Howard County Health Department

APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____ A/P _____

AGENCY REVIEW: _____ DATE _____

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO:

CHECK AS NEEDED:
- ☐ CONSTRUCT NEW SEPTIC SYSTEM(S)
- ☑ REPAIR/ADD TO AN EXISTING SEPTIC SYSTEM
- ☐ REPLACE AN EXISTING SEPTIC SYSTEM

CHECK AS NEEDED:
- ☐ NEW STRUCTURE(S)
- ☐ ADDITION TO AN EXISTING STRUCTURE
- ☐ REPLACE AN EXISTING STRUCTURE

CHECK ONE:
- ☐ CREATE NEW LOT(S)
- ☐ BUILD ON AN EXISTING LOT IN A SUBDIVISION
- ☐ BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?
- ☐ YES
- ☐ NO

THE TYPE OF STRUCTURE IS:
- ☑ RESIDENTIAL WITH 3 PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE ***UNKNOWN*** IF APPROPRIATE)
- ☐ COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- ☐ INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) Tim Singletary

DAYTIME PHONE 301 526-7798 CELL _____ FAX _____

MAILING ADDRESS 13249 Clarksville Pike (STREET) Clarksville (CITY/TOWN) MD (STATE) _____ (ZIP)

APPLICANT Fogles Septic Clean Inc.

DAYTIME PHONE 410 795-5670 CELL _____ FAX _____

MAILING ADDRESS 580 Obrecht Rd (STREET) Sykesville (CITY/TOWN) MD (STATE) _____ (ZIP)

APPLICANT'S ROLE: DEVELOPER BUILDER BUYER RELATIVE/FRIEND REALTOR (CONSULTANT)

PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME 13235 Clarksville Pike LOT NO. _____

PROPERTY ADDRESS _____
(STREET) (TOWN/POST OFFICE)

TAX MAP PAGE(S) _____ GRID _____ PARCEL(S) _____ PROPOSED LOT SIZE _____

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN. TEST RESULTS WILL BE MAILED TO APPLICANT.

Kurt A Cassell
SIGNATURE OF APPLICANT

HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM
7178 COLUMBIA GATEWAY DRIVE COLUMBIA, MARYLAND 21046 (410) 313-1771 FAX (410) 313-2648
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

PLEASE SUBMIT ORIGINALS ONLY (BY MAIL OR IN PERSON)

A/P _____

A

Red Br Cl Loam Gray Mottles From 4'-7' — 7.5'

Br Sa Loam and Loamy Sa — 10'

Water Seepage — 12'

Water — 13.5'

B

Br Cl Loam — 4.5'

Dense Brsi Cl Loam Trace Rock — 5.5'

Dense Beige Mixture — 6.5'

Dense Beige Gravelly and Sa Loams — 13.5'

Caving Water — 16.5'V

C

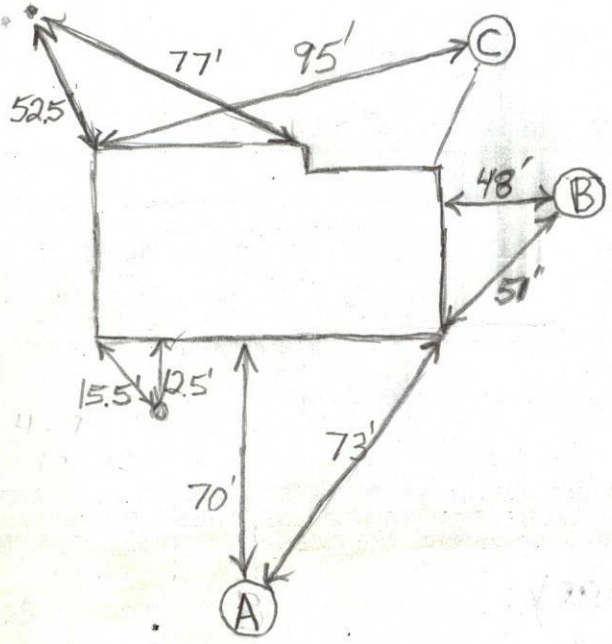
Red Br Dense Sa Cl Loam — 3'-4'

Red Br Loam Getting Sandier With Depth — 9.5'-10.5'

Loamy Sa ~10% Saprolite — 16'

Water — 16.5'

HO-92-0024



DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
6/25/08	A	13.5'V	Not Tested				F
	B	6'/16.5'V	11:51	~1/4"	in 15 minutes		Slow
		7'	12:09	~1/4"	in 20 minutes		Slow
		8 1/4"	12:27	~1/4"	in 15 minutes		Slow
		9'	1:03	1st inch ~	35 minutes		
	C	8.5'/16.5'V	2:21	2:28	2:40:30	12 1/2	P
		9 1/2'	2:48	2:53	3:03:30	10 1/2	P
		5'	2:54:30	3:09:30	15	1st inch	
		→ Dirt Fell in Hole					

