BROWNISH YELLOW (10YR 6/6) CLAY LOAM WITH LENSES OF REDDISH YELLOW (7.5YR 6/6)	
			COARSE SANDY LOAM	III
	Bt 2	27-36	BROWNISH YELLOW (10YR 6/6) WITH COMMON GRAY (10YR 6/1) MOTILES; CLAY LOAM	III
	Bt 3	36-40	REDDISH YELLOW (7.5YR 6/6) COARSE SANDY CLAY LOAM WITH COMMON OLIVE YELLOW (2.5Y 6/8)	
			CLAY LENSES	III
	Bt 4	40-41	REDDISH YELLOW (7.5YR 7/8) COARSE SANDY LOAM	
			(WEAKLY CEMENTED PAN)	II
	Bt 5	41-60	YELLOW (10YR 7/8) COARSE SANDY LOAM WITH COMMON TO FEW YELLOW (2.5Y 7/6) & GRAY (10YR 6/1) CLAY LENSES; WEAK PAN @ 54"	II
2		60-74	YELLOW (2.5Y 7/6) & GRAY (10YR 6/1); SANDY CLAY LOAM; COMPACT	
			IRON PAN @ 68"	II
	A1	0-2	DARK GRAYISH BROWN (10YR 4/2); SANDY LOAM	
			(IRON PAN @ 2")	II
	A2	2-10	BROWN (10YR 5/3); SANDY LOAM	II
	E	10-16	LIGHT YELLOW BROWN (10YR 6/4); SANDY LOAM	II
	Bt 1	16-28	REDDISH YELLOW (7.5YR 6/6); SANDY CLAY LOAM	II
	Bt 2	28-42	REDDISH YELLOW (7.5YR 6/6); CLAY LOAM; COMMON BLACK MOTILES FROM 36"	
			(BLACK MOTILES APPEAR TO BE IRON SEGRIGATION)	III
	Bt 3	42-48	OLIVE YELLOW (2.5Y 6/8) & GRAY (10YR 6/1) & STRONG BROWN (7.5YR 5/8); CLAY; COMPACT & FIRM IN PLACE	IV
3				
	A	0-4	BROWN (10YR 5/3); SANDY LOAM	II
	E	4-16	LIGHT YELLOW BROWN (10YR 6/4); SANDY LOAM	II
	Bt 1	16-24	BROWNISH YELLOW (10YR 6/8) WITH COMMON GRAY (10YR 6/1) & FEW YELLOWISH RED (5YR 5/6) MOTILES; CLAY LOAM TO 14"; SANDY CLAY LOAM TO	
			(IRON PAN @ 24")	
	Bt 2	24-42	BROWNISH YELLOW (10YR 6/8) WITH COMMON GRAY (10YR 6/1) & FEW YELLOWISH RED (5YR 5/6) MOTILES; CLAY LOAM TO SANDY CLAY LOAM	III-II
4				
	A1	0-16	STRONG BROWN (7.5YR 5/8); SANDY LOAM	II
	Bt 2	16-24	STRONG BROWN (7.5YR 5/8); SANDY CLAY LOAM	II
	Bt 3	24-28	STRONG BROWN (7.5YR 5/8); CLAY LOAM TO CLAY; COMPACT & FIRM IN PLACE	III-IV

Remarks



NOT TO SCALE





# Coastal Plains Environmental Group

PAGE 26 OF 26

Authorized Onsite Soil Evaluators

P.O. Box 236, New Kent, Virginia 23124

Office: (804) 966-9190

[www.cpegllc.com](http://www.cpegllc.com)

Fax: (804) 966-2739

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Soil Evaluations - Septic System Design - Advantex System Design - Subdivision Review

## Certification Statement

James City County

04 June 2002

Property Identification: 1 Drammen Court  
Christiansand, Section 7, Lot 190  
Tax Map #: (23-4)(3-190)

Submitted by: Kornell R. Davis Jr., AOSE #109

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 and GMP-112 PuraFlo General Approval, and GMP-107 Generic Drip Disposal Policy.

I recommend a permit be approved.

Kornell R. Davis Jr.  
AOSE #109

6-4-2002

Date



DAVID JOHNSON  
8350 RICHMOND RD.  
TOANO, VA. 23168

DAVID ANDERSON  
JCC PLANNING DIVISION  
MOUNTS BAY RD.  
WILLIAMSBURG, VA. 23188

1 JULY 2002

DEAR MR. ANDERSON,

WE ARE ASKING FOR A WAIVER FOR #1 DRAMMEN COURT FROM THE DEVELOPMENT REVIEW COMMITTEE. A STANDARD SEPTIC SYSTEM WAS NOT APPROVED BY THE STATE HEALTH DEPARTMENT. THE HEALTH DEPARTMENT HAS APPROVED A SEPTIC SYSTEM WHICH YOU HAVE THE PERMIT FOR.

