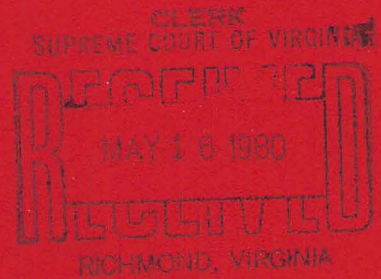


223VA423

IN THE
SUPREME COURT OF VIRGINIA



RECORD NO. 790956

STATE BOARD OF HEALTH OF THE
COMMONWEALTH OF VIRGINIA, et al.,

Appellants,

v.

JOSEPH E. GODFREY, et al.,

Appellees

AGENCY RECORD

APPENDIX II

Marshall Coleman
Attorney General of Virginia

James E. Ryan, Jr.
Deputy Attorney General

R. Leonard Vance
Assistant Attorney General
715 Madison Building
109 Governor Street
Richmond, Virginia 23219

Counsel for Appellants

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0098

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UNITED STATES DEPARTMENT OF AGRICULTURE

0162

SOIL CONSERVATION SERVICE

P.O. Box 272

Culpeper, Virginia 22701

April 21, 1975

Mr. Stanley Borders
Culpeper County Health Dept.
602 South Main Street
Culpeper, Virginia 22701

RECEIVED

CULPEPER COUNTY
HEALTH DEPT.

Dear Mr. Borders:

This letter is the result of your request for information on the suitability of Blackjack soils for use in disposal of septic tank effluent.

The area known locally as the Blackjack Country is within the Iredell soil group in the published Soil Survey Culpeper County, Virginia. The chief soils in this group are Iredell, Elbert, Kelly, Crocon, Roanoke, Stanton, and Zion. I will discuss soil properties important for disposal of effluent and evaluate each soil's limitations for this use.

Soils used for effluent disposal must be able to absorb the effluent. A soil with slow permeability or a high seasonal watertable cannot absorb the effluent adequately to perform satisfactorily throughout the year.

The following table summarizes these properties for each soil and gives that soil's limitation rating.

SOIL	PERMEABILITY	DEPTH TO SEASONAL HIGH WATERTABLE	LIMITATION RATING
Iredell	slow to very slow	2--3 feet	severe
Elbert	very slow	0--1 foot	severe
Kelly	slow to very slow	2½ feet	severe
Crocon	moderate to slow	0--1 foot	severe
Roanoke	slow	0--1 foot	severe
Stanton	slow	0--2 feet	severe
Zion	slow	3 feet	severe

A particular profile of either soil may have a higher permeability or lower high water table which could modify the limitations rating.

A severe limitation means that it is usually impractical to attempt use of that soil. These are broad generalizations and individual tests will need to be made on small building sites.

COPY



2

0103

604 South Main Street;; Culpeper, Virginia 22701

December 10, 1976

George Miller, Jr.
Rt. 1, Box 92K
Bealeton, Va. 22712

Dear Mr. Miller:

This letter is in response to your request for soils information and suitability interpretations.

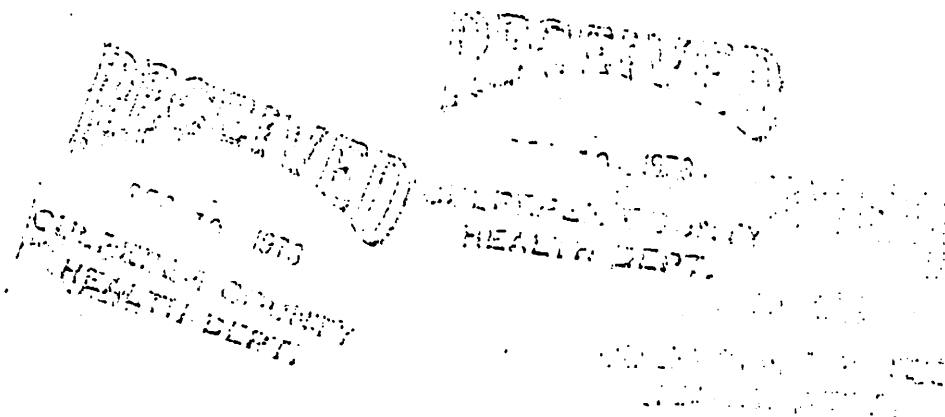
The soils as identified in the Soil Survey Culpeper County, Virginia On this land are Mecklenburg silt loam and Iredell silt loam, eroded undulating phase. Both of these soils have severe limitations for use as septic tank absorption fields due to slow percolation rates. The Iredell soil has an additional limitation due to a perched seasonal high water table (1 to 2 feet from November to March).

As you pointed out there is a coarse layer in the Iredell soil. I have no information as to how this may be used or its chance of success in the disposal of septic tank effluent.

Sincerely,

William R. Adams
District Conservationist

cc: Stanley Borders, Culpeper County Health Department



PERMIT TO INSTALL ~~REPAIR~~ ~~SEWAGE DISPOSAL SYSTEM~~ REASONS FOR REJECTION

3

- (1) Void after (12) twelve months. () Automatically cancelled when site conditions are changed from those shown on permit.
- (3) Automatically cancelled should facts later become known that a potential hazard would be created by continuing installation.

Robert John Miller

FAHAWA

Date 12/10/76

Case No.

0104

Address

Rt. 1, Box 109, Remington, Va.

Phone

Same

Address

Phone

Exact Location Rt. 3 to right on #658 go 1.9 turn left on private road, go .3 miles to end.

premises

(Subdivision, Street or Road Name, Section or Lot No.)

Grading Project

FOR: ☒ Dwelling ☐ Other Automatic Washing Machine ☐ Yes ☐ No Consumption 600 gal. per day
☒ Potential ☐ Bedrooms 3 Garbage Disposal Unit ☐ Yes ☒ No (☐ Actual ☒ Estimated Water)

Additional wastes

(1) WATER SUPPLY (Existing) Class ☐ Approved ☐ Yes ☐ No Other ☐
 (To be installed) Class ☐ Gased ☐ ft. to be grouted ☐ ft.
 (Unless supported by positive evidence Class III is to be considered as to be installed.)

(2) SOIL STUDY Naturally drained, suitable by sight ☐ Yes ☐ No Technical Classification (If Known)
 Estimated Percolation Rate 1-15 ☐ 11-25 ☐ 26-50 ☐ > 51 ☐ Percolation Test Required ☐ Yes ☐ No ☐ Rate
 (Minutes per inch) (Minutes per inch to nearest 10 minutes)
 Depth to Gray Mortar ☐ inches (estimate over 4 ft.) OTHER ☐
 Surface drainage required ☐ Yes ☐ No OTHER DRAINAGE ☐

(3) HOUSE SEWER LINE Size ☐ inches. Type of material required ☐ Distance from Water Supply ☐ feet.

(4) DETAILS OF CONSTRUCTION Watertight Septic Tank of ☐ Material ☐ Liquid Capacity ☐ gallons.
 Inside Dimensions Length ☐ feet. Width ☐ feet. Liquid Depth ☐ feet. Depth of Air Space ☐ feet.

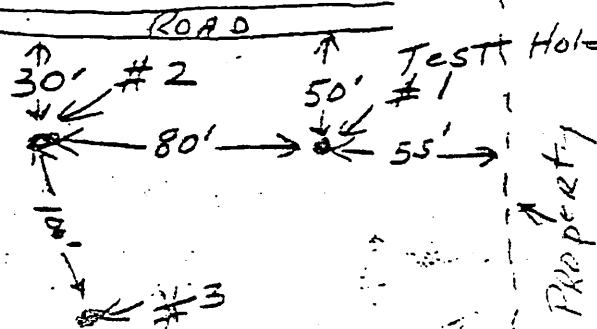
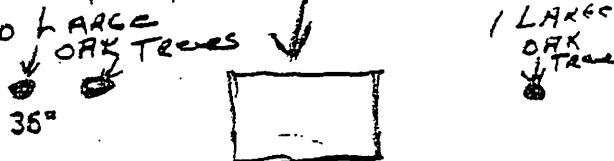
SUBSURFACE ABSORPTION FIELD Number of square feet required ☐ Type aggregate required ☐
 Depth of aggregate from base of tile to bottom of ditches ☐ inches. Allowable fall ☐ to ☐ inches.
 Total aggregate minimum depth ☐ inches or more. Depth of drainfield to be ☐ inches from surface of original ground.
 Distance from well to septic tank ☐ feet; distance from well to drainfield ☐ feet.

Attach Sketch of Premises (including adjacent properties if pertinent. Showing Location of Lot Line, Buildings, Water Supplies, Sewage Disposal Systems, Trees, and Other Possible Sources of Contamination of Water Supplies, by Indicating Distances and Slope with regard to one another.

Soil Profile:

Hole #1 0-24" greyish brown to olive brown plastic type wet clay; 24 - 36" olive grey sandy silt loam mingled with clay flows to decomposed rock.
 Hole #2 Same as hole #1 except for decomposed rock at 36"
 Hole #3 0-10" dark brown silt clay loam.
 10-24" yellowish brown silt clay loam streaked with grey with red and black concretions with evidence of water at 30"; 36" plus friable grey clay to decomposed rock.
 Because of very slow absorption rate in plastic type clay of upper horizon, evidence of seasonal water table at about 30" and restriction of water flow due to clay flows in lower horizon, we must reject this area for use of subsurface drainfield.

Proposed House Site



see letter dated 5/10/77

Site # 2 on this plot

NOT DRAWN TO SCALE TO RT 3 RT 652 Lot 14 acres plus records

Signature: _____ Date: 12/10/76 Health Department, Phone: _____ when it is ready for inspection. If any Sewage Disposal System, or part thereof, is covered before being inspected by the Health Department, it shall be under the direction of the Health Director or his agent. CONDITIONS DISCOVERED DURING INSTALLATION MAY REQUIRE ADJUSTMENTS OF DESIGN. Changes from above specifications require Health Department approval before being made.

Based on the above information, the undersigned recommends that this permit be issued. Approved: _____ (Reviewing Authority) Date: 12/10/76 Signed: _____ (Sanitarian or Health Director)

SOIL EVALUATION WORKSHEET

Page 6105City/County Culpeper Date 12/12/20Report of W. M. Burke For Stanley Builders
(Name of person performing evaluation) (Individual or Agency requesting reports)Property Owner Robert D. Miller Property Identification At Rt. 151 S. 27th St.
Address Rt 1 Box 103 Remington Va. 1.9 Mi from Rt 3Physiographic Province Piedmont Landscape Position UplandCheck Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1a.	0-9	Brown	Silt Clay Loam
b.	9-24	Yellow Brown	Plastic Clay
c.	24-49	Yellow Brown	Sandy Loam Gray mottling from 14"
d.			
2a.	0-30	Yellow Brown	Plastic Clay Concentric at 7 1/2"
b.	30-49	Yellow Brown	Sandy Loam Gray mottling from 30"
c.			
d.			
3a.	0-10	Brown	Silt Clay Loam
b.	10-20	Yellow Brown	Plastic Clay
c.	20-49	Yellow Brown	Sandy Loam Concentric at 30"
d.			Also Gray mottling and clay films
4a.			
b.			
c.			
d.			

CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

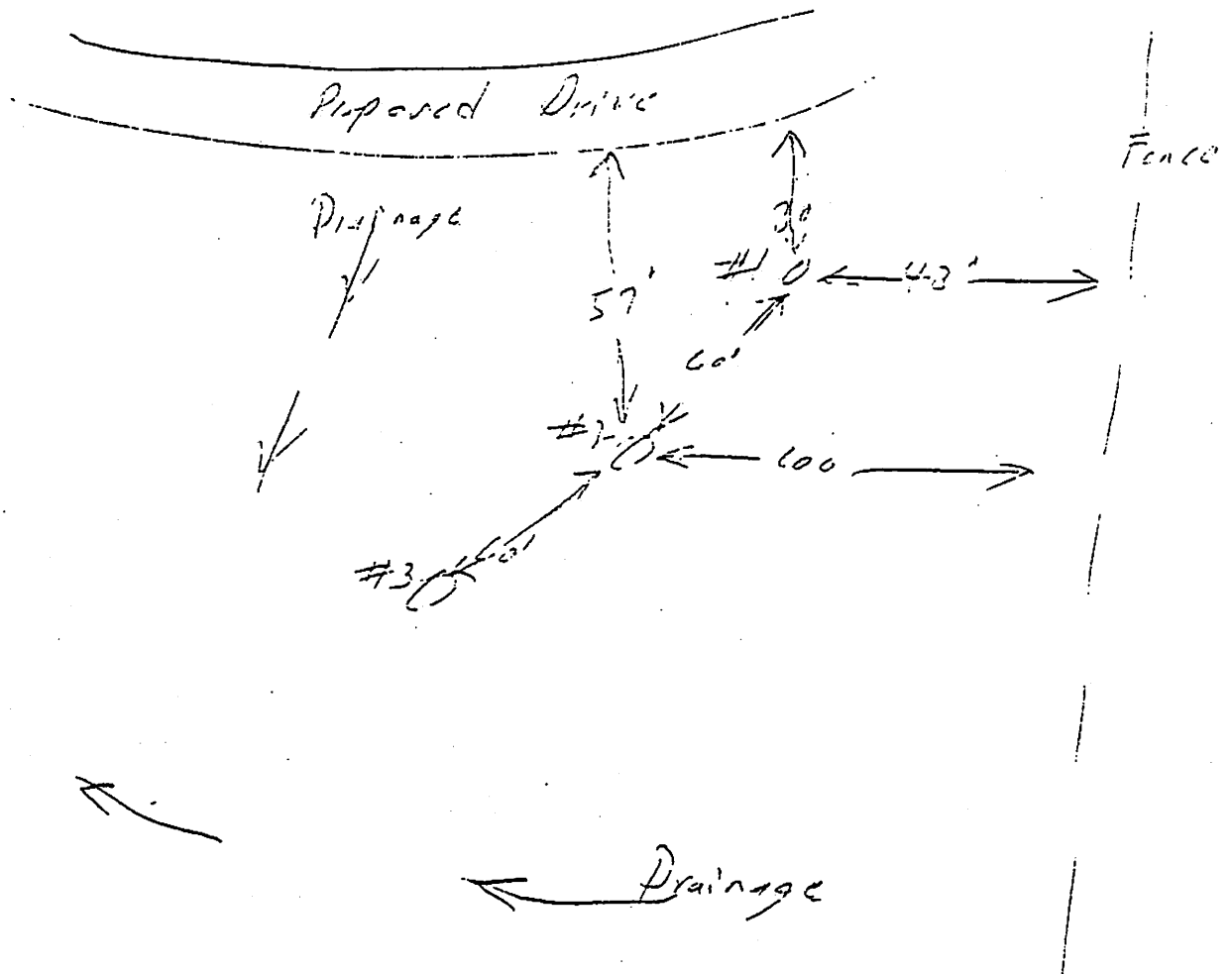
Size of Area	Slope	* Seasonal Water Table - Indicate Perked or Adherent	* Rates of Absorption		* Rock	Colluvial or Alluvial	Other - Describe
			Estimated	Performed			
		#1 - 24" #2 - 20" #3 - 20"					

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

Proposed Trailer Site

0106



County CulpeperDate 12-17-76Report of H. V. Becklin, Reg. San. For Culpeper Health Dept.

(Name of person performing evaluation)

(Individual or Agency requesting reports)

Property Owner Robert John MillerProperty Identification N. Side Rd. # 658, at end of Private Lane 1.9 mile from Rd # 5Address St. 1, Box 109, Remington, Va.

at end of Lane

Physiographic Province PiedmontLandscape Position UplandCheck Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1a.	0-8	Brown	Silt Clay Loam
b.	8-24	4 Brown	Clay (Plastic Clay)
c.	24-48	4 Brown	Sandy Loam (Grey mottling & grey Clay Flakes from 24")
d.			
2a.			
a.	0-30	4 Brown	Clay (Plastic Clay) Concretions at 30"
c.	30-48	4 Brown	Sandy Loam Grey mottling & grey Clay Flakes at 30"
d.			
3a.	0-10	Brown	Silt Clay Loam
b.	10-20	4 Brown	Clay (Plastic Clay)
c.	20-48	4 Brown	Sandy Loam Grey mottling & grey Clay Flakes at 30"
d.			
4a.			Concretions at 30"
b.			
c.			
d.			

CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Size of Area	Slope	Seasonal Water Table - Indicate Perched or Apparent	Rates of Absorption		Rock	Colluvial or Alluvial	Other - Describe
			Estimated	Performed			
		#1 - 24"					
		#2 - 30"	Black				
		#3 - 30"	Jack				

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

0108

House
Trailer
Front

Not To Scale

Private Drive

30'
0
#1 42'

57'
0
#2 100'
60'
0
#3

Drainage

low

Drainage

wet

R. B. THOMAS, JR., LTD.

CIVIL ENGINEERING - LAND SURVEYING - LAND PLANNING

0109

9401 EAST STREET
MANASSAS, VIRGINIA 22110

R. B. THOMAS, JR., PE 4454, CLS 1117

TELEPHONE (703) 368-1123

March 3, 1977

Mr. Joseph Godfrey
8929 Burwell Rd.
Nokesville, Va. 22123

Dear Mr. Godfrey:

After performing soils evaluations on the two enclosed sites, the following information was found:

The soils on both sites was typical with the exception of difference in depth to usable material for subsurface absorption drainfield. Although the topsoil and subsoil in these areas appeared to be of the unfavorable type soil typical of Mecklenburg (40) and the Iredell (48), the underlying parent material which had a duration of 2 to 3 1/2 feet appeared to be descriptive of the lunt soil (49B1) which was of a greyish brown to strong brown, loose, friable, fine sandy material.

It is our opinion that a field will function in this soil with the amount of drainfield design shown on the attached plats.

If we can be of any further assistance in this matter, please notify.

Sincerely,

R. B. THOMAS, JR., LTD.



C. R. Hawkins

CRH/et

R. B. THOMAS, JR., LTD.

0110

CIVIL ENGINEERING - LAND SURVEYING - LAND PLANNING

9401 EAST STREET
MANASSAS, VIRGINIA 22110

R. B. THOMAS, JR., PE 4454, CLS 1117

TELEPHONE (703) 368-1165

March 3, 1977

TO: Joseph Godfrey

FROM: R. B. Thomas, Jr., Ltd.

Re: Soil Evaluation on Proposed Drainfield Site - Site #1

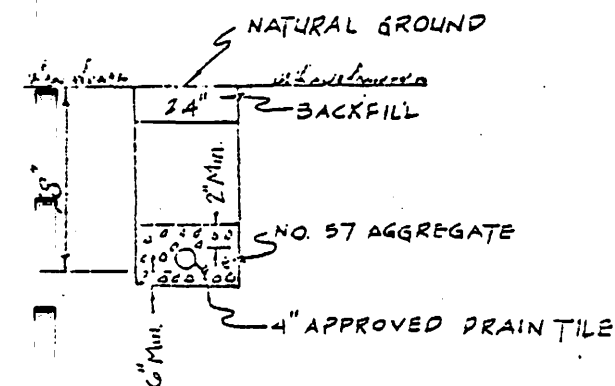
Hole # 1 and 2 - Subsoil consisted of heavy clayey material to approximately 2 1/2 to 3 feet in depth, underlain with about one foot of yellowish brown sandy material with a clayish texture which gave way to a very light brown to a grayish brown loose, friable, sandy material with no clay. This horizon extended from 4 feet to 8 feet plus in depth.

Hole # 3 and 4 - These 2 holes were typical of holes #1 and 2 with the exception of about 3 feet of fill material on top of the original ground which made the depth of horizon approximately 7 to 7 1/2 feet to the loose, friable, sandy material found in holes # 1 and 2.

Hole #5 - Typical of holes 1 and 2 with depth to loose friable sandy material at 5 1/2 to 6 feet. At 6 1/2 to 7 feet material appeared to be a little more dense but loosened up at 7 feet in depth.

Installation should be at seven (7) feet.

1. The subsurface drain to the well shall be located as shown on this plan, and shall be approved by the developer as well as the Health Department.
2. The entire sewage disposal system shall be constructed in accordance with the specifications contained in the Rules and Regulations of the Board of Health, Commonwealth of Virginia, governing the Disposal of Sewage dated July 1, 1971.
3. The well shall be constructed in accordance with the Health Department Specifications for a Class III well & grouted & encased a minimum of 10' into solid rock, unless specified on the drawing as a Class I or Class II well.
4. The owner or contractor must notify the Culpeper County Health Department, Culpeper office, Phone 825-1300, when installation is ready for inspection. If any sewage disposal system, or part thereof, is covered before being inspected by the C.C.H.D., it shall be uncovered at the direction of the C.C.H.D.
5. Conditions discovered during installation may require adjustments of the system design, but only at the direction of the Health Department after consultation with the engineer.
6. All Class I and II wells must be inspected and approved by the Health Department. The well driller shall submit to the Engineer a log showing the depth to various rock formations, depth of grouting, depth of casing, final depth of well and the quantity of water for each well.
7. Downspouts, footer drains, floor drains, etc. must drain away from all components of the septic system.
8. Driveways, parking areas or other construction shall not be included within the drainfield area.
9. The owner shall obtain a permit from the Virginia Department of Highways prior to constructing the driveway entrance.
10. Houses shall be located approximately as shown; any deviation from the plan location shall meet all Culpeper County Code requirements.
11. Drainfield area to be fine graded & seeded within 30 days after covering of same, before final approval.
12. A pump system may be required if house is constructed below elevation to provide gravity flow to system.
13. Main lines are to follow natural contours.
14. Based on the engineering evaluation, we recommend that a Culpeper County Health Department permit be issued for a sewage disposal system in accordance with the design shown herein.