REMARKS Add Extra 3' Buffer Above Apparent Water Levels

SANITARIAN B. Baker BACKHOE Fogles OTHERS _____

TEST HOLES USED IN SDA C AVG. PERC TIME 0.6 SQ. FT/BR _____

TRENCH WIDTH 2 INLET DEPTH 4' MAX. BOT DEPTH 10 EFFECTIVE S/W 6'

Use At Least 5' Buffer Above H_2O Indicators

AGREEMENT AND EASEMENT FOR INSTALLATION OF BEST AVAILABLE TECHNOLOGY SYSTEMS WITH BAY RESTORATION FUNDS.

THIS AGREEMENT is made this 5th day of February, among Tim Singletary, hereinafter referred to as "Owner," the Howard County Health Department hereinafter collectively referred to as the "County," and the Department of the Environment, hereinafter referred to as the "Department."

WHEREAS, Owner owns a tract of land located on 13235 Clarksville Pike, in the 5th Election District of Howard County, Maryland, and the deed to same is recorded among the Land Records of Howard County, Maryland, in Ellicott City and in Liber 3733 Folio 549.

WHEREAS, the Bay Restoration Fund (BRF) may provide a grant for the cost attributable to upgrading an onsite sewage disposal system to the Best Available Technology (BAT) for the removal of nitrogen.

WHEREAS, the BRF may also provide a grant for the cost difference between a traditional onsite sewage disposal system and a system that utilizes the BAT for the removal of nitrogen.

WHEREAS, Owner understands that participation in the Bay Restoration Fund is voluntary.

NOW, THEREFORE, the parties hereto agree as follows:

A. Owner hereby grants to the Department and the County the right to enter upon the property at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data requested and needed by the Department to develop accurate and thorough test results.

B. Owner acknowledges and agrees that a manufacturer-approved installer will install the BAT system.

C. Owner acknowledges and agrees the manufacturer will provide for Operation and Maintenance of the BAT for a period of 5 years as a condition of sale of the BAT. After the 5 year

J. Owner acknowledges in the event the total project cost is greater than $25,000 the proposal will have to be approved by the Maryland State Board of Public Works.

K. The Owner agrees to contact both the Water Management Administration, On-Site Systems Division of the Wastewater Permits Program and the County at least forty-eight (48) hours prior to system installation, so that the Department has the opportunity to be present at the time of installation or thereafter for inspection.

L. The Owner must install BAT system according to the manufacturer recommended plans and specifications approved by the Department.

M. The Owner agrees and acknowledges that if installation deviates substantially from the approved plans or changes such that performance of the system is compromised or reduced, BRF funding will not be provided.

N. This agreement shall run with the land and binds the Owner, his heirs, successors, assigns except that the provisions of paragraph A, C, D and E shall be binding for a period of 5 years only after installation of the system and occupation of the home. Owner further agrees that he shall inform in writing any purchaser or lessee of the property that the system may require maintenance or other attention. The Owner agrees to record this agreement in the land records of Howard County.

O. This agreement shall not be construed to limit any authority of the Department to protect the public health, safety or comfort or to issue any other orders to take any other action that is now or may hereafter be within its authority.