WE WOULD APPRECIATE YOUR CONSIDERATION IN THIS MATTER. IF YOU HAVE ANY QUESTIONS PLEASE CALL ME AT 596 3004

THANK YOU.  
SINCERELY,

  
DAVID JOHNSON



**SP-81-02. Ironbound Village Master Plan Amendment**  
**Staff Report for the July 31, 2002, Development Review Committee Meeting**

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**SUMMARY FACTS**

Applicant: Mr. C.J. Bodnar, Landmark Design Group

Land Owner: Mr. Robert Turlington

Use: A mixed-use development with up to 18,250 square feet of office space, 23 single family residential lots, 1 apartment, 7 townhomes, with residential units used for affordable housing.

Location: 4450 Ironbound Road and 112 Magazine Road—Berkeley District

Tax Map/Parcel: (39-1)(1-47) and (39-1)(1-47A)

Primary Service Area: Inside

Parcel Size: 7.75 acres

Existing Zoning: MU, Mixed Use

Comprehensive Plan: Low-Density Residential

Surrounding Zoning: North: City of Williamsburg, Residential  
East, South: R-2, General Residential (Ironbound Square)  
West: M-1, Limited Business (VDOT & Tewning Rd.)


Reason for DRC review: The applicant has requested a deviation to the approved Ironbound Village Master Plan, dated 09/13/2000.

Staff Contact: Karen Drake - Phone: 253-6685

**STAFF RECOMMENDATION**

At its February 28, 2001 meeting, the Development Review Committee approved the first deviation to the Ironbound Village approved master plan that resulted in the seven townhouses being joined into one building, instead of two groups. The applicant has now submitted the attached site plan that exchanges the location of the townhouses and one commercial building that contains the apartment. Additionally, the townhouses are again separated into two groups (three units and four units) and are spaced so there is the future possibility of expanding the Ironbound Village development to the South. The total number of townhouses and office space is not changed by the proposed relocation. Agency comments are attached for your reference.

Staff recommends approval of this minor deviation to the Ironbound Village Master Plan for "it does not significantly alter the character of land uses or other features or conflict with any conditions placed on the approval of the rezoning."

  
Karen Drake  
Senior Planner

**Attachments:**

1. Site Plan (separate)
2. Applicant Letter
3. Agency Comments

**SP-81-02. Ironbound Village Site Plan Amendment  
Agency Comments**

**Planning**

1. To prevent further confusion due to the multiple revisions, on the cover sheet please make the following changes:
  - a. In the title note that this is a site plan amendment and amend the February 21, 2002 date with the date plans when plans are revised.
  - b. Note that JCC Case No. SP-29-01 is the original site plan number
  - c. Note that the first site plan amendment was JCC Case No. SP-65-02.
  - d. Note that this site plan amendment is the second site plan amendment is JCC Case No. SP-81-02 and replaces all previously approved site plans.
  - e. On the title block on the cover sheet, note the date the plans were revised per the owner's request.
2. In addition to relocating the townhouses, the townhouses were each increased in size. Please update the statistical site information on the cover sheet accordingly.
3. The landscaping is approved as submitted.

**County Engineer**

1. Please add the private street design and construction guidelines for the parking lot.

**Environmental**

1. As the cover sheet was revised since the last review and approval, the revision block and the professional seal on the cover sheet need to reflect current revision information and date as appropriate.
2. Plan Information. On site and utility plan Sheet G-1, label the dashed linework which parallels the stormwater conveyance channel leading to storm structure SS # 12. It is unclear if this is a utility or drainage easement.
3. Grading. Proposed grading (contour) labels, which were present on the previously approved plan, are missing from amended plan set C-2. Label all proposed contours associated with parking, building and perimeter yard areas for construction purposes.

**Fire**

1. The plans are approved as submitted.

**Health**

1. The plans are approved as submitted.

**JCSA**

1. Plans will be forwarded when available.

**VDOT**

1. The plans are approved as submitted

Larry S. Barry, P.E., President  
Norman H. Mason, L.S., VP  
Vaughn B. Rinner, C.L.A.  
Elizabeth J. Anderson, P.E.  
Kenneth A. Dierks  
Robert P. Kerr, R.E.P., P.W.S.  
Clayton E. Massey, P.E.