TYPICAL TRENCH SECTION
Subsurface Drainfield

- 6" 4" DISTRIBUTION LINES 6' %
- LONG AT 0.33% MAX.
- 1500 GAL. SEPTIC TANK
- PUMP TANK, (IF NEEDED)

Joseph Godfrey Property SITE DEVELOPMENT PLAN

2.51 AC. Portion of LOT 5 AREA 27.1480

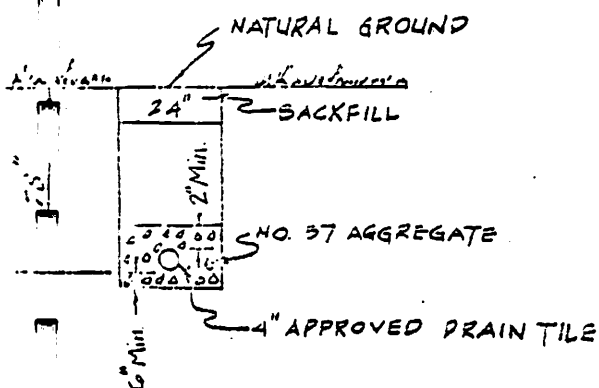
Stonensburg MAGISTERIAL DISTRICT
Culpeper COUNTY, VIRGINIA

Scale: 1"=360' Date: Mar. 2, 1977

Prepared By

R. B. Monaco, Jr., Ltd.
Monaco, Virginia

- Approved by the developer as well as the health department.
- The entire sewage disposal system shall be constructed in accordance with the specifications contained in the Rules and Regulations of the Board of Health, Commonwealth of Virginia, governing the Disposal of Sewage dated July 1, 1971.
- The well shall be constructed in accordance with the Health Department Specifications for a Class III well & grouted & encased a minimum of 10' into solid rock, unless specified on the drawing as a Class I or Class II well.
- The owner or contractor must notify the Culpeper County Health Department, Culpeper Office, Phone 625-1300, when installation is ready for inspection. If any sewage disposal system, or part thereof, is covered before being inspected by the C.C.H.D., it shall be uncovered at the direction of the C.C.H.D.
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- Downspouts, footer drains, floor drains, etc. must drain away from all components of the septic system.
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- The owner shall obtain a permit from the Virginia Department of Highways prior to constructing the driveway entrance.
- Houses shall be located approximately as shown; any deviation from the plan location shall meet all Culpeper County Code requirements.
- Drainfield area to be fine graded & swept within 30 days after covering of same, before final approval.
- A pump system may be required if house is constructed below elevation to provide gravity flow to system.
- Main lines are to follow natural contours.
- Based on the engineering evaluation, we recommend that a Culpeper County Health Department permit be issued for a sewage disposal system in accordance with the design shown hereon.



Joseph Godfrey Property SITE DEVELOPMENT PLAN

24.03 Ac. Portion of LOT 5 AREA 271480A

Stevensburg MAGISTERIAL DISTRICT
Culpeper COUNTY, VIRGINIA

Scale: 1"=300' Date: Mar. 2, 1977

TYPICAL TRENCH SECTION
Subsurface Drainfield

4" DISTRIBUTION LINES 6' %

LONG AT 0.33% MAX.

SEPTIC TANK

PUMP TANK, (IF NEEDED)

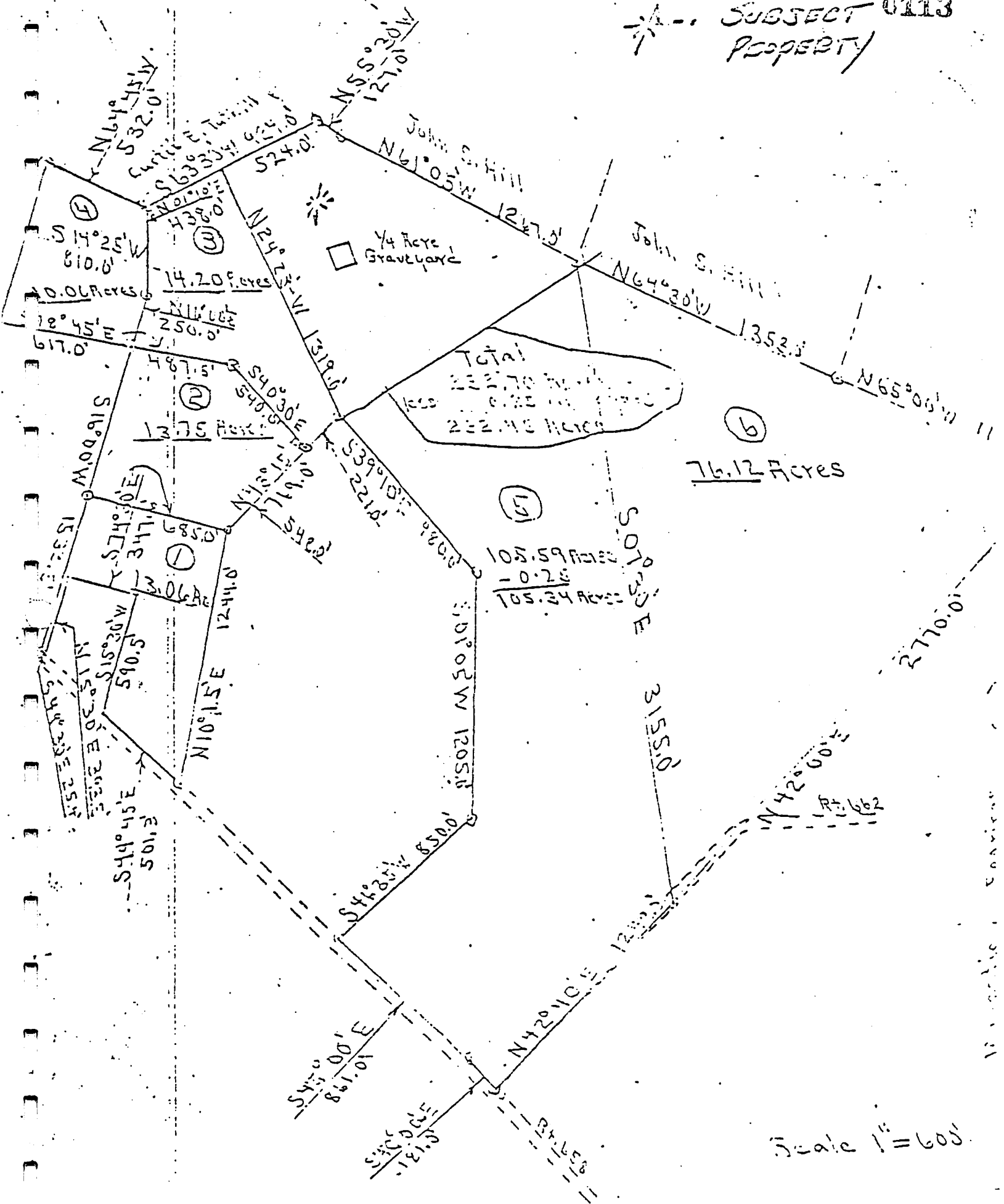
Prepared by

R. B. Thomas, Jr., Ltd.

Manassas, Virginia

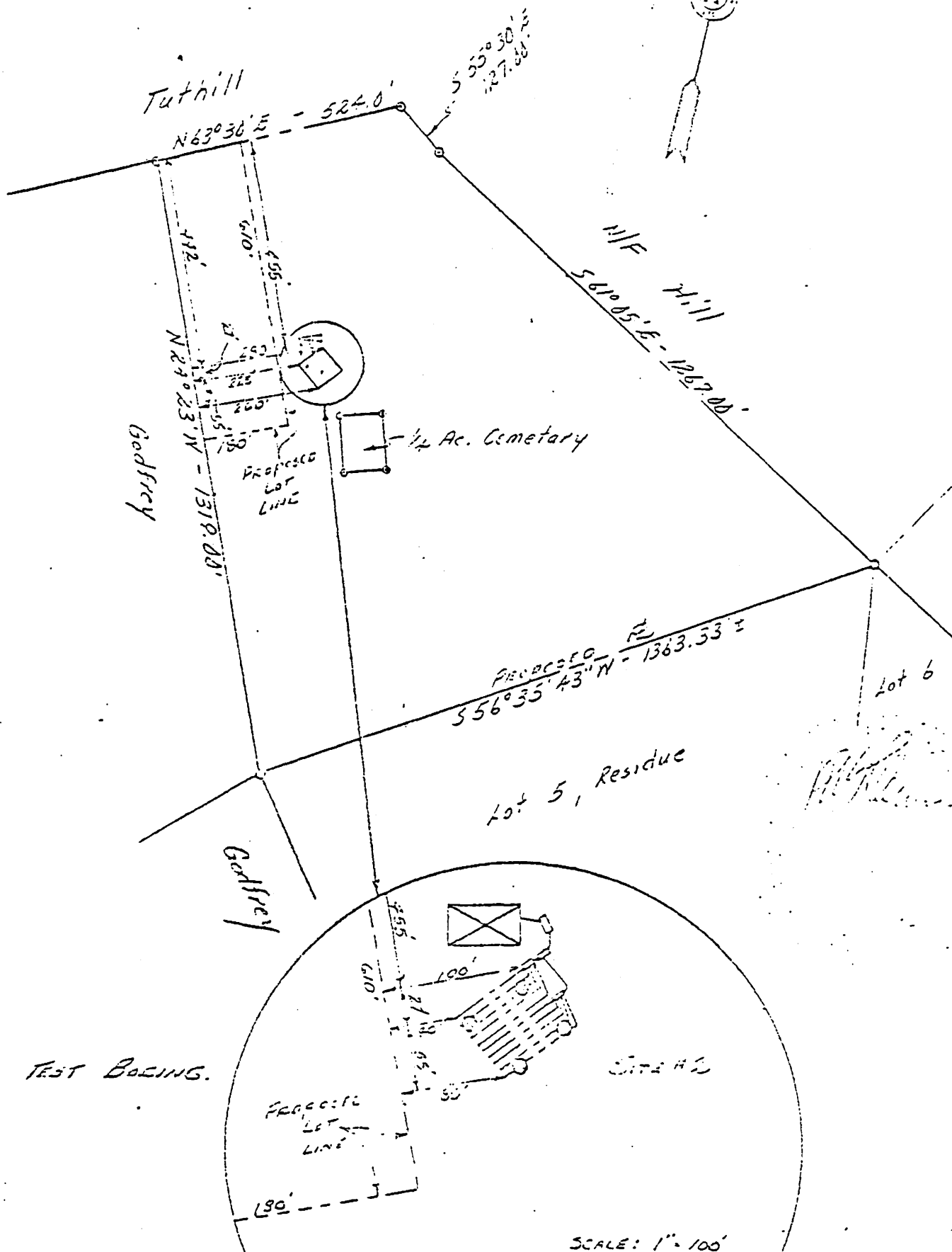
364-11AP

*A-- SUBJECT 0113
PROPERTY

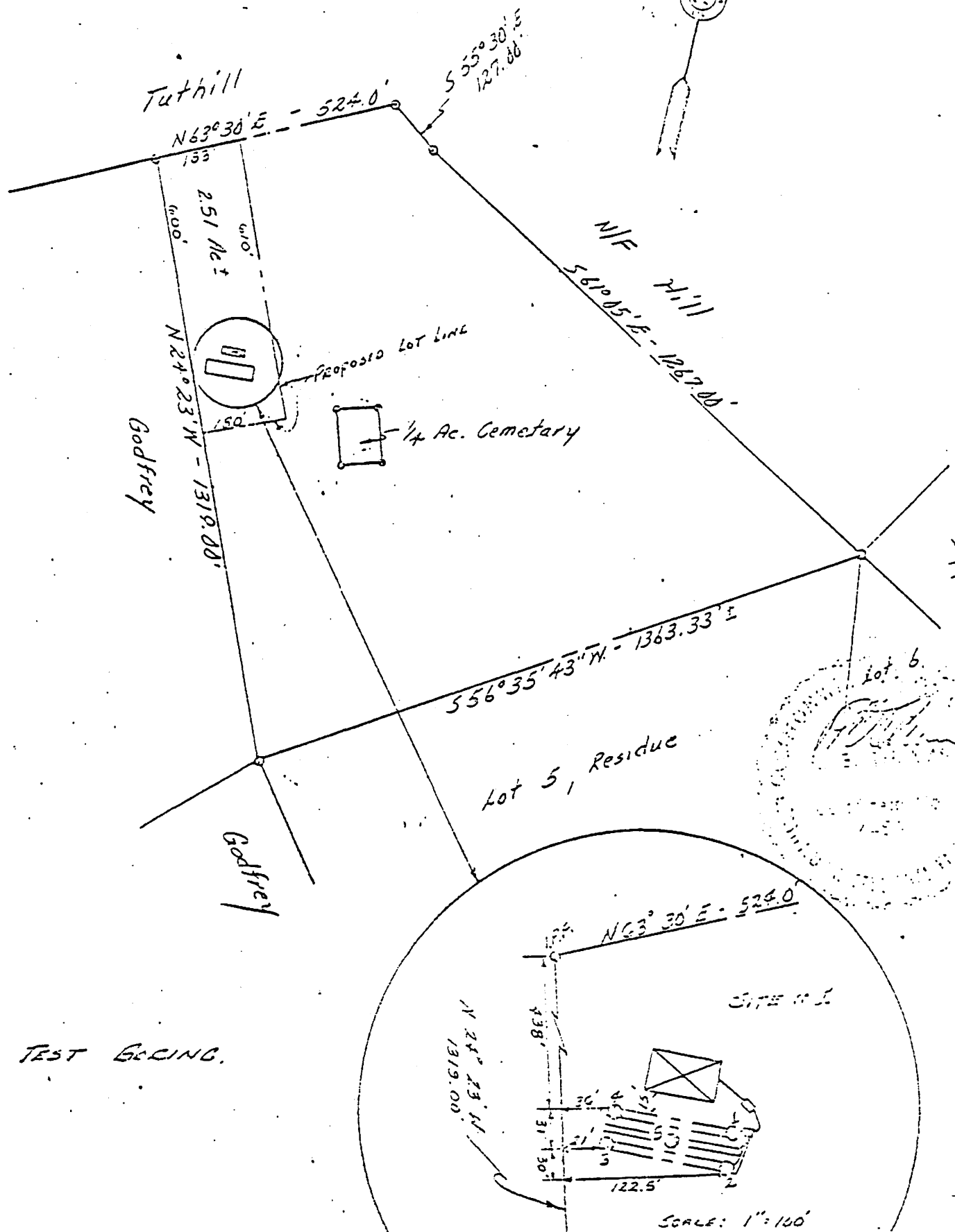


Scale 1" = 600'

0114



0115



(1) Valid for (2) twelve months. Automatically cancelled when conditions are changed from those shown on permit.
(3) Automatically cancelled should facts later become known that a potential hazard would be created by continuing installation.

FHA/VA ☒ Yes ☐ No

Date 3-9-77

Case No.

Robert John Miller

Address Rt. 1 Box 100, Remington, VA

0116

Same

Address

Phone

Exact Location

Rt. 3 to right on #658 go 1.9 turn left on private road, go .3 miles to end.

premises

(Subdivision, Street or Road Name, Section or Lot No.)

FOR: ☐ Dwelling ☐ Other Automatic Washing Machine ☒ Yes ☐ No Consumption 600 gal. per day
Actual ☒ Potential ☐ Bedrooms 3 Garbage Disposal Unit ☐ Yes ☒ No (☐ Actual ☒ Estimated Water)

Additional wastes

WATER/SUPPLY (Existing) Class Approved ☐ Yes ☐ No Other
(To be installed) Class Casco ft. to be grouted ft.

(Unless supported by positive evidence Class III is to be considered as to be installed.)

SOIL STUDY Naturally drained, suitable by sight ☐ Yes ☐ No Technical Classification (If Known)
Estimated Percolation Rate 1-10 ☐ 11-25 ☐ 26-50 ☐ > 51 ☐ Percolation Test Required ☐ Yes ☐ No ☐ Rate
(Minutes per inch) (Minutes per inch to nearest 10 minutes)

Depth to Grey Mottles inches (estimate over 4 ft.) OTHER

Surface drainage required ☐ Yes ☐ No OTHER DRAINAGE

HOUSE SEWER LINE Size inches. Type of material required Distance from Water Supply feet.

DETAILS OF CONSTRUCTION Watertight Septic Tank of Material Liquid Capacity gallons.
Inside Dimensions Length feet. Width feet. Liquid Depth feet. Depth of Air Space feet.

SURFACE ABSORPTION FIELD Number of square feet required Type aggregate required

Depth of aggregate from base of pile to bottom of ditches inches. Allowable fall to inches.

Final aggregate minimum depth inches or more. Depth of drainfield to be inches from surface of original ground.

Distance from well to septic tank feet; distance from well to drainfield feet.

Sketch of Premises (including adjacent properties if pertinent, showing location of lot line, buildings, water supplies, sewage disposal systems, trees, and other possible sources of contamination of water supplies, by indicating distances and slope with regard to one another.

SOIL: This soil is very similar to area previously rejected as unsatisfactory.
0-3" Brown Silt Clay Loam
6-20" Yellowish Brown to Olive Brown plastic type clay.

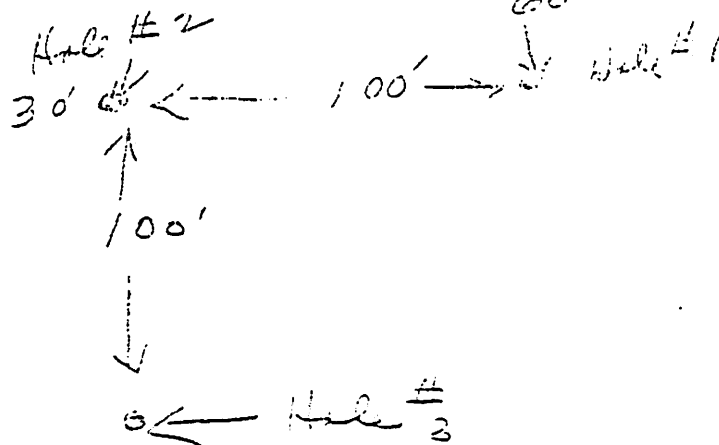
20" + Weathered material with clay flows also brown and black concretion. This material extends to rock.

NOTE: Because of very slow absorption rate in plastic type clay of upper horizon, restriction of water flow due to clay particles in lower horizon and evidence of seasonal water table, we must reject this area for subsurface drainfield use.

Previous area examined
Fence

NOT DRAWN TO SCALE

Proposed House



Owner or his agent must notify Health Department, Phone when installation is ready for inspection. If any Sewage Disposal System, or part thereof, is covered before being inspected by the Health Department, it shall be under the direction of the Health Director or his agent. CONDITIONS DISCOVERED DURING INSTALLATION MAY REQUIRE ADJUSTMENT OF SYSTEM DESIGN. Changes from above specifications require Health Department approval before being made.

Based on the above information, the undersigned recommends that this permit be issued.

Date Approved

(Reviewing Authority)

Date

Signed

(Sanitarian or Health Director)

March 22, 1977

0117

Mrs. Mary L. Mullins
Zoning Administrator
Courthouse Bldg.
Culpeper, Va. 22701

Through: R. S. LeCarde, M.D.
Health Director

Dear Mrs. Mullins:

This letter is to confirm our conversation concerning the Robert John Miller application.

Our record shows that on 12/10/76, Robert John Miller, representing himself as owner of property consisting of ten acres off Rt. 652, near Mt. Pony, applied for a sewage disposal permit for a three bedroom house. The proposed sewage disposal site was examined by Mr. Borders of the Culpeper County Health Department and was found to be unsatisfactory. This site was also examined on 12/17/76 by a State Health Department representative and myself. This examination also indicated the site was unsatisfactory.

A new application was made for a sewage disposal permit at a different site on 3/9/77. This proposed site was examined and found to be unsatisfactory. The difficulties with both proposed sites were poor surface drainage, poor internal drainage in soil and indications of a high seasonal water table.

We have, since this time, been advised that the property was owned by a Mr. Godwin. The difficulties with these sites were explained to Mr. Godwin before the original division of this property and at the time of the last sewage disposal application. A house trailer was found on the site on 3/9/77 and the Zoning Office was advised of this fact.

We are advised by Mr. Godwin's lawyer that an administrative appeal will be made concerning the results of the earlier sewage disposal applications. This appeal process is incomplete at this time.

Yours truly,

William W. Burke
Sanitarian Supervisor

WVB:kbs

- (1) Void after (12) twelve months. (2) Automatically cancelled when site conditions are changed from those shown on permit.
 (3) Automatically cancelled should facts later become known that a potential hazard would be created by continuing installation.

HAZARDOUS ☒ Yes ☐ No

Date 4-26-77 Case No. 22123 C118

Owner Joseph Godfrey

Address 8929 Durwell Rd., Hokesville Va.

Phone 22123 C118

Occupant TWO THOUSAND SHEETS IN NAME OF ROBT. EDWIN MILLER WITHIN 1000 YDS. OF PREMISES

Address ROBT. EDWIN MILLER WITHIN 1000 YDS. OF PREMISES

(Mailing Address)
 (Mailing Address)

Exact Location
 of premises

Rt. 3 to right on #653. Go 1.9 miles, turn left on private road, go .3 miles
 (Subdivision, Street or Road Name, Section or Lot No. to end. Property on right.)

FOR: ☒ Dwelling ☐ Other ☐ Automatic Washing Machine ☐ Yes ☐ No
 Actual ☐ Potential ☒ Bedrooms 3 Garbage Disposal Unit ☐ Yes ☒ No

Consumption 6000 gal. per day
 (☐ Actual ☒ Estimated Water)

Additional wastes

WATER SUPPLY (Existing) Class Approved ☐ Yes ☐ No Other
 (To be installed) Class Cased ft. to be grouted ft.

(Unless supported by positive evidence Class M is to be considered as to be installed.)

SOIL STUDY Naturally drained, suitable by sight ☐ Yes ☐ No Technical Classification
 Estimated Percolation Rate 1-10 ☐ 11-25 ☐ 26-50 ☐ > 50 ☐ Percolation Test Required ☐ Yes ☐ No ☐ Date
 (Minutes per inch) (Minutes per inch to nearest 10 minutes)
 Depth to Grey Mottles inches (estimate over 4 ft.) OTHER
 Surface drainage required ☐ Yes ☐ No OTHER DRAINAGE

HOUSE SEWER LINE Size inches. Type of material required Distance from Water Supply feet.

DETAILS OF CONSTRUCTION Watertight Septic Tank of Material Liquid Capacity gallons
 Inside Dimensions Length feet. Width feet. Liquid Depth feet. Depth of Air Space feet.

SUBSURFACE ABSORPTION/FIELD Number of square feet required Type aggregate required
 Depth of aggregate from base of tile to bottom of ditches inches. Allowable fall to inches.
 Total aggregate minimum depth inches or more. Depth of drainfield to be inches from surface of original ground.
 Distance from well to septic tank feet; distance from well to drainfield feet.

Rough Sketch of Premises (including adjacent properties if pertinent, showing location of lot line, buildings, water supplies, sewage disposal systems, trees, and other possible sources of contamination of water supplies, by indicating distances and slope with regard to one another.

Soil 0.8" Brown Silt clay loam
4-30" Plastic Type Clay
30"-42" greenish weathered material
to bedrock

Note: This is the 3rd site
 I have examined - It
 is shown as site 2 on
 Plat plan submitted
 by C.R. Hawkins

Note: Because of evidence of seasonal
 water table, poor internal drainage
 because of plastic type clay soil
 and insufficient area of suitable
 soil, we must reject this
 site for subsurface drainfield
 use.

Test
 Holes →

Site
 on
 Hawkins Plat 1 -

approx 150'

NOT DRAWN
 TO SCALE

accuracy

Owner or his agent must notify Health Department/Phone when installation is ready for inspection. If any Sewage Disposal System, or part thereof, is covered before being inspected by the Health Department, it shall be covered at the direction of the Health Director or his agent. CONDITIONS DISCOVERED DURING INSTALLATION MAY REQUIRE ADJUSTMENT OF SYSTEM DESIGN. Changes from above specifications require Health Department approval before being made.