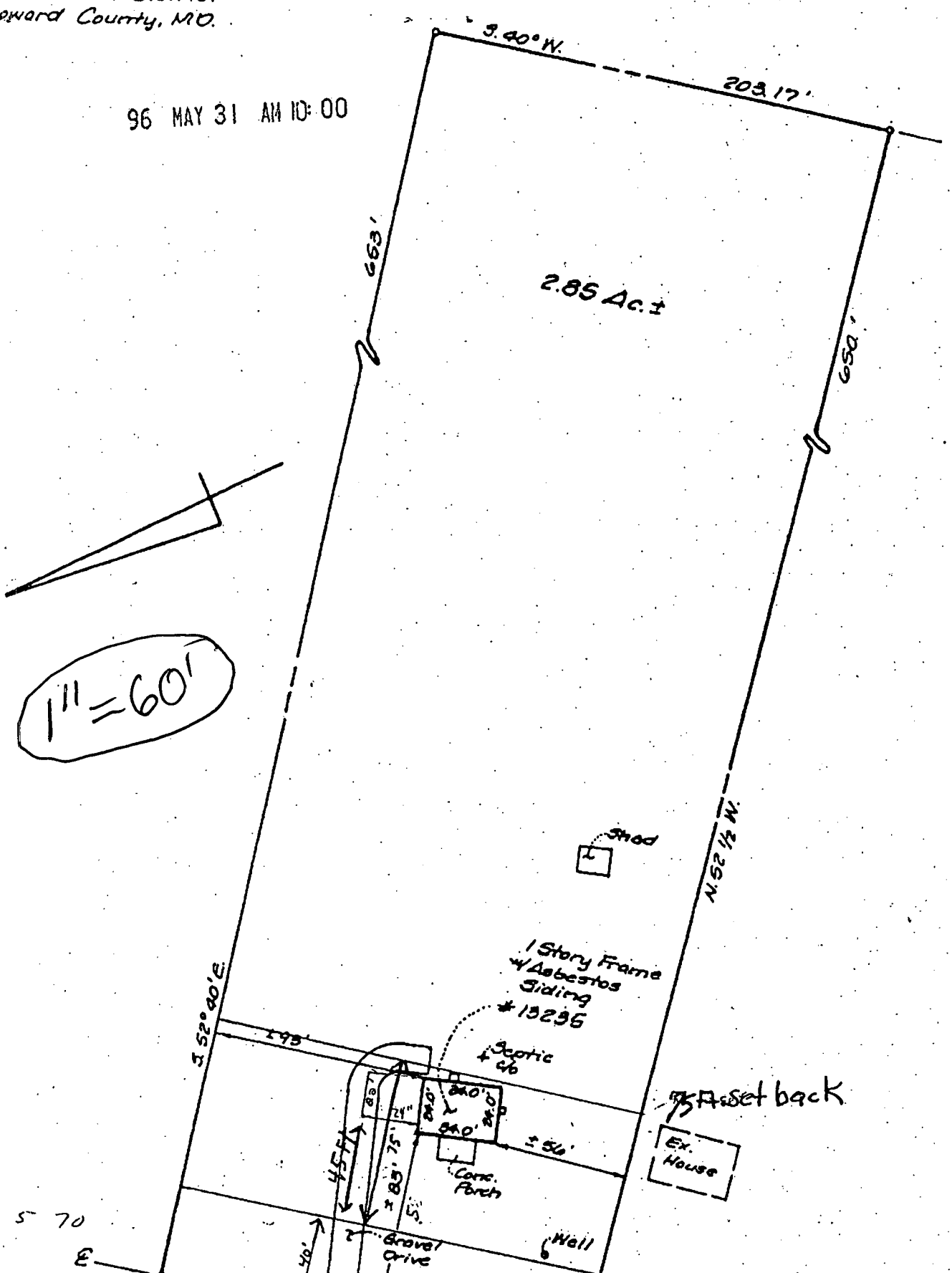
P. This agreement may be voided at the discretion of the Department if the system construction is not completed within six (6) months of the effective date of this agreement.

Q. This agreement contains the entire agreement and understanding between the County and the Owner and the Department. There are no additional terms other than as contained in this

LINES OR CORNERS.

13295 Clarksville Pike
5TH Election District
Howard County, MD.

96 MAY 31 AM 10:00



LOCATION SURVEY PLAT

SUBJECT PROPERTY NOT LOCATED IN A FLOOD PLAIN AREA UNLESS OTHERWISE NOTED

PRESSURE DISTRIBUTION DESIGN SPREADSHEET

his program is designed for CLASSROOM use. All calculations should be confirmed before using for a design.
s will very based on pipe roughness, orifice edges, fittings, fluid characteristics and other variables.

ns: Wayne Felden, 35 Revell Avenue, Northampton, MA 01060; wfelden@k12s.phast.umass.edu OR
hanical and Industrial Engineering, Engineering Lab, UMASS-Amherst, Amherst, MA 01003, winkler@esc.umass.edu

Attn: Bill Singletary

Fill in the shaded areas, revise as needed — *IF ERROR---PRESS ESCAPE*

DESIGN FLOW (in gallons/day)?	450	
Elevation of the PUMP OFF SWITCH, in feet?	88	
Elevation of the upper LATERAL, in feet?	100.625	
DELIVERY PIPE distance, from pump to manifold, in feet?	160	
DELIVERY PIPE diameter, in inches (if not 2"--use 2" min)?	2	
Design DISTAL PRESSURE, in feet (if not 2.5)? (hd)	3	
IS MANIFOLD CENTER-FED & SYMETRICAL (yes or no)?	no	**GO TO MANIFOLD DESIGN**
How many orifices in the MANIFOLD?	0	
MANIFOLD ORIFICE diameter, in inches (if not 5/16")	0.25	0.25
MANIFOLD DIAMETER (if not 2"--use 2" min)?	2	2
TOTAL LENGTH OF MANIFOLD	24	
Does MANIFOLD drain to FIELD after dose (yes or no)?	yes	
How many LATERALS?	3	
Pumping chamber weep hole size (usually .25")	0.25	USE 0 IF FORCE MAIN DOES NOT DRAIN