# LANDMARK DESIGN GROUP

Charles R. Orsborne, L.S.  
Stephen A. Romeo, L.S.  
Kenneth E. Rodman, Jr., P.E.  
Mark W. Strickland, P.E.  
William R. Turner, Jr., A.I.C.P.  
A. Gary Webb, P.E.

June 11, 2002

Ms. Karen Drake  
Planner  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187-8784



Re: Ironbound Village Site Plan Amendment (Phase II)  
SP-065-02  
LMDG File No. 2001112-000.10

Dear Ms. Drake:

We are pleased to submit, for approval, a plan amendment for the above referenced project. These sheets have been revised as follows:

1. The townhomes have been broken into two (2) groups, as was done on the original master plan. In addition, the location of Office Building 2 and one (1) of the groups of townhomes has been switched.
2. Water and sewer service, grading and landscaping have been adjusted to accommodate the above change.

These are the only changes that have been made to these plans. Enclosed are twelve (12) full sets of the plans for your use. Should you have any questions, comments or require any additional information, please do not hesitate to contact us.

Best regards,

**The LandMark Design Group, Inc.**

Charles J. Bodnar, P.E.  
Associate

Copy: File 2001112-000.10  
Rob Turlington, Cutting Edge Development

## **DEVELOPMENT REVIEW COMMITTEE ACTION REPORT**

### **Meeting of July 31, 2002**

#### **Case No. C-87-02            1 Drammen Court Septic System Waiver Request**

Mr. Dave Johnson requested a waiver to allow the installation of an alternate septic system on 1 Drammen Court further identified by Tax Map #(23-4)(3-190). DRC review was necessary because the standard septic system was not approved by the State health department for this site.

**DRC Action: The DRC recommended approval by a vote of 2-0.**

#### **Case No. SP-81-02            Ironbound Village Master Plan Amendment**

Mr. C.J. Bodnar of Landmark Design Group requested a deviation from the approved Ironbound Village Master Plan located at 4450 Ironbound Road and 112 Magazine Road which can be further identified by Tax Map #(39-1)(1-47) and (39-1)(1-47A). The request is to switch the location of the townhomes with the commercial building that contains apartments. The total units/ office space remains unchanged by the switch.

**DRC Action: The DRC deferred action on this case until Monday, August 5.**

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**JAMES CITY COUNTY  
DEVELOPMENT REVIEW COMMITTEE REPORT**

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**FROM: 7/1/2002**

**THROUGH: 7/31/2002**

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**I. SITE PLANS**

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**A. PENDING PRELIMINARY APPROVAL**

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SP-144-98	Williamsburg Pottery Warehouse/Retail Building
SP-116-99	New Town, Wmbg./JCC Courthouse SP Amendment
SP-051-01	Zooms Gas Station
SP-087-01	The Vineyards Phs. 3 at Jockey's Neck
SP-089-01	Ewell Station Storm Water Management Fac. Mod.
SP-100-01	Williamsburg Crossing Frontage Road
SP-109-01	Monticello Avenue Extended - SP Amendment
SP-116-01	Powhatan Secondary - Ph. 7, Sanitary Sewer Ext.
SP-121-01	Frances S Rees Subdivision Utility Additions
SP-003-02	New Zion Baptist Church-addition & parking lot exp
SP-007-02	Season's Trace - Winter Park Section 2
SP-009-02	Hairworks Beauty Salon Parking Space Addition
SP-019-02	Williamsburg Plantation Sec 9,10,11 Units 184-251
SP-020-02	Charlie's Antiques Expansion/Storage Site
SP-027-02	120' Stealth Tower--3900 John Tyler Highway
SP-045-02	Powhatan Plantation Maintenance Bldg SP Amend
SP-050-02	New Town Sec 2 & 4 - Road/Utility Infrastructure
SP-057-02	Colonial Heritage/US Home Richmond Rd Improvements
SP-061-02	Powhatan Plantation Recreation Bldg Amd
SP-066-02	Grace Covenant Presbyterian Church
SP-067-02	Powhatan Place Townhomes Amendment
SP-071-02	Voice Stream Tower- Exit 231 off I-64
SP-081-02	Ironbound Village SP Amendment (Phase II)
SP-084-02	Colonial Heritage/US Homes Phase 1, Section 1
SP-088-02	Colonial Heritage/US Homes Phase 1 Section 2
SP-089-02	Verizon Building Concrete Pad Addition
SP-091-02	District Park Sports Complex, Phase III
SP-093-02	Peanut Shop Sewer Modification
SP-094-02	Energy Services Group Metal Fabrication Shop
SP-095-02	Faith Fellowship Assembly of God