Based on the above information, the undersigned recommends that this permit be issued.
 Date 4/26/77 Approved Stanley P. ... (Sanitarian or Health Director)

City/County Culpeper CountyDate 4/21/77 **0119**Report of W.W. Burke San. Eng. For Culpeper Co. Health Dpt.
(Name of person performing evaluation) (Individual or Agency requesting reports)Property Owner Joseph Godfrey Property Identification 1941 E. of Rt. 3
N. Side Rt. 255Address 5919 Burwell Rd. Nokerville, Va. 22113Physiographic Province Piedmont Landscape Position uplandCheck Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)Site I

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
3a.	0-42	grayish	Weathered Rock
b.	42		Hard Rock
c.			
d.			
4a.	0-12		Fill dirt
b.	12-42	Brown	Plastic Clay
c.	42-56	Olive Brown	Weathered Rock
d.	56		Hard Rock
5a.	0-6		Fill dirt
b.	6-20	Olive Brown	Plastic Clay
c.	20-42	Brown	Sandy Clay loam, Clay Flows
d.	42		Hard Rock
4a.			
b.			
c.			
d.			

CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Size of Area	Slope	* Seasonal Water Table - Indicate Perked or Apparent	* Rates of Absorption		* Rock	Colluvial or Alluvial	Other - Describe
			Estimated	Performed			
25' x 100'	2-7%	4-12" 5-20"			3-42" 4-56" 5-42"		

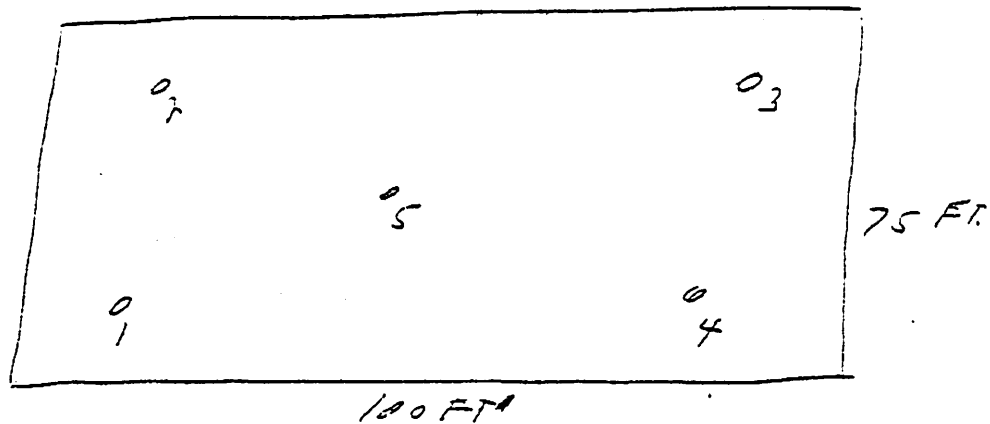
DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

It is shown on R.U. Thomas copy of Record Plot
Proposal shown for Site #I and located as shown

0120

- Site I



Majority of Soil is Plastic Clay

Weathered Rock is of limited Depth And
Shows signs of Seasonal Water Table

SOIL EVALUATION WORKSHEET

Page 1 of 2

City/County Calpeper

Date 8-22-77

Report of H.V. Bodkin, Reg. San. For Calpeper Health Dept.
(Name of person performing evaluation) (Individual or Agency requesting reports)

Property Owner Joseph Godfrey Property Identification N. Side Rd. # 658, miles E. Rd. # 3

Address 2929 Burwell Rd., Nokesville, Va. 22123

Physiographic Province Piedmont Landscape Position Upland

Check Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)

Site I

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1a.	0-8		fill dirt
b.	8-30	Brown	Clay
c.	30-42	Greyish	weathered rock
d.	42		hard rock
2a.	0-18	Brown	Silty Clay
b.	18-42	Greyish	Weathered rock
c.	42		hard rock
d.			
3a.	0-42	greyish	Weathered rock
b.	42		hard rock
c.			
d.			
4a.	0-12		fill dirt
b.	12-42	Brown	plastic Clay. Grey flows.
c.	42-56	Light Brown	weathered rock
d.	56		hard rock

CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Size of Area	Slope	* Seasonal Water Table - Indicate Perked or Apparent	* Rates of Absorption		* Rock	Colluvial or Alluvial	Other - Describe
			Estimated	Performed			
✓		#4 - 18" #5 - 20"			#1 - 42" #2 - 42" #3 - 42" #4 - 56" #5 - 56"		

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL.

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

City/County CulpeperDate 4-26-77 ⁰¹²²Report of H. V. Backing, Reg. San. For _____
(Name of person performing evaluation)

(Individual or Agency requesting reports)

Property Owner Joseph GaffneyProperty Identification N. Side F658, 119 miles E. Rd #3

Address _____

Physiographic Province PiedmontLandscape Position UplandCheck Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)

Site I

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
5a.	0-6		fill dirt
b.	6-20	Brown	plastic clay
c.	20-42	Brown	sandy clay loam, gray clay flows
d.	42		hard rock
6a.			
b.			
c.			
d.			
7a.			
b.			
c.			
d.			
8a.			
b.			
c.			
d.			

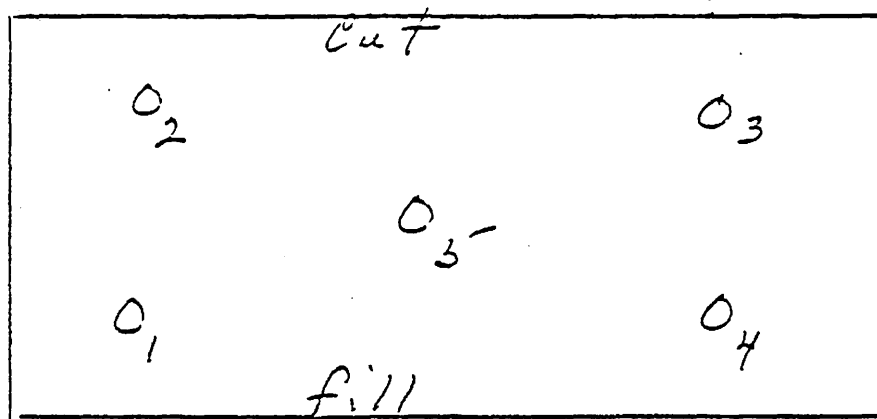
CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Size of Area	Slope	* Seasonal Water Table - Indicate Perked or Apparent	* Rates of Absorption		* Rock	Colluvial or Alluvial	Other - Describe
			Estimated	Performed			
See Page 1							

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

Site I (see attached plat plans)



Problems - variable depths to weathered materials, Plastic Clays & Seasonable water tables, Limited areas of Satisfactory Soil.

City/County Culpeper CountyDate 4/15/77 **0124**Report of W W Burke Soil Super For Culpeper Co Health Dept
(Name of person performing evaluation) (Individual or Agency requesting reports)Property Owner Joseph Godfrey Property Identification N. Side RT. 658
1941 S Rt 3Address 4949 Barwell Rd. Nokesville Va. 22123Physiographic Province Piedmont Landscape Position UplandCheck Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)Site II

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1a.	0-15	Yellowish Brown	Silty Clay
b.	15-18	Brownish Gray	Clay
c.	18-48	Brown	Plastic Clay
d.	48-56		Weathered Rock Hard Rock at 56"
2a.	0-6	Brown	Silty Clay Loam
b.	6-48	Brown	Silty Clay Loam
c.	48-108		Weathered Rock Water at 108"
d.			
3a.	0-6	Grayish Brown	Silty Clay Loam
b.	6-24	Brown	Clay
c.	24-65	Grayish	Weathered Rock
d.	65		Hard Rock
4a.	0-3	Grayish Brown	Silty Clay Loam
b.	3-48	Brown	Clay Gray Clay Flour
c.	48-60	Grayish	Weathered Rock
d.			

CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Size of Area	Slope	* Seasonal Water Table - Indicate Perked or Apparent	* Rates of Absorption		* Rock	Colluvial or Alluvial	Other - Describe
			Estimated	Performed			
R.B. Thomas Plot Site I 10 x 70'	2-7%	#1 - 15" #3 - 18" #4 - 15"			#1 - 56" #3 - 65"		

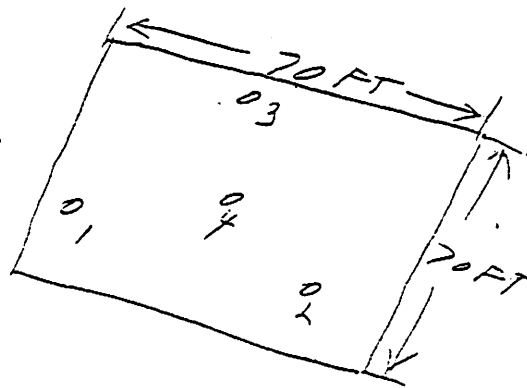
DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

Site # As Prepared On R.B. Thomas Copy of Record Plot

0125

Site II



Majority of Soil is Plastic Clay
Weathered Rock is Deeper Than Site I But Water Was
Found In #2 Test Hole And All Signs Point To High
Seasonal Water Tables (Mottling In All Test Holes But one) In
Addition To Lack Of Soil Which Will Percolate Water

#County Calpeper

Date 4-26-77

Report of H. V. Backin, Reg. San. For Calpeper Health Dept. 0126
 (Name of person performing evaluation) (Individual or Agency requesting reports)

Property Owner Joseph G. Gafrey Property Identification N. Side Rd. # 658, 1.9 mile E. Rd. # 3
 Address 2929 Burwell Rd., Nokesville, Va. 22123

Physiographic Province Piedmont Landscape Position Upland

Check Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)

Site II

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1a.	0-15"	Yellow Brown	Silty Clay
b.	15"-18"	Brown	Clay, grey clay flows
c.	18-48"	"	plastic clay
d.	48-56"	Greyish	Weathered rock. 56" hard rock
2a.	0-6"	Brown	Silty Clay Loam
b.	6-48"	"	" " "
c.	48-108"	Greyish	Weathered rock
d.			Water at 108"
3a.	0-6"	grey Brown	Silty Clay Loam
b.	6-42"	Brown	Clay, grey flows
c.	42-65"	Greyish	Weathered rock
d.	65"		hard rock
4a.	0-3"	Grey Brown	Silty Clay Loam
b.	3-48"	Brown	Clay, grey clay flows
c.	48-60"	greyish	Weathered rock
d.			

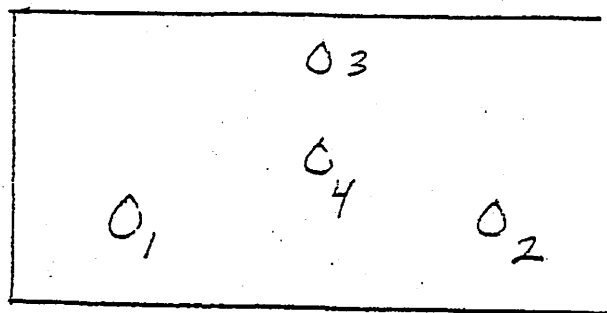
CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Size of Area	Slope	Seasonal Water Table - Indicate Perked or Apparent	* Rates of Absorption		* Rock	Colluvial or Alluvial	Other - Describe
			Estimated	Performed			
✓		#1 - 15" #3 - 18" #4 - 15"			#1 - 56" #3 - 65"		

YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

Site II (see attached plat plan)



0127

Same problems as Site I,

0128

COMMONWEALTH of VIRGINIA

Department of Health
Richmond, Va. 23219

April 27, 1977

RECEIVED

APR 28 1977

CULPEPER COUNTY
HEALTH DEPT.

Soil Investigation No. 1532
Requested By: Dr. LeGarde
Observed: April 26, 1977
Culpeper County, Virginia

Location: Two designated drainfield sites on portion of lot 5 on property of Joseph Godfrey.

The lots were in the Triassic lowland and over diabase rock. The sites were on gently sloping topography with the first site being cut and filled.

Site 1:

Hole 1: 0 - 8 inches - fill
8 - 30 inches - dark brown and olive brown clay
30 - 42 inches - weathered diabase
42 + inches - hard rock

Hole 2: 0 - 18 inches - dark brown silty clay
18 - 42 inches - weathered diabase
42 + inches - hard diabase

Hole 3: 0 - 42 inches: weathered diabase
42 + inches: hard rock

Hole 4: 0 - 12 inches: fill
12 - 42 inches: strong brown to yellowish brown plastic clay and clay flows
42 - 36 inches: olive brown weathered diabase
36 + inches: hard rock

Hole 5: 0 - 6 inches: fill
6 - 20 inches: olive brown plastic clay
20 - 42 inches: strong brown sandy clay loam with clay flows
42 + inches: hard rock

Site 2:

Hole 1: 0 - 15 inches: yellowish red silty clay
 15 - 18 inches: strong brown and gray clay
 18 - 48 inches: strong brown plastic clay
 36 inches +: hard rock

Hole 2: 0 - 6 inches: brown silty clay loam
 6 - 48 inches: strong brown silty clay loam
 48 - 108 inches: weathered diabase. Free water at 108 inches
 at time of investigation.

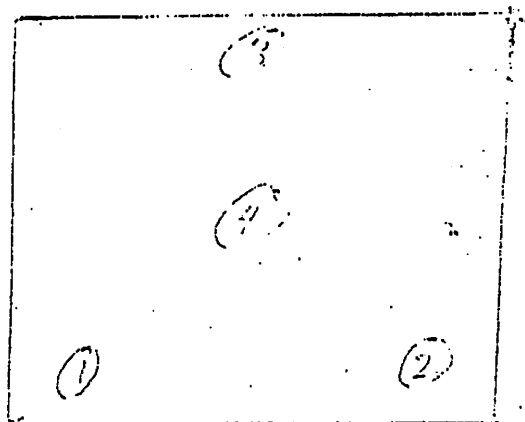
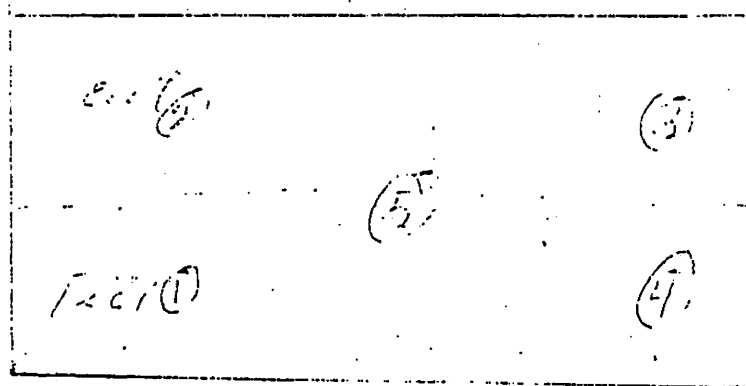
Hole 3: 0 - 6 inches: grayish brown silty clay loam
 6 - 42 inches: strong brown clay and clay flows
 42 - 65 inches: weathered diabase.
 65 + inches: hard rock

Hole 4: 0 - 3 inches: grayish brown silty clay loam
 3 - 48 inches: strong brown clay and clay flows
 48 - 60 inches: weathered parent material

Problems with the site include: variability in depth to weathered parent material, clay flows in part of parent material, plastic clay subsoils with expected slow or nil rates of absorption, a seasonal water table in horizon with gray above plastic clay, and limited area of deeply weathered diabase not restricted by hard rock.

W. J. Meyer
 W. J. Meyer
 Soil Scientist

0130



Rough sketch

CULPEPER COUNTY HEALTH DEPARTMENT
CULPEPER, VIRGINIA 22701

COOPERATION WITH THE
STATE DEPARTMENT OF HEALTH

May 4, 1977 0134

T. C. Lea, Attorney at Law
112 W. Cameron Street,
Culpeper, Va. 22701

Through: R. S. LeGarde, M.D.
Health Director

Dear Mr. Lea:

This letter is to confirm our telephone conversation of May 4, 1977 regarding the Godfrey property off Route 658 east of Culpeper.

We are advised that you plan to make an administrative appeal of the rejection of lot 3 of the Godfrey property. With this in mind, a preliminary administrative hearing has been scheduled to be held in the Culpeper County Health Department at 3:00 p.m. May 10, 1977. If you do not desire this hearing or if there is some other change in plan, please advise us at your earliest convenience.

Yours truly,

W. W. Burke

W.W. Burke
Sanitarian Supervisor

WWB/dlm
cc: Joseph Godfrey

CULPEPER COUNTY HEALTH DEPARTMENT
CULPEPER, VIRGINIA 22701

0132

COOPERATION WITH THE
STATE DEPARTMENT OF HEALTH

May 10, 1977

Mr. Joseph Godfrey
8929 Burwell Rd.
Noakesville, VA 22123

Dear Mr. Godfrey:

This letter is in reference to the administrative appeal held at the Culpeper County Health Department on May 10, 1977. The results of the hearing is to confirm the rejections by the Culpeper County Health Department of the three proposed sites on the Godfrey property. The rejections are identified by date of application. These dates are December 10, 1976, March 9, 1977, and April 26, 1977.

These sites were examined by the Culpeper County Health Department Sanitarian, the Sanitation Supervisor, the Regional Sanitation Supervisor, and the State Health Department Soil Scientist. We would also like to point out that on site #1 on the R.B. Thomas proposal that the Thomas recommendation advised installation of drainfields at seven feet. The Health Department borings on this site indicated hard rock at forty-two inches, with one boring showing hard rock at fifty-six inches.

Please strike out the recently added note on the December 10, 1976 application which states, "This area is shown as site #2 on Hawkins Plat". This note was incorrectly added recently to aid in identifying the applications.

Yours truly,

R. S. LeGarde M.D.
R. S. LeGarde, M.D.
Director

RSL/jlc

cc: Mr. T.C. Lea, Attorney at Law
Mr. H. Bodkin, Regional Sanitarian
Mr. Robert J. Miller

T. C. LEA, JR.
JOHN J. DAVIES, III
B. WAUGH CRIGLER
CHARLES D. BARRELL

STEPHEN P. WILL

LEA, DAVIES, CRIGLER & BARRELL
ATTORNEYS AT LAW
122 WEST CAMERON STREET
P. O. BOX 712
CULPEPER, VIRGINIA 22701

RECEIVED
DEPARTMENT OF HEALTH
Office of Commissioner
MAY 16 1977
RECEIVED BY: <i>B. Waugh</i>
FOR: <i>Regulatory Services</i>

0133

AREA CODE 703
825-6000

May 12, 1977

State Health Commissioner
State Department of Health
Madison Building
Richmond, Virginia 23230

RE: Joseph Godfrey
Rejection of proposed
sights for sewage treatment
Date of final rejection: May 10, 1977



Dear Mr. Commissioner:

The purpose of this letter is to advise that, as legal counsel for Mr. Joseph Godfrey, a request is hereby being made for a formal hearing before such persons as you may designate to be held concerning Mr. Godfrey's waste disposal permit for property situated in Culpeper County, Virginia. On May 10, 1977, by letter of R. S. LeGarde, M.D., director of the Culpeper County Health Department, Mr. Godfrey was advised that pursuant to an administrative appeal held on May 10, 1977, the rejections of his proposed permit were confirmed. To this ruling we note our exceptions and would appreciate being advised as to the time and place that the appropriate hearing will commence.

Thank you for your consideration in this regard.

Sincerely,

B. Waugh Crigler
B. Waugh Crigler

BWC/td

May 19, 1977

B. Waugh Crigler
Lea, Davies, Crigler & Barrell
Attorneys at Law
122 West Cameron Street
P. O. Box 712
Culpeper, Virginia 22701

Re: Joseph Godfrey
Rejection of proposed sights (3)
for sewage treatment
Date of final rejection: May 10, 1977

Dear Mr. Crigler:

This letter will confirm the arrangements that have been made to hear your appeal on the above referenced rejections. The appeal will be heard at 9:00 a.m. on Wednesday, June 29, 1977, in the Fifth Floor Conference Room of the James Madison Building at 109 Governor Street, Richmond, Virginia.

You may provide such witnesses and supporting documents as you desire. It is my understanding that you are acting as legal counsel for Mr. Joseph Godfrey.

Sincerely,

James B. Kenley, M.D.

JBK/RLW/jal

cc: S. A. Graham Jr., M.D.
Dr. Leonard R. Vance
Mr. O. H. Adams
Malcolm Tenney, Jr., M.D.
R. S. LeGarde, M.D.
Mr. E. T. Goode
Mr. H. V. Bodkin
Mr. T. T. Williams, Jr.



T. A. HOUSTON & ASSOCIATES LTD.

ENVIRONMENTAL GEOLOGISTS

0135

125 SOUTH EAST STREET

CULPEPER, VIRGINIA 22701

(703) 825-6262

May 31, 1977

Mr. G. V. Miller
Route 1, Box 1173
Bealeton, Virginia 22712

Re: Drainfield Study - 2 Proposed sites
41.29-acre Tract - Route 658
Catalpa District, Culpeper County, Va

Dear Mr. Miller:

In accordance with your request we have investigated two proposed drainfield sites on the above subject property. On the attached plat these sites are numbered Site 1 and 2. General soil data on soils observed is summarized on the attached lot evaluation sheets.

In general our investigation was to evaluate site conditions to determine the feasibility of a conventional septic drainfield meeting local county health standards.

The underlying rock type is basic intrusive diabase. Soil profiles developed over this material have been classed by the Department of Agriculture as Iredell clay loam. The profiles generally consist of 3' to 4' of a very plastic clay which grades into a decomposed diabase or saprolite; a very granular sandy material resembling rotten rock.

Consideration was given to a conventional drainfield system with tile depths 2 to 3 feet below the ground surface. This, we felt, would not meet county criteria, nor would it function properly during wet winter months. Consideration must be given to a special design system.

Our study consisted of re-evaluating internal drainage characteristics of the subsoil by means of deep borings and percolation tests. From percolation data in the soil of Site One, rates at depths of 54" to 56" ranged from 15 to 37 minutes per inch; well within the minimum required rate of 60 mpi.

In addition seismic studies were made to determine presence and depth of rock. From this data no solid reflections were noted within 10' of original ground surface. For Site Two there were numerous reflections caused by Talus boulders; however, based on

See Sheet 2

C136

Drainfield Study (cont'd)
41.29-ac. Tract - Rte 658

May 31, 1977

borings it is felt that should a boulder be encountered they can be moved by heavy equipment.

For Site One, the house location as you have suggested will necessitate a sewage lift pump to utilize the +10,000 sq. ft. suggested drainfield area. At any rate a sewage lift station can be placed in the system or the house can be relocated above the drainfield to allow for a gravity system.