PROGRAM WILL CALCULATE UP TO 26 LATERALS AND UP TO 50 ORIFICES PER LATERAL

TRENCH LENGTH	35	52	34	0	0	0	0	
Your HIGHEST elevation lateral MUST be LATERAL 1:								
(first orifice from lateral 1/2 of orifice spacing)	**Lateral 1:**	**Lateral 2:**	**Lateral 3:**					
Length of each LATERAL, in feet?	33.25	50.00	31.88	0.00	0.00	0.00	0.00	0.00
Diameter of each LATERAL, in inches (1.5" min)?	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Elevation of each LATERAL, in feet?	100.625	100	99.25	108.68	108.36	108.36	108.04	108.04
Number of ORIFICES per lateral	10	13	8	7	7	7	6	6
Distance from Manifold to closest Orifice, in feet	1.75	2	2.13	0.00	0.00	0.00	0.00	0.00
ORIFICE SPACING, in feet	3.5	4.00	4.25	0.00	0.00	0.00	0.00	0.00
Diameter of ORIFICES, in inches? (D)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Square feet of leachfield per laterals (can ignore)	105	156	102	0	0	0	0	0
Maximum number of orifices in any one lateral	13							
Minimum lateral diameter	1.5							

FRICTION CALCULATIONS (using Hazen Williams friction ft= Ld((3.55Qm/Ch(Dd^2.63)))^1.85)
PRESSURE CALCULATIONS (using orifice dischage equation Q=11.79 D^2 hd^.5

	Lateral 1:	Lateral 2:	Lateral 3:					
LATERAL DISCHAGE (first approximation)	12.76	16.59	10.21	8.93	8.93	8.93	7.66	7.66
MANIFOLD ORIFICE DISCHARGE	0.00							
TOTAL SYSTEM DISCHAGE (first approximation)	81.68							
TOTAL DISCHARGE PER LATERAL	12.80	18.33	12.36					
DISCHARGE PER SQUARE FOOT OF LEACHFIELD	**0.12187849**	**0.11750835**	**0.1211283**					
ORIFICE MAXIMUM DISCHARGE BY LATERAL	1.29	1.42	1.55					
ORIFICE MINIMUM DISCHARGE BY LATERAL	1.28	1.40	1.54					
ORIFICE % DIFFERENCE DISCHARGE within LATERAL	0.7%	1.4%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
MAXIMUM DISCHARGE LATERAL	18.33							
MINIMUM DISCHARGE LATERAL	12.36							
MAXIMUM DISCHARGE PER SQUARE FOOT	0.12							
MINIMUM DISCHARGE PER SQUARE FOOT	0.12							
% DIFFERENCE DISCHARGE for SYSTEM by orifice	17.6%	as percent of maximum orifice in system						
% DIFFERENCE DISCHARGE for SYSTEM by laterals	**32.6%**	as percent of maximum lateral in system						
% DIFFERENCE DISCHARGE for SYSTEM by square feet	**3.6%**	**as percent of maximum square foot in system**						
WEEP HOLE DISCHARGE (usually a 1/4" weep hole)	3.45	weep hole=	0.25 inch					

WARNING: THERE IS GREATER THAN A 15% DIFFERENCE IN ORIFICE DISCHARGE RATES
WARNING: THERE IS GREATER THAN A 15% DIFFERENCE IN LATERAL DISCHARGE RATES

VOID VOLUME IN DELIVERY PIPE	26.11							
VOID VOLUME IN MANIFOLD	3.92	**Volume from Manifold Design**						
VOID VOLUME IN EACH LATERAL	3.05	4.59	2.93	0.00	0.00	0.00	0.00	0.00
TOTAL LATERAL VOID VOLUME	10.57							

MINIMUM DOSE MUST INCLUDE MANIFOLD BECAUSE MANIFOLD DRAINS TO FIELD
MINIMUM DOSE VOLUME (based on void volume) 72.42 to 144.84 MIN
ACTUAL MINIMUM IS BASED ON DAILY DESIGN FLOW
(weep hole, usually 1/4", not counted for dose, effluent is repumped during process and not counted for friction, except as fitting headloss)

TOTAL HEAD LOSS IN EACH LATERAL	0.24	0.66	0.23
MAXIMUM TOTAL LATERAL HEADLOSS IN SYSTEM	0.66		
MANIFOLD HEADLOSS (center-fed unless manifold design)	0.28		
DELIVERY PIPE HEADLOSS	6.40	w/ delivery	2 inch diameter
FITTING LOSS (headloss *.15)	2.00	add extra head if fittings are more than absolute minimum	
DISTAL PRESSURE HEAD	3.00		
STATIC HEAD (OFF-SWITCH TO HIGH LATERAL/MANIFOLD)	12.63		
HEADLOSS PUMP TO WEEPHOLE (assume 3' run)	0.13		

~47 Gallons Per Minute
~26 Feet of Head

FL-50 Pump Should Work