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**B. PENDING FINAL APPROVAL**

**EXPIRE DATE**

SP-063-01	Williamsburg - Jamestown Airport, Apron Expansion	3/21/2003
SP-085-01	Greensprings Apartments and Condominiums	11/5/2002
SP-105-01	Voice Stream Wireless - Regional Jail Co-Location	11/9/2002
SP-110-01	Williamsburg Christian Academy	12/3/2002

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SP-127-01	Avid Medical Expansion	2/4/2003
SP-128-01	JCC Government Center- Registrar & Mapping Trailer	1/7/2003
SP-002-02	Williamsburg-Jamestown Airport Hangar Additions	2/8/2003
SP-006-02	Johnston Medical Clinic	4/19/2003
SP-017-02	Williamsburg Landing	4/5/2003
SP-025-02	Monticello Interceptor Forcemain - Section A	4/8/2003
SP-035-02	Jamestown 4-H Educational Center	4/24/2003
SP-036-02	McKinley Office Building	5/6/2003
SP-037-02	Williamsburg Crossing Lot 11 Retail/Office Bldg	6/3/2003
SP-044-02	Ford's Colony, Sect. 31, BMP #1 Regrading Plan	5/8/2003
SP-048-02	New Town Office Building	6/3/2003
SP-049-02	SunTrust Office Building	6/3/2003
SP-051-02	Landmark Auto Parts	5/6/2003
SP-052-02	Villages at Powhatan Phase 5 SP Amendment	5/16/2003
SP-059-02	Villages at Powhatan - Ph. 3 & 4, SP Amendment	5/28/2003
SP-060-02	Villages at Powhatan SP Amd Phs 6 & 7	5/30/2003
SP-062-02	WindsorMeade Way Road Construction Plan	6/4/2003
SP-072-02	JCSA Water Treatment Facility, Site Prep. Plan	6/28/2003
SP-074-02	Smoke House Restaurant- Busch Gardens	6/13/2003
SP-075-02	US Home/Colonial Heritage Blvd, Phs 1	6/27/2003
SP-076-02	Future Church Parcel- Powhatan Secondary	7/9/2003
SP-078-02	Smith Memorial Baptist Church-Family Life Center	6/17/2003
SP-092-02	Stonehouse Hillcrest- Amended Utility Plan	7/25/2003

<b>C. FINAL APPROVAL</b>		<b>DATE</b>
SP-014-02	Marketplace Shoppes, Ph 3, Village Service Station	7/3/2002
SP-016-02	JCC District Park Entrance Road - Hotwater Coles	7/12/2002
SP-023-02	JCSA/NNWW Interconnection	7/11/2002
SP-046-02	Gallery Shoppes Concrete Pad Addition	7/2/2002
SP-064-02	JCSA Route 199 Water Storage Tank Drainage Line	7/9/2002
SP-079-02	Noah's Ark Veterinary Hospital Shed Replacment	7/9/2002
SP-080-02	Anheuser-Busch Brewery - Control Room	7/18/2002
SP-083-02	JCC Fire Station #3 Shed Addition	7/23/2002
SP-085-02	Jamestown High School Irrigation Well	7/18/2002
SP-086-02	Stonehouse Elementary School Irrigation Well	7/18/2002
SP-090-02	Prime Outlets/LL Bean Concrete Pad Addition	7/10/2002

<b>D. EXPIRED</b>		<b>EXPIRE DATE</b>
SP-002-01	JCC HSC Parking Area Expansion	3/5/2002

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## **II. SUBDIVISION PLANS**

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### **A. PENDING PRELIMINARY APPROVAL**