Surface condition of Site One is rough and pitted. It should be graded to provide maximum surface drainage for the site.

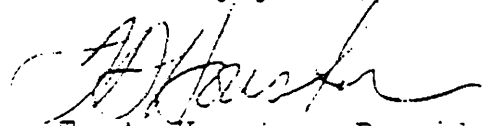
For Site Two, the suggested house site will require a sewage lift pump or relocation above the site to provide a gravity system. In addition removal of large Talus boulders will leave the site in a poor condition, thus grading will be necessary to provide positive surface drainage.

Should the proposed systems meet special design considerations with the health department, it is recommended that an inspector be placed on the site at the time of construction.

For your information attached is a sketch showing typical trench section that takes into consideration special design with deep trench systems. This section will be applicable to both installations.

I trust this information is satisfactory. Please advise if you have any questions or desire additional information.

Sincerely yours,



T. A. Houston, President

TAH:rh

LIMITATIONS: The conclusions and recommendations expressed in this report are based on auger borings and field investigation. It is assumed that soil conditions do not vary appreciably from those disclosed by the borings. Soil limits shown on the attached map are general as minor soil variations can easily occur.

Environmental Geologists
Soil Evaluation SheetProject Location G. V. Miller

C137

Lot No. Site #1Degree of Slope 7-10%Soil Types, U.S.D.A. Classification
Iredell Silt Loam

Soil Profile:

<u>Depth</u>	<u>Description</u>
0 " to 8 "	Gray brown friable silt loam
8 " to 42 "	Olive gray brown firm clay
42 " to 60 "	Yellow brown sandy clay loam, friable
60 " to + "	Yellow brown tan sandy loam decomposed rock

<u>Depth</u>	<u>Description</u>
" to "	
" to "	
" to "	
" to "	

Depth to Hard Rock Greater than 96"Any Restricting Layers 0-42" slow internal drainageRecommended Tile Depth ± 72"

Percolation Rates

Estimated: _____ Actual: 30 mpiGeneral Comments: Pump required from suggested house to suggested drainfield site (12' lift).

A. A. Houston & Associates ;

Environmental Geologists
Soil Evaluation Sheet

0138

Project Location G. V. MillerLot No. Site #2Degree of Slope 110%Soil Types, U.S.D.A. Classification
Iredell Silt Loam

Soil Profile:

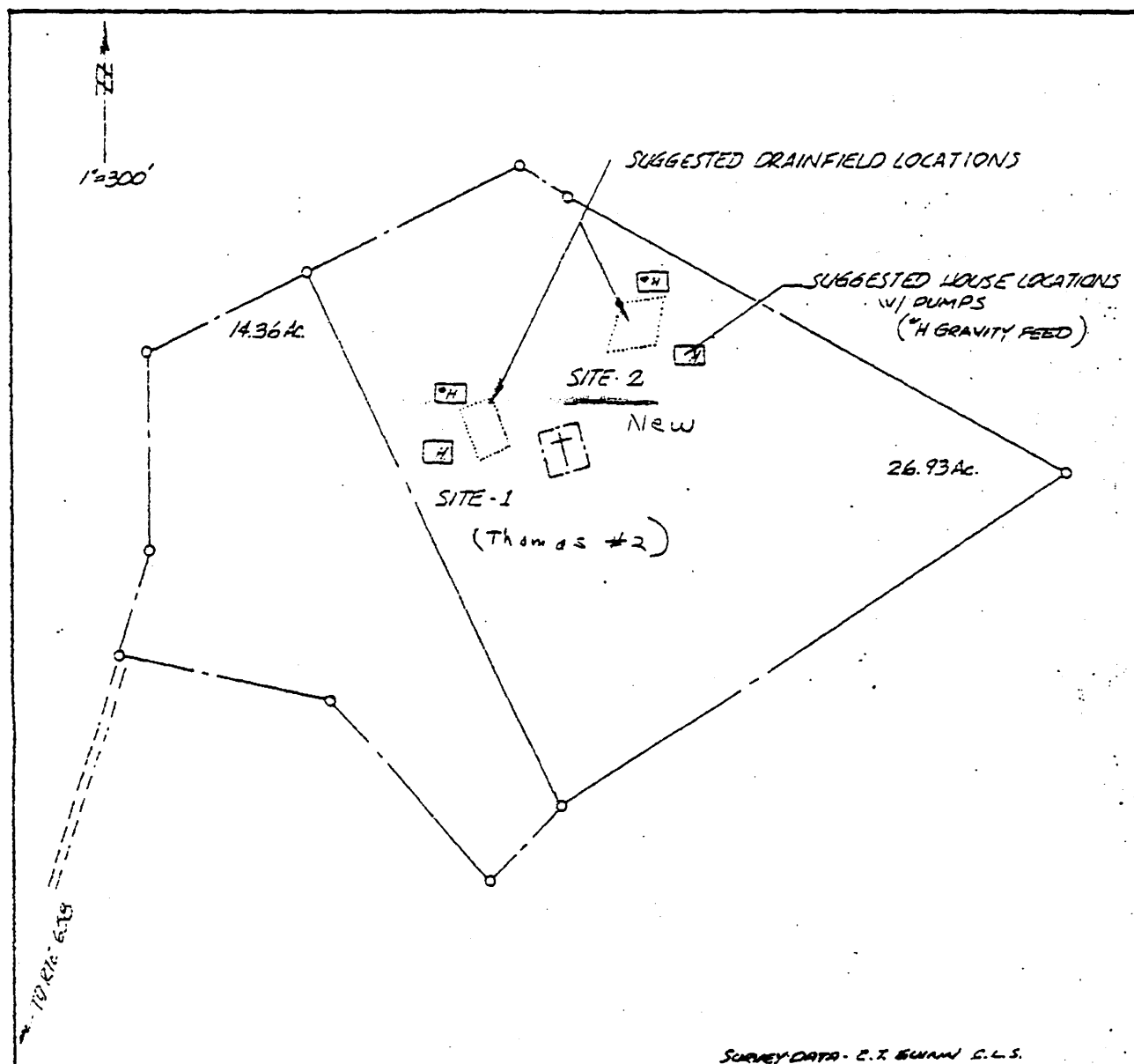
<u>Depth</u>	<u>Description</u>
<u>0</u> " to <u>24</u> "	<u>Olive brown firm clay</u>
<u>24</u> " to <u>32</u> "	<u>Yellow brown firm sandy clay</u>
<u>32</u> " to <u>60</u> "	<u>Yellow brown firm sandy clay loam</u>
<u>60</u> " to <u>84+</u> "	<u>Yellow brown friable sandy loam</u>

<u>Depth</u>	<u>Description</u>
<u>0</u> " to <u>8</u> "	<u>Yellow gray brown silt loam friable</u>
<u>8</u> " to <u>36</u> "	<u>Olive gray brown clay firm</u>
<u>36</u> " to <u>60</u> "	<u>Yellow brown-yellow sandy clay loam friable</u>
<u>60</u> " to <u>78</u> "	<u>Yellow brown-yellow sandy clay loam friable</u>
<u>78</u> " to <u>+</u>	<u>Yellow brown-yellow rock flour- semi-friable.</u>
<u>Depth to Hard Rock Greater than 96"</u>	

Any Restricting Layers 0-60 slow internal drainageRecommended Tile Depth 84"

Percolation Rates

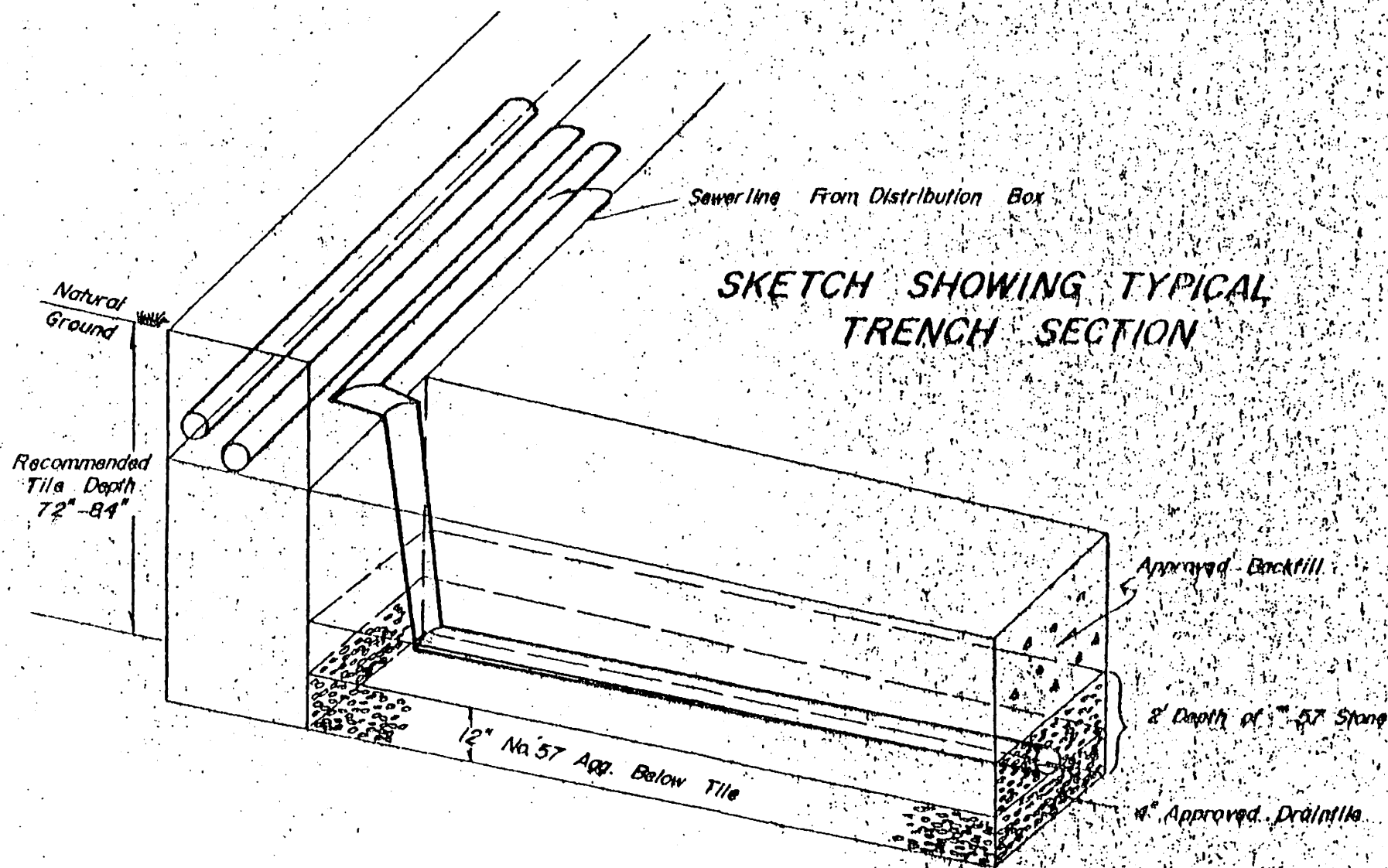
Estimated: *30 mpi Actual: General Comments: Pump required from suggested house to suggested drainfield location (+8' lift).*Based on percolation tests Site #1

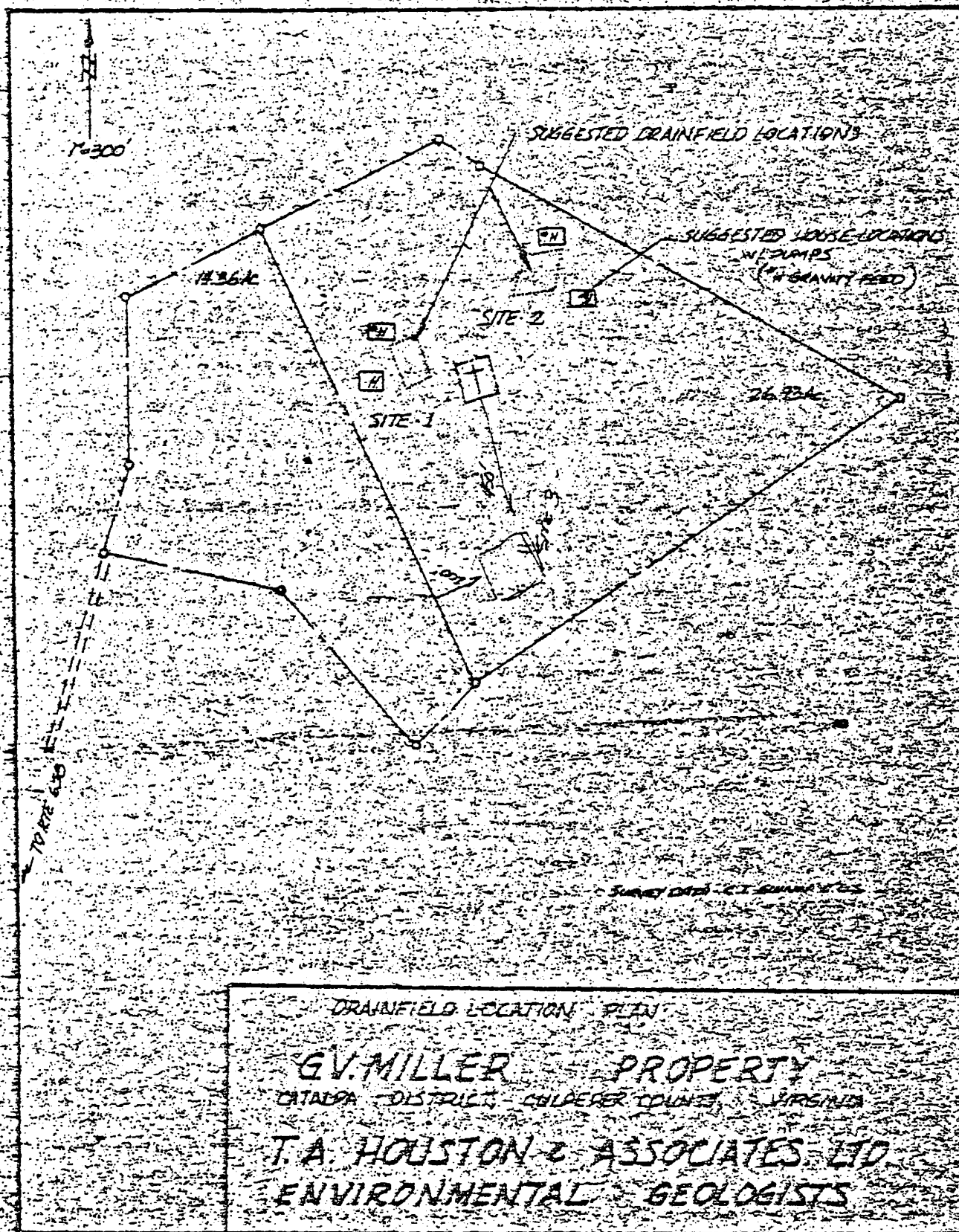


DRAINFIELD LOCATION PLAN

GV. MILLER PROPERTY
 CATALPA DISTRICT, CULDEPER COUNTY, VIRGINIA

T.A. HOUSTON & ASSOCIATES, LTD.
 ENVIRONMENTAL GEOLOGISTS





June 17, 1977

0142

Peter W. Steketee
Attorney at Law
P. O. Box 521
Manassas, Virginia 22110

THROUGH: R. S. LeGarde MD
Health Director

Dear Mr. Steketee,

I am sorry I missed you on Monday, the thirteenth. I waited about thirty minutes and, having other appointments, I was compelled to leave.

The information submitted by Mr. T. A. Houston, and left at my office, raises several questions. It is addressed to Mr. G. V. Miller and is in regard to a forty-one acre tract of land. Some of the area in Mr. Houston's evaluation appears to be the same as that which we examined and which is the subject of an appeal by Mr. Godfrey to the State Department of Health.

It appears that Mr. Miller, who is buying the property, desires to apply for an examination of the land using the same standards of evaluation which Mr. Godfrey, the owner of the land, had rejected and has made the subject of an appeal.

It is our opinion that since an appeal of the standards of evaluating this type of soil is pending, no further examination of the area should be considered until the appeal is resolved.

If we can be of further assistance, please contact us.

Sincerely,

S B

Stanley Borders
Registered Sanitarian

SB:kbs

6/29/77 Public Hearing —
 Dr SAG Graham — Chairman
 Joseph Godfree — appeal —
 3 mi N —

Culpeper, Co. —

Mr Crigler — Ott — applications filed
 with LHD for survey disposal — 3 sites
 proposed and ^{under} examined & reacted by LHD.
 Trappistal plat — page 15. —

Exhibit 1. 14 acres — first lot.
 1. 27 — lot 3
 3.

Page 15 — #3

* ^w = 40 acres —

Exhibit 2 — ~~points~~ plat marked with
 asterisks. —

Exhibit Crigler — Houston — geologist made
 3 a report with May 31, 1977 &
 soil evaluation sheet, plat etc.

* Request for approval

Notes 1 & 2 —

Applications for surface bank permits (3)
 on Exhibit 1 (p 10) — page 21 4/2/77 —
 shown on Exhibit 14.

② LHS-121-3/9/77 — located on
 site 1 (Hawkins) — Exhibit 5, plat 54.

3 — LHD 4/26/77 site #2 of
 Hawkins — on Exhibit 2 &

Mr Burke — proposal was for ~~land~~
sites on Lot 3. + 2 adjoining lots.

Crigher —

Thomas 2
Houston 1 } Request for
approval.

Serial was made for sites 1 by ~~Thomas~~
4/26/77

No evidence today for serial 10/12/77

LHD-2

LHD-3

Mr Houston, IA — Culpeper —
business since 72 — geologist
investigated, 40 acres.

Will it work — ? — not suitable for
usual tile system — deeper system
will work — there is perched water
above prop tile field.

H10#3 4/26/77 LHS — Houston — Thomas 2
Houston — proposed a system which
would be below water table, has been
installed before in Va. —
for Le Grange

Mr Burke — 3 sites — nothing in soil
about Libary. 1. Poor boreal
2. Nothing
3. Water table

They differ at location in ground
under surface in ground — failed section 4.5
New sites — have failed — 4 failed holes in.

Dipthor - of clay -

Giles in Lebanon - formerly factory -
4 out of 12 have Yucca - ~~leaves~~

Polk - SHD - ~~inundated~~

site 2 - Hopkins - HD 3

Examined 9 holes

Rejection - not sufficient

Meyer - Soil Scientist -

Summit

Wells - cut through clay with some
pumped water to drain to layer
above hard rock.

Future proposal will be considered. -
per Dr. Graham.

Adacres -

Additional boring if ~~it is~~ allowed.
Trailer on lot 1 warrant ~~work~~
of

PUBLIC HEARING
of
STATE HEALTH DEPARTMENT

IN RE: JOSEPH GODFREY



James Madison Building
Fifth Floor Conference Room
109 Governor Street
Richmond, Virginia

June 29, 1977

APPEARANCES:

Dr. Samuel A. Graham, Jr., Assistant Commissioner, Local Health Services, State Health Department;
J. R. Sutherland, Assistant Director, Bureau of Sanitary Engineering, State Health Department;
Robert L. Wood, M.D., Assistant Commissioner, Local Health Services, State Health Department;
E. D. Simmons, Assistant Director, Bureau of Environmental Health, State Health Department;
B. Waugh Crigler, Esquire, Lea, Davies, Crigler & Barrell, Attorneys at Law, 122 West Cameron Street, Culpeper, Virginia, representing Joseph Godfrey;
Peter Wm. Steketee, Esquire, Smith & Davenport, Attorneys at Law, 9253 Lee Avenue, Manassas, Virginia, representing G. V. Miller;
George Miller;
Mary Wolfrey;
R. S. LeGarde, M.D., Director, Culpeper County Health Department;
W. W. Burke, District Supervisor, Culpeper County Health Department;
H. V. Bodkin, Regional Sanitarian, Staunton, Virginia;
W. J. Meyer, State Soil Scientist;
Stanley Borders, Sanitarian, Culpeper County Health Department;
T. A. Houston, Jr., Geologist, Culpeper, Virginia.

I N D E X

1		
2		
3	The testimony of Mr. T. A. Houston, Jr. -----	Page 27
4	Exhibit 1 -----	Page 12
5	A photocopy of the plat of the subject property.	
6	Exhibit 2A -----	Pages 12
7	A photocopy of the plat of that area of	and 21
	Exhibit 1 that is marked with an asterisk.	
8	Exhibit 2B -----	Page 21
9	A photocopy of Application Form LHS-121,	
	dated 4/26/77.	
10	Exhibit 3 -----	Page 14
11	A photocopy of a two-page letter dated 5/31/77,	
12	from Mr. Houston to Mr. Miller; photocopies of	
	two Soil Evaluation Sheets, a plat, and a sketch	
	showing typical trench sections.	
13	Exhibit 4 -----	Page 18
14	A photocopy of Application Form LHS-121,	
	dated 12/10/76.	
15	Exhibit 5A -----	Page 21
16	A photocopy of Application Form LHS-121,	
	dated 3/9/77.	
17	Exhibit 5B -----	Page 21
	A photocopy of the "graveyard" lot.	
18	Exhibit 6A -----	Page 39
19	A photograph of part of the site.	
20	Exhibit 6B -----	Page 39
	A photograph of another part of the site.	
21	Exhibit 7 -----	Page 45
22	A photocopy of a letter dated 12/10/76, from	
	William R. Adams to Mr. Miller.	
23	Exhibit 8 -----	Page 64
24	A photograph of the cut site.	
25	Reported and dictated by N.B.L.	
	Typed by N.N.L.	

1
2 DR. GRAHAM: Lady and gentlemen, I am Dr.
3 Samuel A. Graham, Jr., Assistant Commissioner for
4 Local Health Services for the State Health Depart-
5 ment. To my right is Mr. Jack Sutherland who is
6 Assistant Director of the Bureau of Sanitary Engi-
7 neering for the State Health Department. We are
8 sitting on behalf of our State Health Commissioner
9 to hear an appeal of Mr. Joseph Godfrey, owner of
10 a parcel of land that has several sites in question.
11 The land itself is located three-tenths of a mile
12 north off of Route 658 and 1.9 miles to the east of
13 Route 3 in Culpeper County.

14 The two sides will be heard today, and
15 following this a transcript made of the hearing,
16 and the written transcript will be reviewed and the
17 Commissioner will give consideration to the informa-
18 tion that is presented here and from this informa-
19 tion we will render a decision. It is estimated
20 that this might be two to three weeks in time before
21 we receive the transcript, and shortly after that
22 the determination will be made.

23 I am not completely clear on what it is
24 that is being appealed today, and Mr. Crigler, if
25 you could give us the information on what it is you

1 are appealing.

2 MR. CRIGLER: If it please, if there are
3 any corrections to be made please speak up because
4 I didn't get into the case until just prior to the
5 letter that was sent subsequent to the administra-
6 tive appeal held in Culpeper County. It is my
7 understanding that several applications were filed
8 in the Local Health Department office requesting
9 approval of various sites, alternate sites, too, to
10 locate a dwelling waste disposal - sewage disposal
11 system. The sites were reviewed by the personnel
12 at the Health Department, and also there were site
13 proposals tendered on behalf of Mr. Godfrey by R. B.
14 Thomas, Jr., Ltd., who is an engineer and land
15 surveyor out of Manassas, Virginia. There were two
16 sites considered in his proposal.

17 DR. GRAHAM: Well, Mr. Crigler, are those
18 the same two sites that the Health Department sub-
19 sequently denied?

20 MR. CRIGLER: It's my understanding that
21 the Health Department reviewed those two sites. If
22 I am wrong, please correct me.

23 Bill, isn't that correct, those two sites
24 were reviewed?

25 MR. BURKE: That's part of the total of

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6.

1 three sites.

2 DR. GRAHAM: All right. Then, Mr. Burke,
3 you are saying that there are a total of three sites?

4 MR. BURKE: Three sites were proposed by
5 Mr. Godfrey, and three sites were examined by the
6 Health Department, yes, sir.

7 DR. GRAHAM: Were all three sites denied?

8 MR. BURKE: All three sites were denied.
9 The original site was on the lot in question. The
10 other two sites where Mr. Thomas was involved were
11 on the neighboring lot in an attempt to find a
12 satisfactory flow off the land.

13 DR. GRAHAM: When you say a neighboring
14 lot, do you mean a lot that is a part or outside of
15 this trapezoidal piece of land?

16 MR. BURKE: It's outside the original lot.

17 MR. CRIGLER: But it's owned by Mr. God-
18 frey. All of this land is owned by Mr. Godfrey and
19 would be conveyed, is my understanding.

20 Isn't that right, Pete?

21 MR. STEKETEE: Yes.

22 DR. GRAHAM: Well, I am still not clear.
23 I understood that all three of the sites that are
24 in question were located on a trapezoidal piece of
25 land consisting of about 15 acres, more or less,

1 it's just my estimate on that.

2 MR. CRIGLER: That's correct.

3 DR. GRAHAM: Then when you are talking about
4 a site you are talking about an area within this
5 piece of land, is that correct?

6 MR. CRIGLER: Yes. The surveys that were
7 tendered as exhibits in the file by Mr. Thomas show
8 the trapezoidal piece of land that you are talking
9 about, and it's my understanding that all of the
10 sites in question were within the perimeters of that
11 particular piece of property.

12 DR. GRAHAM: All right, sir. Identify what
13 piece of paper we are talking about or some piece of
14 paper for the record.

15 MR. CRIGLER: If you would turn to your
16 record--

17 MR. BORDERS: I believe I can straighten out
18 some of the confusion, if I may.

19 DR. GRAHAM: Very well, sir.

20 MR. BORDERS: On this plat that we have
21 here one lot is shown as a 14-acre tract, 14-acre
22 lot. That was the original lot that we examined,
23 Lot No. 3.

24 DR. WOOD: Is that Page 10?

25 MR. BORDERS: That would be Page 15, that's

1 in the one I brought today. It would be No. 15.
2 It would be Lot No. 3 shown as the 14-acre tract.
3 Could I clarify that just a little bit?

4 DR. GRAHAM: Please proceed.

5 MR. BORDERS: This was the original pro-
6 posal, and the original proposal had to do with this
7 lot. Since, in my opinion we couldn't find anything
8 suitable in what they applied for, I told them that
9 maybe--I thought I was dealing with the owner, but
10 I was dealing with Mr. Miller's son who was there
11 that time--so I told him that maybe he could find
12 a better and more suitable area on the entire acre-
13 age. Then that's when Mr. Godfrey got Mr. Hawkins
14 to come back with proposals for these two other
15 sites, which are not in the 14 acres.

16 MR. CRIGLER: But, are on the resurvey
17 which is indicated on the trapezoidal, on the resur-
18 vey by Mr. Hawkins.

19 DR. WOOD: Where is that identified on this?

20 MR. CRIGLER: It's a composite, and you
21 will have to turn back to the survey map of Mr.
22 Hawkins. My pages are not numbered.

23 DR. GRAHAM: Page 10.

24 DR. WOOD: So, that's Page 10 then? That
25 one is numbered.

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9.

1 MR. CRIGLER: Right. That shows the trape-
2 zoidal piece according to the survey that was done
3 by R. B. Thomas, Jr., Ltd. Both of the sites that
4 he proposes are on this trapezoidal piece.

5 DR. WOOD: But, the three sites that have
6 been reviewed by the Health Department, are they on
7 this trapezoid?

8 MR. CRIGLER: Yes.

9 MR. BORDERS: Yes.

10 MR. BURKE: One would be on Lot 3.

11 MR. BORDERS: After the original site was
12 looked at, this boundary, apparently for all practical
13 purposes so far as examining the area, was done away
14 with.

15 DR. GRAHAM: You are referring to the bound-
16 ary--

17 MR. BORDERS: Between Lot 3 and that grave-
18 yard lot.

19 DR. GRAHAM: On the left side of the plat
20 there?

21 MR. BORDERS: Yes, sir.

22 DR. GRAHAM: Then, in effect, Lot 3 was com-
23 bined with--

24 MR. BORDERS: With the graveyard lot not
25 numbered. All three sites are on those two lots.

CRANE - SNEAD & ASSOCIATES, INC.
COURT REPORTERS
1108 EAST MAIN STREET
RICHMOND, VIRGINIA
PHONE 646-2801

0155

10.

1 DR. GRAHAM: I understand that. Do you
2 understand that?

3 MR. SUTHERLAND: No, sir.

4 DR. WOOD: What size is this lot, this one
5 on Page 10?

6 MR. STEKETEE: The first lot is 14 acres
7 and the second lot is 27 acres, more or less.

8 MR. BORDERS: So, it would make a combined
9 total of 40-plus acres.

10 MR. STEKETEE: Yes.

11 MR. CRIGLER: 40-plus, yes.

12 MR. STEKETEE: That's correct. If I might
13 just say, I am Peter Stekatee and I represent the
14 contract purchaser, Mr. Miller, my understanding is
15 that there are 14 acres on one lot and 27 acres,
16 again more or less, on the second lot.

17 DR. GRAHAM: The second lot being the one
18 with the asterisk.

19 MR. STEKETEE: I don't have your exhibits,
20 but I presume you are right. Mr. Miller is the
21 contract purchaser of both lots. The first applica-
22 tion was made for the first lot containing only 14
23 acres. The subsequent two applications were made on
24 the larger lot containing 27 acres.

25 MR. CRIGLER: That's right.

1 MR. STEKETEE: I hope that I understand it
2 correctly.

3 DR. GRAHAM: Are we all agreed then that
4 these are the circumstances?

5 MR. CRIGLER: Yes, sir, and the plat by
6 Mr. Thomas is a combination.

7 DR. GRAHAM: All right. That being the
8 case then let us enter Page 15, consisting of a
9 photocopy of a plat, the portions of it in question,
10 an area that is marked No. 3 and an area that is
11 marked with an asterisk, a total of the two areas
12 of approximately 40 acres.

13 MR. CRIGLER: Right.

14 DR. GRAHAM: It's on these two areas that
15 there was an examination of locations within them,
16 which were turned down, a total of three denials
17 all together.

18 MR. CRIGLER: Yes.

19 DR. GRAHAM: Then, Mr. Crigler, if you would
20 proceed, please, sir.

21 MR. CRIGLER: If I may also add, that sub-
22 sequent to the letter--

23 DR. GRAHAM: I am sorry, let's mark this
24 Exhibit 1.

25 NOTE: At this point the exhibit is marked

1 Exhibit 1 as indicated.

2 MR. CRIGLER: At this point would you also
3 mind entering that second plat that is made by Mr.
4 Thomas as Exhibit 2 because that would clarify the
5 situation somewhat, I believe.

6 DR. GRAHAM: Very well. This plat is that
7 larger area on Exhibit 1 that is marked with an
8 asterisk.

9 DR. WOOD: It's combined, Dr. Graham, isn't
10 it, 3 and the asterisk which comes out to be 40 acres,
11 which is Page 10?

12 DR. GRAHAM: No.

13 MR. CRIGLER: Yes. This together with the
14 other land adjoining is 40 acres together.

15 DR. GRAHAM: This consists only of the plat
16 that is indicated as an asterisk on the first
17 exhibit. The shape is the same and the dimension
18 is the same. The plat marked as an asterisk on
19 Exhibit 1 has now been added as Exhibit 2.

20 NOTE: At this point the exhibit is marked
21 Exhibit 2 as indicated.

22 MR. CRIGLER: If I may, the meeting was held
23 in the County Health Department office on an admin-
24 istrative appeal on May the 10th, '77 and subsequent

that Mr. Houston, T. A. Houston, who is an

1 environmental geologist, also went out on the prop-
2 erty and performed certain geological studies. Now,
3 subsequent to his studies and recommendations, which
4 I would tender to you at this time, a copy of which
5 I would tender to you at this time, were tendered to
6 the Local Health Department in an effort to indicate
7 that the geologist's report as to one of the sites
8 on Mr. Thomas' report coincided even though the
9 geologist would require additional space for the
10 drain lines, the drain field would be bigger under
11 the proposal of the geologist.

12 Now, there were some questions about what
13 procedure should be followed since the letter noting
14 the appeal to the decision of May the 10th had
15 already been filed and the Commissioner had set the
16 hearing for June the 29th. An application was filed
17 with the Local Health Department, and as I would
18 understand it a denial was given on the basis that
19 this matter was pending before the State Health
20 Commissioner. We would hope that this information
21 could come in at this time to give a broad general
22 spectrum of the various studies that have been made,
23 not only Mr. Thomas', but also a local resident
24 geologist who is familiar with the area and who has

done a number of studies on applications in this

1 particular county.

2 DR. GRAHAM: This is Mr. Houston, President
3 of Houston Associates?

4 MR. CRIGLER: Yes, sir. The exhibit that
5 I am tendering is his report together with the
6 plats that were exhibits to his report.

7 DR. GRAHAM: Let us mark the letter from
8 T. A. Houston dated May 31st, 1977, and also an
9 appended soil evaluation sheet, and do you wish also
10 that the plat and sketch showing typical trench
11 sections be included?

12 MR. CRIGLER: If it please.

13 DR. GRAHAM: All will be marked Exhibit 3.

14 NOTE: At this point the exhibit is marked
15 Exhibit 3 as indicated

16 DR. WOOD: I am not clear what area you are
17 appealing the denial on. Is it the 14 acres, or is
18 it the 40 acres, or where?

19 MR. CRIGLER: It's a little confusing. He
20 is buying both tracts and he intends to build a
21 house, and the problem is locating the house. Original-
22 ly, I believe, he wanted to locate it on one of
23 the pieces of property--

24 DR. WOOD: On the 14 acres?

25 MR. CRIGLER: Yes, but then because of the

1 denial he tried to locate it in a different position,
2 and now we are just trying to find a place where he
3 can locate a house and get approval on his residen-
4 tial septic system on this 40 acres somewhere, and
5 these are the preferable sites chosen. Based on the
6 geologist's report we would ask for approval of Mr.
7 Houston's No. 1 and Thomas' No. 2.

8 MR. STEKETEE: The only thing we are asking
9 is for approval of as many as we can get, but we
10 will take what we get.

11 DR. GRAHAM: Can Mr. Sutherland and I just
12 review this material for a minute.

13 MR. CRIGLER: This is confusing, and I
14 understand.

15 DR. GRAHAM: Mr. Crigler, let me break in
16 here and ask, are the sites that Mr. Houston is
17 referring to in this correspondence the same sites
18 as have previously been denied?

19 MR. CRIGLER: Mr. Houston's No. 1 is Mr.
20 Thomas' No. 2. That has been the subject matter of
21 an investigation, and that has been denied by the
22 Health Department. Now, the difference is that Mr.
23 Houston recommends a greater area than Mr. Thomas
24 recommended. That's the difference.

1 persists in my mind some confusion about the sites
2 and locations, and I have here before me photocopies
3 of applications for septic tank permit, three in
4 number, two of which are to Robert John Miller
5 designating him as the owner, and the third designated
6 Joseph Godfrey as the owner. Would someone indicate
7 on Exhibit 1 the approximate location of these pro-
8 posed septic sites.

9 MR. BORDERS: That indicates No. 1 is just
10 inside--

11 DR. GRAHAM: I don't have them designated
12 as No. 1.

13 MR. CRIGLER: Is that the earliest one,
14 Mr. Borders, that is the 12-10-76?

15 MR. BORDERS: Yes. That's just inside that
16 14-acre tract.

17 MR. CRIGLER: That's 12-10-76.

18 MR. WOOD: That's Page 21?

19 MR. BURKE: That's right.

20 DR. GRAHAM: Now, would you please locate
21 or indicate on this plat, Exhibit 2, the approximate
22 location of that.

23 MR. BORDERS: It isn't located on either
24 one of those-- Excuse me, just inside. When I

1 so it was just inside the line, it was No. 1.

2 DR. GRAHAM: Would you please come up here
3 and indicate on this plat, Exhibit 2, the approximate
4 location of these.

5 DR. WOOD: It's over here, isn't it?

6 MR. BORDERS: Yes. Mr. Hawkins submitted
7 this. It would be just inside this 14-acre tract.

8 MR. CRIGLER: I think that's where there
9 is going to be some confusion.

10 DR. GRAHAM: About that?

11 MR. BORDERS: Yes, sir.

12 DR. WOOD: Then on this one it would be
13 right over here someplace?

14 MR. BORDERS: It would be just in here,
15 right in here. 2 and 3 would be just inside that
16 line.

17 DR. WOOD: But No. 1 is in here someplace?

18 MR. BORDERS: Yes, sir.

19 DR. GRAHAM: Well, I am going to mark that
20 with an X in ink. I will designate that one as No. 1,
21 Local Health Department.

22 MR. BORDERS: Yes, sir.

23 DR. WOOD: Which then is described on LHS-
24 121 dated 12-10-76.

25 DR. GRAHAM: We will mark that LHS-121

1 dated 12-10-76 as Exhibit 4.

2 NOTE: At this point the exhibit is marked
3 Exhibit 4 as indicated.

4 MR. CRIGLER: Dr. Graham, if I may, just
5 for purposes of the record, it's our belief that
6 even though he marked this on Exhibit 2 as being on
7 the other side, on the west side of this boundary
8 line, I think if you actually got out there with
9 the surveyor you would find that it is within the
10 27 acres, that it was actually within the physical
11 survey boundary line of the 27 acres. I think that's
12 the position that Mr. Miller takes.

13 MR. BORDERS: You mean the first site?

14 MR. CRIGLER: Yes.

15 MR. BORDERS: It was represented to me as
16 being within the 14 acres.

17 MR. CRIGLER: Within the 14 acres or within
18 the 27 acres?

19 MR. BORDERS: Within the 14.

20 DR. GRAHAM: That's what you are saying,
21 Mr. Crigler?

22 MR. CRIGLER: No, sir. I think Mr. Miller
23 takes the position that that is within the 27 acres.

24 MR. BORDERS: I have it marked on this
25 permit "Lot 14 acres plus recorded" on the bottom

1 of this rejected sheet.

2 MR. CRIGLER: I don't know what difference
3 that makes since all of the land is being conveyed
4 to Mr. Miller. I can't see what difference that
5 makes.

6 MR. STEKETEE: As far as Mr. Miller is con-
7 cerned we are talking about a 40-acre-plus parcel.
8 The dividing line down the two, unfortunately, is
9 there and we are faced with that because we are
10 getting two parcels. When he gets it it will be
11 one parcel, and we would prefer to look at it as
12 40-plus acres.

13 DR. GRAHAM: I now have before me LHS-121
14 dated March the 9th, 1977 indicating the owner as
15 Robert John Miller in which the application for
16 septic tank was denied. Would someone please indi-
17 cate the approximate location of--

18 MR. BORDERS: That is site No. 1 on the
19 proposal that Mr. Hawkins submitted on that plat
20 of his.

21 MR. WOOD: Where is it on Page 10?

22 DR. GRAHAM: It isn't on Page 10, it's on
23 another exhibit in here.

24 MR. CRIGLER: I think you will find it on

1 MR. BORDERS: I don't think we have gotten
2 to Mr. Hawkins' plat yet. Mr. Hawkins has his sites
3 marked 1 and 2, and on this LRS-121 dated March 9th,
4 1977 it is the same site as Mr. Hawkins' No. 1.

5 DR. GRAHAM: I want to know where it is on
6 the map, and would you please indicate to me or
7 furnish to me documents that would indicate this.

8 MR. CRIGLER: Page 7. You can see the line
9 that is drawn from here to here, that's where the
10 site is located. That's the same as the application.

11 DR. GRAHAM: Page 7, a photocopy of the
12 material previously submitted to us, which is a plat
13 which indicates a proposed site for a septic tank
14 furnished by Hawkins-- Let's see, surveyed by
15 Thomas--

16 MR. CRIGLER: Thomas works for Hawkins.

17 DR. WOOD: So, that's Hawkins' No. 1?

18 MR. CRIGLER: Yes.

19 DR. GRAHAM: Health Department No. 2?

20 DR. WOOD: 3-9-77?

21 MR. BORDERS: It would be the Health Depart-
22 ment No. 2, which is 3-9-77.

23 DR. GRAHAM: These two referred-to papers
24 I am going to mark as Exhibit 5. The application
25 will be 5A and the plat 5B.

1 NOTE: At this point the exhibit is marked
2 as indicated. Exhibit 5A is the application, and
3 Exhibit 5B is the plat.

4 DR. GRAHAM: Now, I have before me a third
5 LHS-121 dated April 26, 1977.

6 MR. BORDERS: That is shown, Dr. Graham, as
7 site No. 2 on Mr. Hawkins' plat, and it is the third
8 site that the Health Department examined.

9 MR. CRIGLER: It's on Page 10, that is
10 Exhibit No. 2.

11 DR. GRAHAM: Then I am going to include
12 with Exhibit 2 this LHS-121 dated April the 26th,
13 1977, and mark that as 2B. The other exhibit marked
14 2 will now be marked 2A.

15 NOTE: At this point the exhibit is marked
16 2B, and the previously marked Exhibit 2 is marked 2A
17 as indicated.

18 DR. WOOD: Which would be Local Health
19 Department No. 3?

20 MR. BORDERS: Yes, sir. That is dated
21 4-26-77, yes, sir.

22 DR. GRAHAM: Mr. Crigler, could you proceed
23 then, please.

24 MR. CRIGLER: I believe Mr. Burke has a

1 DR. GRAHAM: Mr. Burke?

2 MR. BURKE: I notice we have broadened this
3 into an application or proposal which was not the
4 original application or proposal to the Health
5 Department. The original proposal was for a house
6 site shown on Lot 3, which is on Page 15. The
7 original proposal was for a house site on Lot 3,
8 that's why that site was on Lot 3. At the time
9 there was no question about this being a firm line
10 between Lot 3 and this graveyard lot because we
11 wouldn't have investigated it if it hadn't been a
12 firm property line. The recommendation then came
13 from our office to the applicant for Lot 3 that if
14 there was a possibility that he could acquire this
15 land across the line and use this same house site
16 he might be able to find a site there. So, that was
17 done.

18 So, at this time and at the time of the
19 application there was no discussion about this total
20 lot of 40 acres, it was only dealing with Lot 3.
21 The adjoining sites on this graveyard lot were not
22 part of the same lot at that time.

23 DR. GRAHAM: All right, sir, I understand.

24 DR. WOOD: Now, what is your client appeal-

1 MR. CRIGLER: Here's the problem. Maybe if
2 I explain the problem you can understand why we are
3 here. First of all, Mr. Miller got a contract from
4 Mr. Godfrey on the fourteen and a fraction acres,
5 and he wanted to put a house on it, but before he
6 could buy the land he wanted to make sure that it
7 met with Health Department standards, and that was
8 the condition of the contract. So, he made an
9 application for approval of a location for a septic
10 system on this particular piece of property, or near
11 it, I assume.

12 DR. WOOD: He originally made it on the
13 14 acres?

14 MR. CRIGLER: I assume that's it, but the
15 line at that time was-- I don't know where the line
16 was, I wasn't out there. Mr. Miller now feels that
17 the first site may have been over on the 27-acre
18 site, but that's irrelevant at this point because
19 once it was determined that that particular site,
20 house location site, that there could not be an
21 adequate septic system facility there I believe there
22 were negotiations, and Mr. Burke is correct, to try
23 to get the adjoining piece of property; which he did.
24 He got a contract on that.

DR. WOOD: Then you are not appealing the

1 denial of the permit on the first site?

2 MR. CRIGLER: Let me continue and then I
3 think that you can understand why we are here. At
4 that time was the time that Mr. Thomas became
5 involved because he was asked to do a preliminary
6 study, or an actual study, so that these proposals
7 could be presented to the Health Department. There
8 were two sites involved, which two sites have been
9 introduced into evidence. A study by the Health
10 Department was again made of these two sites and
11 again rejected at different times.

12 Now, as far as the total picture, we are
13 bringing before you a case today that we feel is a
14 denial of all three sites in a total picture. All
15 of these were reviewed by the committee for the
16 administrative appeal held in Culpeper as the total
17 picture.

18 DR. WOOD: Which site are you alleging is
19 a satisfactory site where you can put a system in?

20 MR. CRIGLER: Today we are alleging that
21 Thomas' No. 2 and Houston's No. 1 is a satisfactory
22 site for approval given the fact that Houston recom-
23 mends an expansion of the drain field area from what
24 Thomas recommended.

1 MR. CRIGLER: Yes, but I would assume that
2 it was based on Thomas' area requirement, but I don't
3 know.

4 DR. GRAHAM: Was this the denial that was
5 made on December 10th, 1976?

6 MR. STEKETEE: No. Site 2 is the April 26,
7 1976 application that corresponds with Site 1, the
8 first plat prepared by Mr. Houston and reviewed by
9 him.

10 DR. GRAHAM: Very well, sir.

11 MR. STEKETEE: Frankly, I think we believe
12 that the strongest evidence is with respect to this
13 particular site. We don't wish to disregard the
14 first site done by Mr. Thomas, which would have been
15 the second application made, dated March 9th, 1977
16 and effectively the second denial made.

17 DR. GRAHAM: Very well. First, you want to
18 discuss and ask us to consider the denial that was
19 made on April 26th, 1977 based on additional infor-
20 mation?

21 MR. CRIGLER: Yes, sir, I think we can save
22 time. Mr. Stekatee and I agree that we have no
23 evidence to present today on the denial of the first
24 site. So far as we are concerned we are not going
25 to present any evidence with respect to that.