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S-062-98	Ball Metal Conservation Easement
S-104-98	Skiffes Creek Indus. Park, VA Trusses, Lots 1,2,4
S-013-99	JCSA Mission Bank ROW Acquisition
S-074-99	Longhill Station, Section 2B
S-086-99	Peleg's Point, Section 5
S-110-99	George White & City of Newport News BLA
S-006-00	Ewell Station, Lots 1, 4 & 5
S-091-00	Greensprings West, Plat of Subdv Parcel A&B
S-103-00	Villages at Powhatan - Powhatan Secondary
S-032-01	Subdivision and BLE Plat of New Town Associates LLC
S-055-01	White Oaks - Albert & Miriam Saguto, BLA
S-073-01	Fernbrook, JCSA Pump Station/Gabrowski BLA
S-077-01	Ford's Colony - Section 32 (Lots 72-78, 93-129)
S-093-01	Olde Towne Timeshares Conservation Easement Plat
S-099-01	Stonehouse, Mill Pond, Sect. 7-A, Ph. 1
S-102-01	Powhatan Place Townhomes-BLA Lots 51-56
S-109-01	Landfall at Jamestown, Phase 5
S-008-02	James F. & Celia Ann Cowles Subdivision
S-023-02	Stonehouse, Mill Pond Run right-of-way
S-031-02	Bruce's Super Body Shop, Lot 2 subdivision
S-034-02	Villages at Powhatan, Ph. 3
S-035-02	Villages at Powhatan, Ph. 4
S-051-02	Ford's Colony, Section 12 Construction Plans
S-052-02	The Retreat--Fence Amendment
S-054-02	Ford's Colony Section XXX Lots 17-56
S-057-02	Colonial Heritage/US Homes Phs 1, Sec 1 Const Plan
S-058-02	Hazelwood Subdivison and BLA
S-060-02	Parcel 1, New Town Associates LLC
S-061-02	Stonehouse, Walnut Creek Section 5B, Lot 5 BLA
S-063-02	Colonial Heritage/US Homes Phs 1, Sec 2 Const Plan
S-064-02	Stonehouse - Mill Pond Run Section 2
S-065-02	Vernon Ross BLA & BLE
S-066-02	Villages at Westminster BLE
S-067-02	Powhatan Secondary Phase VI-B plat
S-068-02	Forrest Lee Hazelwood BLA
S-069-02	Coopridier/ Powell BLA
S-070-02	Donner BLE
S-071-02	Stonehouse Commerce Park- ROW extension & realign
S-072-02	White BLE



<b>B. PENDING FINAL APPROVAL</b>		<b>EXPIRE DATE</b>
S-036-01	Ironbound Village Construction Plans	8/7/2002
S-101-01	Greensprings West, Phase 4A	12/5/2002
S-104-01	The Retreat, Phase I, Section III	5/30/2003
S-022-02	George W. Roper & Jeanne F Roper, Parcel B	3/19/2003
S-024-02	Stonehouse, Fieldstone Parkway right-of-way & BLA	3/19/2003
S-027-02	Stonehouse, Lisburn, Sect. 5-A, Construction Plans	5/6/2003
S-030-02	Waterford at Powhatan Sec., Ph. 33, BLA	4/9/2003
S-036-02	Zsoldos Subdivision	4/9/2003
S-037-02	Village Housing at the Vineyards, Phase III	5/10/2003
S-039-02	Powhatan Secondary, Phase 6-C	5/8/2003
S-042-02	Lake Powell Forest Phase 4	5/23/2003
S-044-02	Ironbound Village plat	5/17/2003
S-045-02	The Pointe at Jamestown Section 2-A plat	5/30/2003
S-050-02	Parcel 3, Ironbound Village Phase II	6/13/2003
<b>C. FINAL APPROVAL</b>		<b>DATE</b>
S-045-00	Scott's Pond, Section 2 Entrance Improvements	7/10/2002
S-012-02	Peterson Subdivision	7/9/2002
S-046-02	Winter Park Prcl 2 division & BLA Prcl 1 Lot 37	7/1/2002
S-047-02	Marketplace Shoppes, Parcel 3 & 4	7/15/2002
S-053-02	Austin BLE - JCSA Well Lot/Ford's Colony	7/3/2002
S-059-02	Mount Gilead/Washington BLA	7/2/2002
S-062-02	Heritage Landing Lots 9, 10 & 11 BLA	7/2/2002
<b>D. EXPIRED</b>		<b>EXPIRE DATE</b>
S-077-97	Landfall at Jamestown, Phase V Construction Plans	4/23/1999
S-034-00	The Pointe at Jamestown, Phase 2	6/5/2002
S-040-00	Westmoreland Sections 3 & 4	7/5/2002
S-041-00	Powhatan Secondary, Phase 6-B	7/27/2001
S-058-00	Powhatan Secondary, Phase 7-A	10/2/2001
S-086-00	Ford's Colony Section 30 Lots 1-68	12/11/2001

**AGENDA**

**DEVELOPMENT REVIEW COMMITTEE**

**July 31, 2002**

**4:00 p.m.**

**JAMES CITY COUNTY GOVERNMENT COMPLEX**

**Conference Room, Building E**

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1. Roll Call
2. Minutes
  - A. Meeting of June 26, 2002
  - B. Meeting of July 1, 2002
3. Cases
  - A. C-87-02, 1 Dramman Court – Septic System Waiver
  - B. SP-81-02, Ironbound Village Site Plan Amendment
4. Adjournment