1 DR. GRAHAM: The first site meaning the one
2 dated 12-10-76?

3 MR. STEKETEE: That's a question of whether
4 it lies within the 14 acres or the 27 acres.

5 MR. CRIGLER: Really, that is irrelevant
6 because he's going to own the whole property, and
7 we don't have any additional evidence on that.

8 DR. GRAHAM: Okay.

9 MR. CRIGLER: As to Local Health Department
10 No. 2 and 3, we feel that Hawkins' consideration
11 should be given consideration by the State Health
12 Commissioner, and also as to the proposal by Mr.
13 Houston which overlaps with the proposal by Mr.
14 Hawkins and Mr. Thomas. We think that that should
15 be given consideration.

16 DR. GRAHAM: All right, sir.

17 MR. CRIGLER: That's basically where we are.
18 Really, the only live witness we have in this regard
19 is Mr. Houston who performed tests on that.

20 DR. GRAHAM: All right, sir, would you then
21 proceed, please.
22
23
24
25

1
2 T. A. HOUSTON, JR., a witness called by the
3 moving party, testifies and states:
4

5 BY MR. CRIGLER:

6 Q Would you state your full name and address.

7 A T. A. Houston, Jr., President of T. A.
8 Houston & Associates, 125 South East Street, Culpeper, Vir-
9 ginia.

10 Q Are you a geologist?

11 A Yes.

12 Q How long have you been engaged in this type
13 of business?

14 A Since '72.

15 Q Are you primarily engaged in Culpeper County
16 and the surrounding counties?

17 A Correct.

18 Q With that information in mind, go ahead.

19 A I was asked by--

20 DR. GRAHAM: Sir, could you give us your
21 educational qualifications.

22 A I am a graduate of the University of Ten-
23 nessee - Chattanooga. Undergraduate degree in Geology.
24 Employed by the Commonwealth of Virginia from '64 until '72
25 as a District Geologist for the Culpeper District, at which

0173

T. A. Houston, Jr.

28.

1 time I was involved with the Material Section, in charge of
2 the Geology Section and Soil Section. My primary duties and
3 responsibilities were conducting soil surveys, conducting
4 bridge investigation reports, pavement designs, and basically
5 engineering and soil mechanics.

6 Attended the University of Virginia. Under-
7 graduate courses in Soil Mechanics. And, numerous seminars
8 conducted by the Commonwealth of Virginia.

9 DR. GRAHAM: Thank you.

10 Q Would you please proceed, sir.

11 A I was asked to investigate this site at the
12 request of Mr. Steketee and Mr. Crigler.

13 Q When you say site, what do you mean?

14 A The entire 40 acres. It was presented to
15 me as 40 acres. Considering the geology and the topography
16 of the area, to try to obtain a drain field in that area is
17 quite difficult. We made a preliminary investigation of the
18 sites presented by Mr. Hawkins and found that their Site 2
19 was fairly acceptable in deep subsoils providing it was
20 expanded to meet County requirements of 10,000 area feet of
21 area for a drain field.

22 We ran several seismic studies through the
23 proposed drain field area which showed no solid rock reflec-
24 tions. We dug several deep test pits with a backhoe, and
25 several hand auger borings, and we also ran percolation tests.

T. A. Houston, Jr.

29.

1 Based on our considerations a special design consideration
2 would be warranted because of the depth to a good drain
3 material which is in the vicinity of 6 to 7 feet.

4 Q Did you take photographs of the site, and
5 are these the photographs?

6 A Yes.

7 MR. CRIGLER: I would tender these for
8 examination.

9 Q Okay.

10 A They are just pictures without identifica-
11 tion.

12 DR. WOOD: The information that you
13 developed, is it in this material?

14 MR. HOUSTON: I don't think that's been
15 included in your booklet.

16 DR. WOOD: You say you bored holes, auger
17 holes?

18 MR. HOUSTON: Yes.

19 DR. WOOD: Have you presented that informa-
20 tion to the Local Department?

21 MR. HOUSTON: They have a copy of it, but
22 it's not in that. That wasn't even taken into con-
23 sideration when this was prepared.

24 DR. WOOD: Do you have it with you?

25 MR. HOUSTON: Yes, sir. We have submitted

T. A. Houston, Jr.

30.

1 it as Item 3.

2 DR. GRAHAM: This is marked Exhibit 3, Mr.
3 Houston?

4 MR. HOUSTON: Right.

5 DR. GRAHAM: Is your letter of May 31st to
6 Mr. Miller?

7 MR. HOUSTON: Yes, sir.

8 DR. GRAHAM: This then refers to the same
9 location as--

10 MR. HOUSTON: Site 2 of Hawkins' or Thomas'.
11 That encompasses only a small portion of the area in
12 which we looked at.

13 MR. CRIGLER: Your Site No. 1 and his Site
14 No. 2 are the same as far as location?

15 MR. HOUSTON: Yes.

16 DR. WOOD: You mean in the whole administra-
17 tive hearing, or in a hearing that you held locally,
18 you didn't present evidence that indicated that these
19 sites would function?

20 MR. CRIGLER: He had not been hired at that
21 time. It was subsequent to that that a recommenda-
22 tion was to get somebody local, and that recommenda-
23 tion, as I understand it, may have been generated
24 out of the Local Health Department.

25 DR. WOOD: But, you didn't come with the

T. A. Houston, Jr.

1 materials that you developed to present to the Local
2 Department?

3 MR. CRIGLER: That's been submitted to the
4 Department.

5 MR. HOUSTON: That happened before I had
6 done any investigation.

7 DR. WOOD: I still don't understand. The
8 materials that you have developed, have they been
9 presented to the Local Department to be considered
10 in the application?

11 MR. BURKE: Could I clear it up just a
12 little bit?

13 MR. CRIGLER: Yes.

14 MR. BURKE: I had an appointment with Mr.
15 Stekatee, who represents Mr. Miller, and I have a
16 letter in here, No. 1, and I think that will clear
17 your question up about this additional material of
18 Mr. Houston.

19 DR. WOOD: Then, as far as the Local
20 Department is concerned, it has not had an oppor-
21 tunity to evaluate the information that has been
22 submitted?

23 MR. BORDERS: By Mr. Houston, yes.

24 MR. CRIGLER: We submitted it to them,
25 whether they evaluated it or not I don't know.

1 MR. STEKETEE: Since I am directly involved
2 in this may I say something else?

3 DR. GRAHAM: Yes.

4 MR. STEKETEE: This proposal from Mr.
5 Houston was obtained subsequent to the denial of Mr.
6 Thomas' reports. One of the reasons we obtained
7 that was because Mr. Thomas was not a local land
8 examiner, whatever, call him what you wish, and we
9 wanted someone local to buttress Mr. Thomas' evalua-
10 tions. Therefore, we turned to Mr. Houston who we
11 understood had been accepted on a day-to-day basis
12 by the Culpeper office as a certified examiner of
13 soil types, geologist, and expert in this area. In
14 an effort to buttress Mr. Thomas we obtained Mr.
15 Houston's report and presented it to Culpeper some
16 time ago, I forget the exact date, in an effort to
17 avoid this process, to determine if whether or not
18 his report coupled with Mr. Thomas' might not be
19 acceptable under these circumstances since not only
20 did they have the report of Mr. Thomas, but further-
21 more they had the report of Mr. Houston which said
22 the land was acceptable and would accept this
23 special design consideration, which I understand has
24 been accepted by Health Departments in the state on
25 prior occasions.

1 DR. GRAHAM: Well, the point about the whole
2 thing is that the Health Department has not yet had
3 a chance to give consideration to the additional
4 information that has been furnished by Mr. Houston,
5 is that correct, Dr. LeGarde?

6 DR. LeGARDE: It's our understanding that
7 Mr. Houston has examined and submitted a site report
8 on sites that we have examined, also, in the past.

9 MR. BORDERS: The letter pretty well explains
10 it, just one paragraph, if I may. "It is our opinion
11 that since an appeal of the standards of evaluating
12 this type of soil is pending, no further examination
13 of the area should be considered until the appeal is
14 resolved." We are talking about substantially the
15 same set of conditions, the same type of soil, and
16 so forth.

17 DR. WOOD: Did you compare the holes that
18 were dug in this instance to the holes that have been
19 dug by the Health Department?

20 MR. BORDERS: Yes.

21 MR. MEYER: Dr. Wood, I think it's a ques-
22 tion of area. In the one instance they had very
23 limited area, and he's expanded the area because
24 every time I got on the site somebody was always
25 telling that I was off the site. So, this is

1 apparently one of the questions, but it's the same
2 kind of soil.

3 DR. LeGARDE: Dr. Graham, may I summarize
4 the Local Health Department's position, if I may?

5 DR. GRAHAM: All right.

6 DR. LeGARDE: The soil maps of that area
7 are not favorable. Our experience in this general
8 area is not favorable. The applications for permits
9 were studied in this matter. A sanitarian went on
10 the ground and did not react favorably. The District
11 Supervising Sanitarian examined the area and rendered
12 an unfavorable report. The Regional Sanitarian
13 examined the ground and rendered an unfavorable
14 report. The State Soil Scientist examined the ground
15 and found it to be unfavorable. Based on this infor-
16 mation I denied the permits.

17 In summary, that does it. This was before
18 Mr. Houston was involved and before the appeal was
19 set.

20 DR. GRAHAM: We understand that, yes. Now,
21 Mr. Houston, what is the basis upon which you feel
22 that the system that you have proposed on one of
23 these two sites that you have designated here, what
24 is the basis that you feel that it would work?

25 MR. HOUSTON: The only thing I can fall back

1 on is that-- First of all, let me emphasize, true,
2 I am in agreement with the findings of the Health
3 Department for conventional septic system, the soils
4 are really not suited for a conventional tile system.
5 I ask consideration of a deep tile system to be put
6 in the parent material that has weathered to a sand
7 or a sandy loam material. By placing the tile lines
8 deeper in the ground, allowing better grading,
9 better surface runoff, I think the system would work.

10 DR. GRAHAM: Did you ever discover indica-
11 tions of a seasonal water table?

12 MR. HOUSTON: There is a perched water table
13 in the soil, yes, sir.

14 DR. WOOD: At what depth?

15 MR. HOUSTON: Well, anywhere from 18 inches
16 to about 42 inches it's a heavy clay, very plastic,
17 which will not allow high drainage of water through
18 it.

19 DR. GRAHAM: Your proposal, however, is for
20 a tile field trench that goes beneath this restric-
21 tive area, is that what you are saying?

22 MR. HOUSTON: Yes, sir. Percolation tests
23 in the parent material, which is a diabase and it
24 weathers out to material that is known locally as
25 "blackjack sand," the percolation tests therefore

1 exceed the minimum requirements that the Health
2 Department requires for a percolation test.

3 DR. GRAHAM: What is the status of the
4 water table in this diabase material?

5 MR. HOUSTON: The water table in the diabase
6 would be very deep. If we are talking about ground-
7 water tables there were no reflections of groundwater
8 in the seismic survey. Groundwater, if contacted,
9 in running a seismic survey has a standard 5,000
10 feet per second--

11 DR. GRAHAM: No, sir, I wasn't asking about
12 groundwater in the diabase material. Rather, I was
13 asking about seasonal water tables. Are there any
14 seasonal water tables, in reference to your opinion?

15 MR. HOUSTON: In the deep material?

16 DR. GRAHAM: In the diabase material.

17 MR. HOUSTON: None were observed.

18 MR. CRIGLER: If I may, as to these photo-
19 graphs, you marked one site--

20 DR. WOOD: Could you identify the soil
21 descriptions that have been developed by the Health
22 Department in comparable sites to the area that you
23 are contending that a system can be placed? I notice
24 Site 2, quite a number of them, but which site are
25 you talking about?

1 MR. BORDERS: Site 3 was the last one that
2 we looked at. That would be Site 2 of Hawkins.

3 MR. CRIGLER: Local Health Department
4 Application No. 3. Hawkins' No. 2 and Houston's
5 No. 1 are the same place. Now, arewise it might be
6 different.

7 MR. BORDERS: You have got it straight.

8 DR. GRAHAM: Well, I haven't. So, would you
9 indicate to me by sites whose numbers relate to what
10 data.

11 MR. CRIGLER: 4-26-77 Local Health Depart-
12 ment Application--

13 DR. GRAHAM: Houston's No. 1?

14 MR. CRIGLER: Yes, and Hawkins' or Thomas'
15 No. 2.

16 DR. GRAHAM: That's Health Department No.
17 what?

18 MR. CRIGLER: 3.

19 DR. GRAHAM: Thank you.

20 MR. HOUSTON: In terms of descriptions,
21 there is very little difference between my lot-
22 evaluation sheet and those sheets presented by Mr.
23 Burke, with the exception of in some instances where
24 they were calling it hard rock, they are, for lack of
25 a better term, concentric boulders that are weathered

1 and with a little persistence they can be drilled
2 through with a hand auger. With a backhoe they
3 didn't present any problem.

4 DR. WOOD: The reason I was asking is
5 because I noticed on one or two of these that they
6 indicated water at 108 inches and--

7 MR. HOUSTON: I did notice that in thumb-
8 ing through this material before the meeting. The
9 location of that boring on this photograph would be
10 somewhere in this area here. About 25 or 30 feet
11 away there is a concave position, it looks like it
12 could have been maybe an old spring or somewhere
13 that water had gotten into it from a rain several
14 weeks ago and was working its way down through the
15 soil. They contacted the water at 108 inches.

16 Bill, was it coming from above?

17 MR. MEYER: No, it was in the parent
18 material.

19 MR. HOUSTON: But, you were close to that
20 sunken swale over on the right.

21 MR. MEYER: It was over on the right, where
22 these deep backhoe holes were. That's where Hawkins
23 proposed his best site.

24 MR. HOUSTON: I was trying to keep away from
25 that swale, more towards where the house excavation

1 was, and push it up the hill a little bit further.

2 MR. CRIGLER: If I may ask one question,
3 what is the slope of the land? Does that have any-
4 thing to do with your opinion as to whether or not
5 this was a workable-type situation?

6 MR. HOUSTON: Normally in dealing with
7 blackjack your slopes are flat or less than 2 percent,
8 and in this instance here we have got maybe 4 to 6
9 percent slope. We have got good surface runoff.

10 DR. GRAHAM: Okay.

11 MR. CRIGLER: I would like to introduce
12 these photographs.

13 DR. GRAHAM: All right. We will mark these
14 Exhibits 6A and 6B.

15 NOTE: At this point the photographs are
16 marked Exhibit 6A and Exhibit 6B.

17 MR. HOUSTON: If you will match the trees
18 on the left side of one photograph and on the right
19 side of the photograph of the other you will get
20 sort of a fish-eye perspective of them.

21 MR. SUTHERLAND: The question I was going
22 to ask you was did you actually propose a sewage
23 disposal system, or did you make the site evaluation
24 on the soils?

25 MR. HOUSTON: I made a recommendation as to

1 what should be installed and how it should be
2 installed.

3 MR. SUTHERLAND: And at what depth?

4 MR. HOUSTON: At what depth, and I also
5 emphasized that either myself or some qualified
6 inspector be on the site at the time of installation.

7 DR. GRAHAM: Then, you are saying that you
8 presented rather a design concept?

9 MR. HOUSTON: Yes, sir.

10 DR. WOOD: You said that there was a perched
11 water table?

12 MR. HOUSTON: There is evidence of a sea-
13 sonal water table.

14 DR. WOOD: And you are proposing to put the
15 system below that?

16 MR. HOUSTON: Beneath that, yes.

17 DR. GRAHAM: Can I turn to these two photo-
18 graphs for a minute because I did not get the
19 identification of them sufficient. These photo-
20 graphs refer to what?

21 MR. HOUSTON: My Site 1.

22 DR. GRAHAM: Houston Site 1.

23 MR. HOUSTON: I have written that on the
24 back of them.

25 DR. GRAHAM: All right, thank you.

1 Mr. Sutherland, did you want to ask some
2 more questions?

3 MR. SUTHERLAND: I think I have already
4 asked the question.

5 DR. GRAHAM: Mr. Criglar, did you have any
6 additional information that you would like to
7 present to us?

8 MR. CRIGLER: I don't have any additional
9 information. Possibly Mr. Steketee may have some
10 questions.

11 MR. STEKETEE: The only question I have is
12 that you say this is a special design consideration
13 that you are proposing. Is this operational else-
14 where in the state in similar circumstances to what
15 you found here?

16 MR. HOUSTON: Yes, sir.

17 MR. STEKETEE: Your experience with this is
18 that it has been successful in its operation?

19 MR. HOUSTON: To the best of my knowledge
20 it has been successful.

21 DR. WOOD: Where is there a similar system
22 in this type of soil?

23 MR. HOUSTON: Not in this type of soil, but
24 in a similar situation in coastal cappings where you
25 have a perched water table and there is underlying

1 parent material which is saprolite which weathers
2 into a sandy, silty loam. In instances in Stafford,
3 Spotsylvania and counties which do have a surface
4 phenomena or surface perched water table phenomena,
5 systems have been designed and installed below the
6 water table, and with adequate surface drainage they
7 have functioned properly.

8 MR. STEKETEE: This, therefore, is not a
9 novel approach that you are recommending?

10 MR. HOUSTON: No, sir.

11 MR. STEKETEE: But, is a workable proposition?

12 MR. HOUSTON: Yes, sir.

13 DR. GRAHAM: Anything else?

14 MR. CRIGLER: I don't have anything further.

15 DR. GRAHAM: Any comments on the information
16 that has been presented so far? Dr. LeGarde?

17 DR. LeGARDE: We would like to speak to
18 these things, and I would like it presented by the
19 people who have been on the ground and looked at it
20 because I didn't. I would like to also speak to our
21 experience with this type and other types of systems
22 in this general area that have been unfavorable.

23 DR. GRAHAM: All right, sir, if there are
24 no further questions regarding Mr. Crigler's pre-
25 sentation then, Dr. LeGarde, will you please proceed.

1 DR. LeGARDE: Mr. Burke, will you tell them
2 of your evaluation.

3 MR. BURKE: The three sites that we examined
4 we examined in the usual way, and where the applicant
5 wants additional information we will go further up
6 the line, and that was done in this case. The reason
7 in this county and the other counties that we have
8 there that these similar sites would be rejected,
9 one would be that there is a poor percolation rate,
10 a poor percolation rate in the soil, the subsoil;
11 and, we also maintain that the percolation rate in
12 the parent material is also low. If it is used for
13 any length of time it--

14 DR. GRAHAM: Excuse me, but will you just,
15 for my information, define what you mean by the parent
16 material. Is that the diabase?

17 MR. BURKE: That is the diabase, yes, sir.
18 That is our first reason, and we will go into why
19 we feel this way in just a second. We also had
20 mottling in all this soil. We had a layer of mot-
21 tling at approximately two feet, 18 inches to 2 feet,
22 with the possible exception where there were a
23 couple of these holes that were in this area we
24 didn't have the mottling there. All the soil sur-
25 rounding this had mottling.

1 DR. GRAHAM: How about the mottling, did
2 you discover mottling in the diabase material?

3 MR. BURKE: The mottling is above the diabase.

4 DR. GRAHAM: All right.

5 MR. BURKE: I will go into our experience as
6 to determine why that is. Now, those were the rea-
7 sons: poor percolation rate, poor subsurface drainage,
8 and a water table. Now, we had indications of the
9 water table in all the areas surrounding this. It's
10 not unusual to have one small area of unsatisfactory
11 soil that has this condition if you have only a hole
12 here and there, and in our experience that is borne
13 out. Tests done in these soils at this time of year,
14 in that area that has applied for as a disaster area
15 or drought area I would say that the water table is
16 down considerably so I would probably agree with what
17 they are saying, but if you look at that soil in the
18 wintertime and from about November until March our
19 borings have indicated a water table that comes to
20 within one to two feet of the surface, and that's in
21 the diabase.

22 DR. GRAHAM: I was going to ask you the
23 question, would you characterize that as a perched
24 water table?

25 MR. BURKE: It depends a little bit on what

1 you call perched. I would refer to 13A which is a
2 letter from the soil conservationist dealing with
3 exactly this. They identify this soil by the soil
4 map and give their evaluation. "The soils as
5 identified in the Soil Survey, Culpeper County,
6 Virginia on this land are Mecklenburg silt loam and
7 Iredell silt loam, eroded undulating phase. Both
8 of these soils have severe limitations for use as
9 septic tank absorption fields due to slow percola-
10 tion rates. The Iredell soil has an additional
11 limitation due to a perched seasonal water table.
12 (1 to 2 feet from November to March)."

13 DR. GRAHAM: I will mark that as Exhibit 7,
14 a letter dated December the 10th, 1976 from William R.
15 Adams, District Conservationist, to George Miller.
16 This is the letter from which you were reading.

17 NOTE: At this point the exhibit is marked
18 Exhibit 7, as indicated.

19 MR. BURKE: When we have the one to two feet
20 we are not referring from the surface down, but we are
21 referring to the water table beginning at one to two
22 feet and extending downward, and that's what their
23 information indicates. That is also what our infor-
24 mation indicates through borings in this type of soil.
25 We didn't find it in these sites because of the time

1 of the year, except for the mottling.

2 DR. GRAHAM: Mr. Burke, are you saying then
3 that the seasonal water table extends from approxi-
4 mately one to two feet from the surface down through
5 the clay layers and into the diabase material?

6 MR. BURKE: At certain times of the year,
7 yes, sir. Now, that's not going to be uniform,
8 every hole that you put down will not find the
9 water level at one to feet. In a couple of places
10 where they put the holes the odds are that in the
11 wintertime you might not find quite that depth. If
12 you go to another place where we had the great
13 mottling it will be at one to two feet. That's
14 what the Soil Conservation Office indicates, and
15 that's been our experience.

16 Now, I will go a little bit further on
17 that one point, if it would be acceptable, and that
18 would be the same recommendation from this same
19 firm on another lot, and follow-up material which
20 we found as a result of that proposal. Would that
21 be acceptable?

22 DR. GRAHAM: I am not sure.

23 MR. BURKE: We are talking about the same
24 proposal from the same firm on the same type of
25 soil in another location.

1 MR. HOUSTON: We are talking about a com-
2 pletely different thing, that is a completely dif-
3 ferent slope.

4 DR. GRAHAM: Would that be acceptable?

5 MR. HOUSTON: The slope is completely dif-
6 ferent.

7 MR. CRIGLER: I would have to object to
8 that.

9 MR. BURKE: We are discussing here whether
10 or not we have a water table in the soil, from our
11 point of view that's one of the issues.

12 MR. HOUSTON: But, at the time we made the
13 borings in the wintertime there was no water in the
14 diabase.

15 MR. BORDERS: There was water in one of
16 these.

17 DR. GRAHAM: Whether or not there was water
18 in one of these holes at any particular time is not
19 the question. The question is as to whether or not
20 there is an indication of a seasonal water table.
21 What Mr. Burke is suggesting is that based on another
22 site with the same type of soil he wants to indicate
23 what his experience was in that situation. We will
24 pause for a minute while Mr. Sutherland and I confer
25 on this.

1 NOTE: At this point a brief off-the-record
2 discussion is had, at the conclusion of which the
3 hearing continues as follows:
4

5 DR. GRAHAM: Mr. Crigler, your exception is
6 noted, but it seems that it is reasonable to present
7 information based on experience using the same type
8 of soil. So, we are going to admit this. I will
9 confer, also, with the Attorney General's Office and
10 he may advise us differently, and if that be the
11 case then we will strike this information now being
12 presented.

13 MR. CRIGLER: I understand. I just want to
14 make my position clear, and that is that the lay of
15 the land in this other area is a little bit different
16 than the subject area.

17 DR. GRAHAM: Mr. Houston also made that
18 remark before we began to confer on it, so we will
19 talk about that also in a minute.

20 MR. CRIGLER: Thank you.

21 MR. BURKE: This was an application in a
22 certain person's name, and I suppose that's public
23 record so it would be all right to mention that
24 name. It was the application in the name of William C.
25 Duncan, Jr., Route 4, Box 380A, Culpeper, Virginia.

1 The location was Route 3 to right on 658, right on
2 661, go 1/2 mile on right, north side of Route 661,
3 1/2 mile east of Route 658. The application was made
4 on 10-24-75. This additional soil information was
5 requested from Mr. Houston's firm. We have here to
6 Mr. Duncan, "In accordance with your request, a soil
7 feasibility study has been completed on the above
8 project. The main purpose of this study was to
9 review soils, geology, topography, and drainage of
10 the area to determine its suitability for residential
11 development. Particular emphasis was given to soil
12 suitability as to satisfy local health department
13 criteria for installation of septic tank drain fields."

14 DR. GRAHAM: Now, excuse me, Mr. Burke, the
15 point that I am interested in and that I understood
16 you were suggesting is whether or not a septic drain
17 field of one kind or another is going to work on a
18 soil that is similar, and this is the information
19 that we are interested in.

20 MR. BURKE: All right. We have here the
21 soil profiles and we have the list of soil profiles,
22 and I will pass this around. Then we have the fol-
23 lowing paragraph, "The profile was mottled through-
24 out the property with few variations which indicate
25 that the upper 36 inches of soil has severe limita-

1 tions due to the clay content and estimated very slow
2 percolation rates. The suggested drain field loca-
3 tion area, (see attached plat), has a desirable soil
4 layer extending from 36 inches to greater than 56
5 inches with a good estimated percolation rate. I
6 suggest tile lines be put in at 36 inches or a greater
7 depth, thus providing adequate seepage area."

8 DR. GRAHAM: Now, Mr. Burke, what was the
9 type of soil that was involved?

10 MR. BORDERS: It was the same.

11 MR. BURKE: We had "0-8 inches yellow gray
12 brown to gray brown silt clay loam to a clay loam.
13 8-36 inches, yellow brown to gray clay mottled with
14 yellow brown and gray. 36 inches plus, yellow brown
15 sandy silt loam, decomposed soft rock material
16 (saprolite)."

17 This was also denied and then we have here--

18 MR. CRIGLER: I would like to make the
19 record clear that it wasn't appealed, he didn't have
20 much money.

21 MR. BURKE: This was information I wanted
22 to bring out, I want to establish which soils we are
23 talking about. On 1-26-77 another rejection was
24 made, and here's the information that I wanted to
25 bring out. "In the area proposed by Mr. Houston and

1 shown here water was found at 24, 20 and 12 inches."

2 DR. GRAHAM: In a boring made to what depth?

3 MR. BURKE: "In the area proposed by Mr.
4 Houston and shown here water was found at 24, 20 and
5 12 inches."

6 DR. GRAHAM: Yes, but that didn't answer
7 my question.

8 MR. BURKE: I will go on here, let me com-
9 plete this first. "The new hole that was dug showed
10 evidence of water (brown, gray and black concretions)
11 at 24 inches. Holes examined earlier and about 150
12 feet to the rear of this site have had water 12
13 inches from the surface for several weeks."

14 DR. GRAHAM: I will repeat the same ques-
15 tion, but I don't think that you can answer it
16 because you haven't answered it so far.

17 MR. BURKE: I have the soil profile right
18 here.

19 DR. GRAHAM: All right.

20 MR. BURKE: "Soil Profile: 0-5 inches,
21 light gray friable silt loam. 8-28 inches, light
22 olive to grayish brown wet plastic clay. 28 inches
23 plus, sandy clay, soft rock mingled with gray and
24 black. This soil up to 36 inches."

25 DR. GRAHAM: The holes were 36 inches?

1 . MR. HOUSTON: 36 or 40 inches. I think,
2 Bill, that the opening comment that I made, and I
3 will back you up on this, but that top material there
4 is not suitable, it's going to hold water. I am
5 not denying that, but I state that if you provide
6 drainage for it, if you can move it or in some way
7 give it some special consideration, that diabase
8 will drain. That is an excellent source of road
9 base, we have built roads through it, we have drained
10 them. They are excellent, they are firm, and by the
11 same token if you don't allow for some surface run-
12 off for the water of course it is just like a tile
13 line is the path of least resistance and water will
14 take the path of least resistance into the soil
15 boring.

16 MR. BURKE: Our position and our experience
17 is that the perched water table is not from the
18 surface down to two feet, but the perched water table
19 is from one to two feet down to the hard rock under
20 the diabase. It has been our experience as a result
21 of borings, and also as a result of investigations
22 of already-dug wells in these areas at certain times
23 of the year, and probably in January, these dug wells
24 run over and the source of this water is this diabase
25 material. In the summer they go down. In the winter

1 it depends upon the exact location, they may overflow
2 or they may be within two or three feet of the surface.

3 DR. GRAHAM: All right, sir.

4 MR. CRIGLER: I have some questions.

5 DR. GRAHAM: Okay, Mr. Crigler.

6 MR. CRIGLER: First of all, this comparable
7 area that you are talking about, most of the area in
8 this particular location does not have the slope that
9 the Miller-Godfrey tract has, does it?

10 MR. BURKE: The slope is different, somewhat
11 different.

12 MR. CRIGLER: And the Miller-Godfrey, I am
13 using that in conjunction, is greater?

14 MR. BURKE: Right.

15 MR. CRIGLER: Secondly, is it true or false
16 that the water table can be lowered by diversion
17 ditches, whether it be surface water table or whether
18 it be subsurface water table.

19 MR. BURKE: At times water tables can be
20 lowered. We don't attempt to lower water tables in
21 this type soil.

22 DR. GRAHAM: Why don't you?

23 MR. BURKE: Well, for the most part you
24 can't, it's impossible to lower the water table
25 because you can't get that water out. It's such an

1 experimental process that we wouldn't want to take
2 the position that we are going to try to experiment.

3 DR. GRAHAM: I don't know what you mean,
4 that you can't get the water out. What do you mean
5 by that?

6 MR. BURKE: Usually you don't have suffi-
7 cient enough fall to go to the depth that you have
8 to go to, and then the depth varies so much. At one
9 depth you may have two feet of diabase and then at
10 another place you may have 50 feet of diabase.

11 DR. GRAHAM: Are you saying that the base
12 stone underneath the diabase is irregular in its
13 contour?

14 MR. BURKE: Yes, sir.

15 MR. CRIGLER: Now, what is the length of the
16 slope of this piece of property that we are talking
17 about here? Is it 10 feet, 100 feet, 200 feet, a
18 thousand feet, or do you know?

19 MR. BURKE: Where does the slope change?

20 MR. CRIGLER: Yes, where it stops sloping
21 down and starts flattening out.

22 MR. BURKE: That's the area, primarily, that
23 runs from a small-- Well, as they call it there, a
24 mountain, Mount Pony, you have got considerable high
25 ground above it and you have got some lower ground,

1 some ground below it, so it's in the middle of this
2 slope running down this so-called Mount Pony. It's
3 not in the middle of it, I would say closer to the
4 foot of it.

5 MR. CRIGLER: And most all of the land that
6 you have dealt with recently within the past two or
7 three years has been the flat blackjack land down in
8 what they call the Flats?

9 MR. BURKE: There is more of that type, but
10 it's not unusual to have blackjack in land of con-
11 siderable relief, and the problems are the same and
12 the failures are the same. We have tried it at this
13 depth, this is not a novel system. He's right when
14 he says that because the older people there tried the
15 systems, were trying them, and using them 25 years ago,
16 and we have passed systems going to this site, we
17 passed systems put in at these depths that have
18 already failed.

19 DR. WOOD: How close is there a system that
20 has failed?

21 MR. BURKE: There is one on the curve up
22 there, I would say within a mile. This has failed
23 three times already, it's been repaired three times.

24 MR. CRIGLER: What is the slope?

25 MR. BURKE: It's not quite as much as this,

1 but there is plenty of slope there.

2 MR. CRIGLER: You are stating that for the
3 record? Is it 3 percent?

4 MR. BURKE: I would say something like
5 2 percent.

6 MR. CRIGLER: Which is the average.

7 DR. WOOD: I note on one of these here that
8 the general slope is 2 to 7 percent.

9 MR. CRIGLER: This photograph will give you
10 an indication of the slope of the land.

11 DR. WOOD: Are there any other systems
12 nearby that have failed?

13 MR. BURKE: Yes, sir.

14 DR. WOOD: Are there any that are working
15 nearby?

16 MR. BURKE: Yes, sir. I would say on the
17 average we probably get failures in-- I am not say-
18 ing that there have not been experiments with it in
19 the past because that was the policy of the Health
20 Department 10 or 15 years ago, to try using this
21 exact same system. Probably the number that we get
22 to come out of the ground is not as high as the
23 failures we get because it is buried and the sewage
24 can't come out of the ground because it can't come
25 out of the house, but we do get some that come out of

1 the ground. I would say that those that come out of
2 the ground are something like, just as a guess, maybe
3 10 percent.

4 MR. BORDERS: This one road is 1.9 miles,
5 this Mount Pony Road from its beginning down to this
6 spot, and there are four that have failed or been
7 replaced in the nine years I have been in the county,
8 are failing or have been replaced.

9 DR. GRAHAM: And those failings or the ones
10 that have been replaced are in the same type of soil
11 that is under question today?

12 MR. BORDERS: Same type soil, maybe a little
13 less slope.

14 MR. BURKE: And all put in at the depth to
15 be put in here, underneath the clay. None of them
16 have been put in in the clay.

17 MR. BORDERS: I say that the slope is about
18 2 percent where we are talking about.

19 MR. CRIGLER: Do you know what the depth of
20 the tile is at these locations?

21 MR. BURKE: That varies because the depth
22 of the clay varies. At the time we were using that
23 the clay may and at two feet, and some instances it
24 didn't end until five feet. In the cases where the
25 clay went five feet then the system went in at five

1 feet.

2 DR. GRAHAM: It went in then into the dia-
3 base material?

4 MR. BURKE: The experiments, if you want to
5 call them that, that was the policy used then, to
6 try to use it, and it always went into the diabase.

7 DR. WOOD: Do you have any idea of the number
8 that have been placed, in a sense, in this fashion?
9 You say four have failed, but how many total systems
10 are in that 1.9 miles?

11 MR. BORDERS: I would say 12, maybe.

12 DR. GRAHAM: Are there any streams that are
13 adjacent or nearby on this 40 acres?

14 MR. BURKE: No, sir. You usually don't have
15 streams in that material.

16 DR. GRAHAM: Just wet weather swales?

17 MR. BURKE: Yes. So, we go back to our
18 original reasons for rejection: One was poor percola-
19 tion rate; the second was primarily water tables.
20 From our experience there is no question in our mind
21 about the water table. If we get to the water table
22 then we do not feel that it is in keeping with the
23 Water Control Law to place a pollutant in the water
24 table, and therefore we had to reject it.

25 DR. GRAHAM: Did you consider a non point

1 discharge lagoon?

2 MR. BURKE: No, sir, because there was no
3 application. We dealt with the application, which
4 was for septic tank drainage.

5 DR. GRAHAM: Dr. LeGarde?

6 DR. LeGARDE: Mr. Bodkin did examine these,
7 and I would like for him to explain it.

8 MR. BODKIN: Dr. Graham, I was on the
9 property on April the 26th, 1977 with Mr. Meyer.
10 He and I were there together, also with Mr. Burke.
11 I will address myself only to Site 2, which--

12 DR. GRAHAM: Whose Site 2?

13 MR. BODKIN: Hawkins' Site 2.

14 DR. GRAHAM: Thank you.

15 MR. BODKIN: Health Department 3, dated
16 4-26-77. At this time we examined four holes on
17 Site 2. In Hole 1 we found plastic clay from 18 to
18 48 inches, and at 56 inches we struck what we
19 determined as hard rock because we did not or could
20 not drill it with the auger which we had.

21 Hole No. 2 was a backhoe hole which had
22 been previously dug, and entering the hole we further
23 dug with the auger to a distance of 108 inches, at
24 which distance we struck water.

25 DR. GRAHAM: What is the material that you

1 encountered?

2 MR. BODKIN: Weathered rock, the diabase
3 that you have been speaking of. Then in Hole No. 3
4 there was plastic clay from 6 inches to 42 inches.
5 From 42 inches to 65 inches we encountered the
6 weathered diabase, and at 65 inches what we term as
7 hard rock.

8 In Hole No. 4 plastic clay from 3 inches to
9 48 inches, and weathered rock from 48 inches to 60
10 inches, or weathered diabase, and the reason for my
11 recommending to the Local Health Department for
12 rejection was the distance from the plastic clay or
13 the depth of the diabase to hard rock. It was not
14 sufficient, in my opinion, to install the drain field.
15 In all cases in the plastic clays and above the
16 plastic clays we struck gray mottling.

17 DR. GRAHAM: In the plastic clays, you say?

18 MR. BODKIN: Yes, above the diabase.

19 DR. GRAHAM: But, not in the diabase?

20 MR. BODKIN: No, sir, not on this site.

21 MR. CRIGLER: I don't have any questions.

22 DR. LEGARDZ: Will you hear Mr. Meyer on
23 the same subject, please?

24 DR. GRAHAM: Yes. Now, let's see, we have
25 asked Mr. Houston for his qualifications so--

1 MR. CRIGLER: I will stipulate his qualifi-
2 cations if that will save time.

3 DR. GRAHAM: We want it for the record.

4 MR. MEYER: Well, I have been with the
5 Health Department since 1961. I was there on the
6 26th, and I think I ought to go to the Board and
7 clarify some of the information because it seems to
8 be quite a disagreement on this thing. Now, I did
9 not look at all this present site. I want to make
10 that clear to start with, because at the time I was
11 there I was looking at Hawkins' site and not at the
12 additional site. So, what happened, as I said,
13 every time I moved a few feet I was told I was off
14 the site and therefore it wasn't valid.

15 Now, the slope is a gentle slope coming
16 down this way, and the Hawkins site was originally
17 down at the lower part of the slope, almost on the
18 low part of the slope, and one of their deep pits
19 was right along in that depth. One of those was the
20 one in which we hit water at about 103 inches in the
21 weathered rock. That was the deep part, and I
22 believe they proposed something like 7 or 7-1/2 feet,
23 which is about 84 or 90 inches, somewhere in there,
24 that they were proposing, and at 103 inches there
25 was water standing in this thing.

1 Now, where the water could come from we
2 could discuss quite indefinitely, but what I think
3 the problem in all of this is the variability in the
4 depth of the rock. We have investigated this kind
5 of soil in a number of places, and I could even show
6 you slides.

7 Now, what you have is the surface, and then
8 you have a plastic clay. This clay, I think every-
9 body has almost already agreed on, will not take
10 the water. Then, you have your weathered parent
11 material down here, and then you have the rock.

12 DR. GRAHAM: That weathered parent material
13 generally has been referred to as the diabase?

14 MR. MEYER: This is the diabase, this is
15 the weathered diabase.

16 DR. GRAHAM: Then the weathered diabase is
17 the proper term?

18 MR. MEYER: There have been numerous
19 attempts to try to put a drain field in this material,
20 and one or two may be successful, but what you
21 generally and up with are pockets, it goes up and
22 down like this. We had one in Prince William, and
23 we put 50 gallons of water in it to saturate it, and
24 when it gets full those pockets all fill up, and
25 this is what we were starting to get right here.

1 When they get full they fill up and they don't take
2 any more, so it's a matter of how much water the
3 people use as to how long they can keep it under the
4 ground, and also how big of a pocket you have got.

5 Now, when you put a drain field through
6 this-- I think this is the problem we are up against,
7 and that is that a drain field has to be uniform and
8 you are ending up in some cases cutting it through
9 the rock and in some cases it is in the weathered
10 parent material. Now, that's the problem we are up
11 against. The rock, of course, isn't going to take
12 any water, it's hard rock. By the fact that it is
13 backing up on the rock here indicates that it is
14 pretty solid in most places underneath.

15 There is an area in part of this area that
16 I checked where there was no actual surface water
17 table. On the low side down here one of them had
18 clay in the surface indicating that the water was
19 ponding on it, but the others did not have any
20 surface water on it because the surface water was
21 running down over the entire site. There were
22 gullies all the way across it.

23 So, this is what you are up against.
24 Whether you can find enough of this here, this is
25 the question that came up. From what I saw of the

1 sites the rock was so variable that all you were
2 playing with is a bunch of pockets in there. So,
3 this is basically what you are up against.

4 Now, I did not look at all of what Mr.
5 Houston's were because I was restricted to what
6 Hawkins had there, and frankly I question whether
7 he can even get a normal drain in this area because
8 I kept going off. So, that is roughly what you are
9 up against.

10 MR. CRIGLER: Bill, does this photograph
11 reflect the profile where they have started the
12 housing construction there, just to give the Com-
13 missioner some idea?

14 MR. MEYER: This is the cut site, this is
15 the first one. This was the one that was cut and
16 filled.

17 MR. CRIGLER: We would like to introduce
18 that, if we could, just for informative purposes.

19 DR. GRAHAM: We will mark this one as
20 Exhibit 8.

21 NOTE: At this point the exhibit is marked
22 Exhibit 8, as indicated.

23 DR. GRAHAM: What area does that refer to
24 now?

25 MR. CRIGLER: Well, that's just illustrative

1 of a profile of the surface and clay.

2 DR. GRAHAM: Very well.

3 MR. MEYER: I think the question is how much
4 water those pockets will take, and for how long.
5 That's what you are up against.

6 MR. SIMMONS: That hole that you did--I was
7 involved in that so-called experiment as he called
8 it, and we were running permeability tests on this
9 particular weathered diabase--that hole that you put
10 30 gallons into, what happened?

11 MR. MEYER: It didn't go, the water was sit-
12 ting right at the next depth. The sanitarian firmly
13 believed that the diabase would work, and that's the
14 reason we went out there. We went out there and we
15 had one that only took 6 gallons and stopped. This
16 is the range that we were playing with.

17 MR. CRIGLER: You are not talking about this
18 location, are you?

19 MR. MEYER: No, sir. Same kind of weathered
20 parent material. You are just playing with pockets.
21 If they use very much water you are going to be in
22 trouble.

23 MR. STEKETER: Can I just ask one question.
24 When you are playing with these pockets, the slope
25 does make a significant difference in terms of what

1 the drainage is, doesn't it?

2 MR. MEYER: Yes.

3 MR. STEKETEE: Well, also in subsurface
4 drainage because if you are talking about your--

5 MR. MEYER: Not as much in subsurface because
6 it can't run through the rock.

7 MR. STEKETEE: Granted, but you are suggest-
8 ing there is a slope, also?

9 MR. MEYER: The slope keeps it from recharg-
10 ing quite so fast because part of your rainfall runs
11 off, it does not go into the soil. Where it is flat
12 it is going to sit right there, and it can't go any-
13 place except down. The flatter the topography the
14 more water you are going to get.

15 DR. GRAHAM: So there is more chance for the
16 water to recharge the groundwater?

17 MR. MEYER: On the site there were a lot of
18 gullies across it which indicated the water was run-
19 ning down all the way across it. So, if you put a
20 drain field down it you have got to keep that water
21 from running into there.

22 MR. SIMMONS: Do you also have clay land
23 down that way as diabase?

24 MR. MEYER: We try to put those in with the
25 clay subsoil in most cases.

1 MR. CRIGLER: I have got one question. When
2 you talk about this rock under what you called the
3 parent material, and which has been referred to as
4 the diabase, is that a solid rock formation?

5 MR. MEYER: You mean the diabase itself
6 under the parent material?

7 MR. CRIGLER: Under the diabase. You said
8 it would reach rock.

9 DR. GRAHAM: Excuse me, I think I caught
10 his definition there. This thing I have been refer-
11 ring to as diabase, he corrected me, is weathered
12 diabase. It's the sandy-like material.

13 MR. CRIGLER: If you go down to the rock,
14 that's what I am talking about.

15 MR. MEYER: You have got your clays and
16 they are going up and down, and you have got this
17 sort of thing, and in some cases this rock comes
18 right up to the clay.

19 MR. CRIGLER: But, you are talking about
20 rock formations, is that correct?

21 MR. MEYER: Yes, hard rock. Now, I think
22 the question is whether it is solid or whether it
23 has got some cracks in it.

24 MR. CRIGLER: My question is, is that the
25 type of rock that would show up on the seismographic

1 studies as being rock?

2 MR. MEYER: I don't know, I am not familiar
3 with that. It could come either way. From what I
4 have seen of cuts it is pretty solid stuff. When you
5 are finding water down in here it indicates to me
6 that there are not many cracks.

7 MR. HOUSTON: Bill, in my seismic lines, we
8 ran three lines in a 100x100 area, and we didn't
9 get any solid reflections. In other words, the
10 P waves were coming back as soil. Of course, by
11 definition a seismograph is no better than the guy
12 that is doing the interpretation, but the waves
13 coming back did not indicate a solid rock. We
14 observed a soft type of material which we were able
15 to hand-auger through.

16 MR. MEYER: We have observed actual hard
17 rock in some of the pits.

18 MR. CRIGLER: And that was down at the base
19 of the hill?

20 MR. MEYER: I couldn't budge it with the
21 auger. That's what I consider hard rock, when you
22 can't cut it.

23 MR. STRATTON: Just one thing, and that is
24 the distinction here is that you were at a different
25 location on that site.

1 MR. MEYER: I was on part of his location
2 on the lower portion where it flattens out. It was
3 part of the same thing because I found some of the
4 same soil, but I did not go up the slope because that
5 was off the site. At first the guy apparently didn't
6 want that, I don't know, but this is all I know about
7 it.

8 MR. BORDERS: But, Mr. Meyer, you did
9 examine both of these sites?

10 MR. MEYER: I observed both of these sites.
11 The first one was cut and filled, part of it was
12 filled and was very shallow in the middle. That's
13 the thing, you see when you are putting in a drain
14 field and you have got a fixed slope on the drain
15 field you can raise and lower each drain line. What
16 you are playing with here is rock that goes up like
17 this, part of the rock is something like that and
18 some is something like this.

19 MR. HOUSTON: That's why I stress an
20 inspector being on that site, to make the determina-
21 tion.

22 DR. WOOD: What would you do if your
23 inspector was on the site and they cut into this
24 solid rock?

25 MR. HOUSTON: Well, in an instance like that

1 you would have to examine the entire trench width.
2 If the rock should occur in a large enough nature
3 that it is going to impede the function of it, then
4 that line cannot be used. Therefore, it would have
5 to be filled in and another one cut or some provision
6 would have to be made at that time.

7 MR. CRIGLER: You are saying you would want
8 the inspector to have the ability to make the judg-
9 ment with respect to if one would have to be moved
10 or closed off?

11 MR. HOUSTON: In the case of, for example,
12 at 72 inches, everything is fairly uniform. If at
13 75 feet along the tile line it comes into a rock
14 pinnacle or something very hard then that might
15 establish a 75-foot tile length. Now, if all the
16 trenches were fairly uniform, and everything indi-
17 cates that it is going to be fairly uniform, but I
18 will put quotation marks around the word fairly,
19 that determination has to be made whether the trenches
20 are dug to the established grade line, and that's why
21 I stress an inspector on the job.

22 MR. MEYER: You could also lay your drain
23 field and then go along and bore down to it. That
24 could be the other way of doing it if they wanted to
25 do it that way. Establish the amount of drain field

1 they want and then at intervals go along and bore it.
2 You could get a pretty good idea whether you had
3 hard rock.

4 MR. BURKE: We have mentioned several times
5 the perched water table. It is mentioned in the
6 soil conservation letter, it is mentioned by Mr.
7 Houston, and we found a water table. I would like
8 to ask Mr. Meyer whether I would be right or wrong
9 in saying that the perched water table would be above
10 the hard rock and in the weathered diabase at vary-
11 ing depths depending upon the scene and depending
12 upon the amount of water available.

13 MR. CRIGLER: Is this at this location?

14 MR. BURKE: No, similar type.

15 MR. MEYER: With the rainfall coming down
16 it cannot go through this clay with any degree of
17 satisfaction, and so that the water sits up on top.
18 The estimated perched water level is up on top. This
19 is quite characteristic of blackjack itself, and then
20 the other question is if you come out here and if you
21 dig a trench down here through it this water can run
22 into it. This is the problem that you are up against,
23 and I think it would be well to check it here because
24 if you let the water run down in here and it fills up
25 and doesn't go anywhere then you have got the answer

1 that you have got a pocket. When that pocket gets
2 full you are in trouble. That's what we found in
3 most cases, is that it is pockets of the stuff.

4 Now, the Highway Department uses this stuff
5 and they have had a devil of a time finding consis-
6 tent areas where they could even get enough to mine
7 it because of this in-and-out kind of pattern. They
8 have got one or two places that are real good, but
9 there I wouldn't question it near as bad as where
10 you have got the variability that we found.

11 MR. HOUSTON: In terms of this particular
12 site, Bill, if some berm ditches were placed up above
13 you could intercept your surface water.

14 MR. MEYER: It would help it considerably,
15 but I think the crux is whether you have got pockets
16 that are going to take it, or whether you have got a
17 continuous thing down the slope. That is the point.
18 My indications were that it was variable, it's got
19 pockets of hard rock in it.

20 DR. LeGARDE: Dr. Graham, based on these
21 advices I rejected the permits.

22 DR. GRAHAM: All right, sir. Is there any
23 additional information that you would like to present,
24 or does that cover that?

25 MR. MEYER: Dr. Graham, I think there might

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1 be a question of this last proposal. Since that came
2 in after the hearings are you going to address that
3 as to what they want to do with that, or Dr. LeGarde?

4 DR. LeGARDE: We will examine any proposal
5 at any time, and if their engineer offers a solution
6 to this thing that we can accept then certainly we
7 will. We will attempt to help the man find a place
8 to live, that's our business, that's what we do. We
9 are obligated to be sure that we don't create a
10 public health hazard or a nuisance.

11 MR. CRIGLER: If it please, is it your posi-
12 tion that the reason that this subsequent material
13 wasn't reviewed is because you felt that if it was
14 reviewed it should be reviewed by this appeal level
15 and with instructions to you if they take that into
16 consideration?

17 DR. LeGARDE: We don't ordinarily proceed
18 without engineering advice in the usual-type system,
19 and when you get beyond that then this is a whole
20 new ball park and there are other authorities involved
21 in it.

22 DR. GRAHAM: The material we have, and it's
23 entered in the exhibits, and it will be given con-
24 sideration along with the other information that has
25 been presented.

1 MR. CRIGLER: Thank you.

2 DR. GRAHAM: Does that complete your pre-
3 sentation, Dr. LeGarde?

4 DR. LeGARDE: I think that explains our
5 position.

6 DR. GRAHAM: Mr. Crigler, do you have any
7 additional evidence?

8 MR. CRIGLER: No, sir, we have no addi-
9 tional evidence to present. I would like to make
10 one statement. I know the primary concern in this
11 hearing, if not the controlling concern, is the
12 health and safety of the people, and I know that is
13 of primary importance. I do hope that you gentlemen
14 reviewing this, and you Dr. Graham reviewing this,
15 will take into consideration the proposals as made
16 to this site as opposed to the general conditions of
17 blackjack land at different locations. Also, that
18 you will take into consideration that even though
19 another proposal was presented on behalf of the
20 Health Department, that this proposal was never
21 appealed and that it dealt with a location that was
22 dissimilar in slope and so forth as to this one in
23 question, even though it did contain the same types
24 of soils and the same type of strata.

25 We know that you will give this careful

1 consideration, and I trust that if there is a possi-
2 bility to send this back to the Local Health Depart-
3 ment with instructions with respect to what possi-
4 bilities can be explored, and I think that's why we
5 are here today, they felt that their hands were tied
6 because the matter was on appeal, that you will do
7 so. We were trying to present evidence to them to
8 avoid the expense of having to come down here, and
9 it was just an unfortunate situation.

10 With 40 acres to work with here there has
11 to be something that can be done. There is bound to
12 be some engineer somewhere that can figure this out.

13 DR. GRAHAM: I accept that as an assertion,
14 sir.

15 MR. MEYER: We wish you were right.

16 DR. GRAHAM: Mr. Meyer?

17 MR. MEYER: Dr. Graham, I think if the Com-
18 missioner has any doubts about it he might ask them
19 to designate their drain field lines and bore along
20 it to make sure that there is a continuity of the
21 weathered material. This is the only thing that I
22 could suggest as a possibility. I don't know whether
23 it's been done, I haven't even seen Mr. Houston's
24 report, but--

25 MR. HOUSTON: We haven't taken it that far

1 for expense purposes only.

2 DR. MEYER: That's a possibility.

3 DR. GRAHAM: Well, it would be costly, true.
4 We recognize that. Mr. Staketee?

5 MR. STEKETEE: I have nothing to say further.
6 We believe Mr. Crigler has put forth the position of
7 the landowner currently, Mr. Godfrey, and also Mr.
8 Miller's position. Again, our position has been
9 from the outset that Mr. Miller wishes to put his
10 home and his family on this property in one fashion
11 or another, and he has sought numerous ways and
12 numerous methods hopefully at minimal expense to
13 accommodate the Health Department in this fashion.
14 He believed initially with Mr. Thomas that he had
15 arrived at some form of accommodation. When he found
16 that this was unacceptable, then further buttressing
17 his own feelings and those of Mr. Thomas with Mr.
18 Houston's, he believed that he had found a solution.
19 He believes that that solution has been put forth
20 to you today, and although perhaps it has not been
21 fully considered by the Health Department in Chil-
22 peper, he believes that he can adequately work this
23 system into that particular location and is willing
24 to work with any suggestions, recommendations, or
25 conditions that your office would put forth to him

1 in regard to an effort to put his family on this
2 property.

3 We thank you for this time.

4 DR. GRAHAM: Mr. Miller, and Miss Wolfrey,
5 you have been awfully quiet.

6 MR. STEKETEE: I told them to be.

7 MR. MILLER: Would you let me just say one
8 thing? I have been building houses for 35 years and
9 I have a license to put in septic tanks in several
10 counties and several states. It's nothing new to
11 me, and I wouldn't put in anything in there if I
12 didn't think it was going to work right. I have
13 been a builder for 35 years, and building this type
14 of house in Manassas, they run anywhere from seventy-
15 five to one hundred thousand dollars, and we are
16 putting septic tanks in them, and I just wish I had
17 as good a soil down in there to put in septic tanks
18 as where I'm trying to put one in now.

19 MR. STEKETEE: Let me say one thing. This
20 is for your own house and your own family, that's
21 who you are building it for?

22 MR. MILLER: I am building it for my house,
23 and I expect to be buried on that land.

24 MR. BORDERS: How about that trailer?

25 MR. MILLER: I have got that trailer in

1 there until I get a house built.

2 MR. CRIGLER: If I may add something, one
3 of the problems that we are facing is that in order
4 to build it he has to live somewhere and he put a
5 trailer there, and the local zoning administration
6 has filed a criminal warrant against the landowner
7 because of the trailer, and that is still pending,
8 pending the outcome of this hearing, and that's the
9 reason that we would like to decide this as soon
10 as possible.

11 DR. GRAHAM: I understand that there is
12 some need for urgency.

13 MR. MILLER: It could cost me \$700.00 a
14 month to stay where I am, plus the fact that it's
15 costing me \$200.00 to pasture them where I have
16 them now whereas I could have them on the farm.
17 That's nine hundred a month, and that hurts. That's
18 why I have got the trailer there, so that I can
19 build my house.

20 DR. GRAHAM: If there are no further com-
21 ments or information to be presented, then, lady
22 and gentlemen, thank you for your coming down, and
23 we will get back to you about this as quick as we
24 can.

25 HEARING CONCLUDED.

CERTIFICATE OF COURT REPORTER

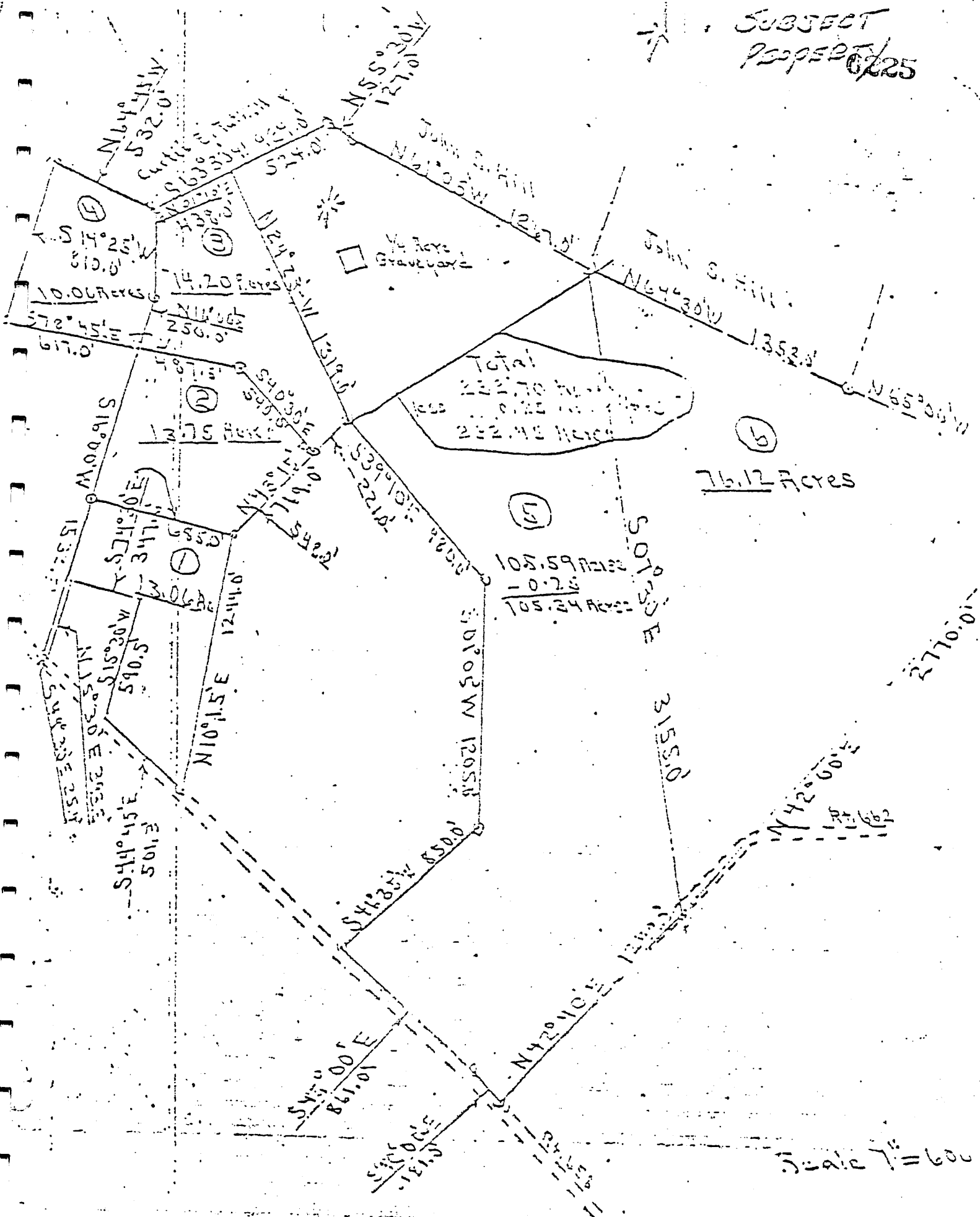
I, Norman B. Linnell, do hereby certify that I was
the court reporter for the foregoing Public Hearing of the
State Health Department on June 29, 1977.

I further certify that the foregoing transcript is
a true and accurate record of the testimony and other incidents
of the hearing.

Given under my hand this 18th day of July 1977.

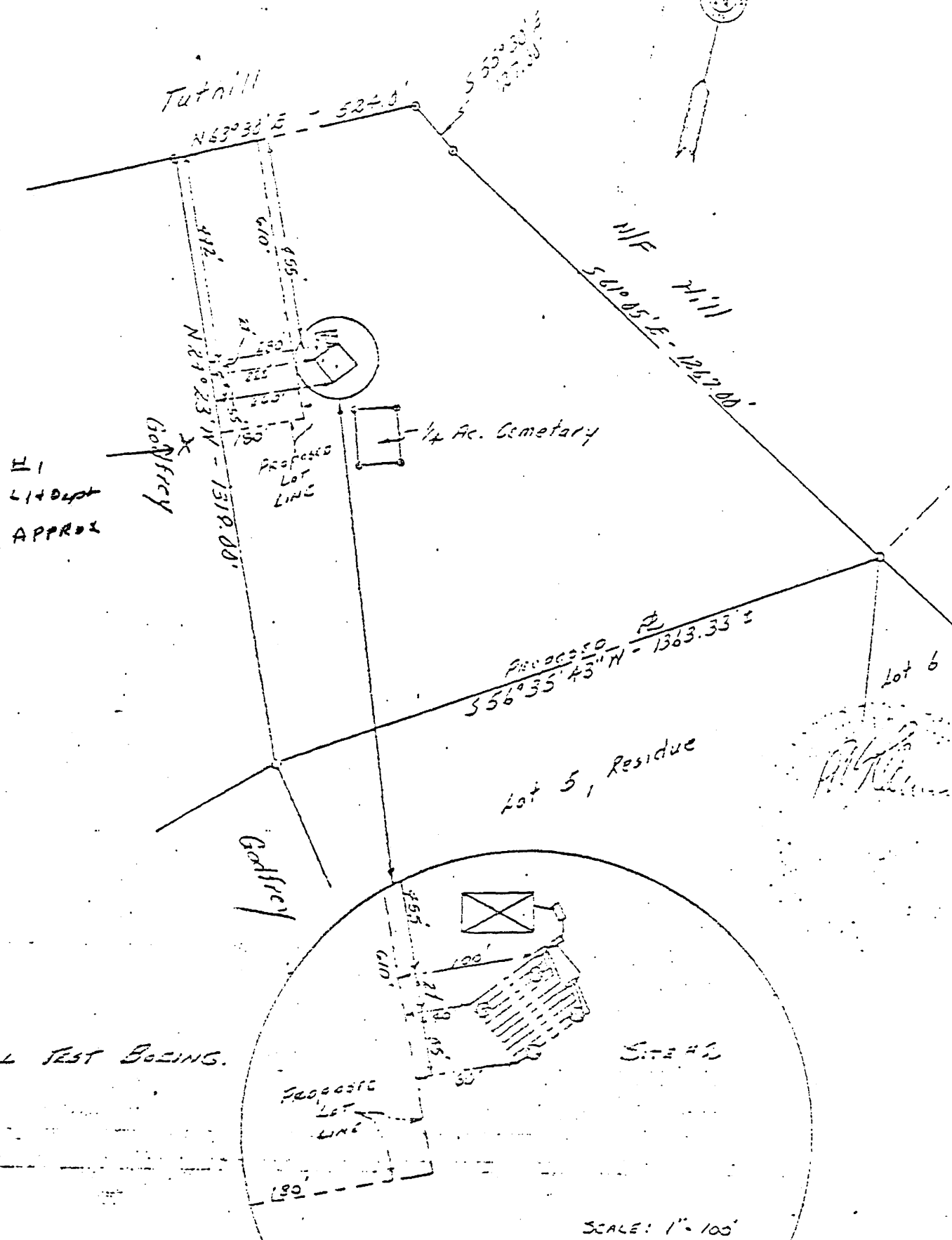
(ORIGINAL SIGNED)
NORMAN B. LINNELL, Court Reporter

7. SUBJECT
PROPERTY 6/25



METES & BOUNDS TAKEN FROM RECORD BOOK.
DRAINFIELD LOCATION MADE FROM EXISTING
PROPERTY CORNERS.

0226



- (1) Void after (12) twelve months. (2) Automatically cancelled when site conditions are changed from those shown on permit.
 (3) Automatically cancelled should facts later become known that a potential hazard would be created by continuing installation.

PERMIT ☒ Yes ☐ No

Date 4-26-77 Case No. 0227

Owner Joseph Godfrey

Address 3929 Burwell Rd., Nashville, TN 37213

Phone 22123

Two previous sheets in name of ROBT. ALON NILES who made applic. (Mailing Address)

Exact Location

of premises

Rt. 3 to right on #658. Go 1.9 miles, turn left on private road, go .3 miles

(Subdivision, Street or Road Name, Section or Lot No. and Property on Right)

FOR: ☒ Dwelling

☐ Other

Automatic Washing Machine

☐ Yes

☐ No

Consumption 600 gal. per day

Actual ☐ Potential

☒ Bedrooms 3

Garbage Disposal Unit

☐ Yes

☒ No

☐ Actual ☒ Estimated Water

Additional wastes

(1) WATER SUPPLY (Existing) Class Approved ☒ Yes ☐ No Other
 (To be installed) Class Cased ft. to be grouted ft.

(Unless supported by positive evidence Class #1 is to be considered as to be installed.)

(2) SOIL STUDY Naturally drained, suitable by sight ☐ Yes ☐ No Technical Classification (If Known)
 Estimated Percolation Rate 1-10 ☐ 11-25 ☐ 26-50 ☐ > 51 ☐ Percolation Test Required ☐ Yes ☐ No ☐ Rate
 (Minutes per inch) (Minutes per inch to nearest 10 minutes)
 Depth to Grey Mottles inches (estimate over 4 ft.) OTHER
 Surface drainage required ☐ Yes ☐ No OTHER DRAINAGE

(3) HOUSE SEWER LINE Size inches. Type of material required Distance from Water Supply feet.

(4) DETAILS OF CONSTRUCTION Watertight Septic Tank of Material Liquid Capacity gallons
 Inside Dimensions Length feet. Width feet. Liquid Depth feet. Depth of Air Space feet.

SUBSURFACE ABSORPTION FIELD Number of square feet required Type aggregate required
 Depth of aggregate from base of tile to bottom of ditches inches. Allowable fall to inches.
 Total aggregate minimum depth inches or more. Depth of drainfield to be inches from surface of original ground.
 Distance from well to septic tank feet; distance from well to drainfield feet.

Rough Sketch of Premises (including adjacent properties if pertinent) showing location of lot line, buildings, water supplies, sewage disposal systems, trees, and other possible sources of contamination of water supplies, by indicating distances and slope with regard to one another.

Soil 0.8" Brown Silt clay loam
 8.30" Plastic Type Clay
 30" 42 Greyish weathered material
 to bedrock

Note: This is the 3rd site
 I have examined - It
 is shown as site 2 on
 plat plan submitted
 by C.R. Hawkin

Note: Because of evidence of seasonal
 water table, poor internal drainage
 because of plastic type clay soil
 and insufficient area of suitable
 soil, we must reject this
 site for subsurface drainfield
 use.

Test
 H. L.

NOT DRAWN
 TO SCALE

average

Owner or his agent must notify Health Department/Phone when installation is ready for inspection. If any Sewage Disposal System, or part thereof, is covered before being inspected by the Health Department, it shall be covered at the direction of the Health Director or his agent. CONDITIONS DISCOVERED DURING INSTALLATION MAY REQUIRE ADJUSTMENTS OF SYSTEM DESIGN. Changes from above specifications require Health Department approval before being made.

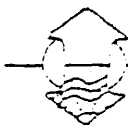
Based on the above information, the undersigned recommends that this permit be issued

Date 4/26/77 Approved

(Reviewing Authority)

Date 4/26/77 Signed

(Sanitarian or Health Director)



T. A. HOUSTON & ASSOCIATES LTD.

ENVIRONMENTAL GEOLOGISTS

123 SOUTH EAST STREET
CULPEPER, VIRGINIA 22701
(703) 825-6252

May 31, 1977

Mr. G. V. Miller
Route 1, Box 1173
Bealeton, Virginia 22712Re: Drainfield Study - 2 Proposed sites
41.29-acre Tract - Route 658
Catalpa District, Culpeper County, Va

Dear Mr. Miller:

In accordance with your request we have investigated two proposed drainfield sites on the above subject property. On the attached plat these sites are numbered Site 1 and 2. General soil data on soils observed is summarized on the attached lot evaluation sheets.

In general our investigation was to evaluate site conditions to determine the feasibility of a conventional septic drainfield meeting local county health standards.

The underlying rock type is basic intrusive diabase. Soil profiles developed over this material have been classed by the Department of Agriculture as Iredell clay loam. The profiles generally consist of 3' to 4' of a very plastic clay which grades into a decomposed diabase or saprolite; a very granular sandy material resembling rotten rock.

Consideration was given to a conventional drainfield system with tile depths 2 to 3 feet below the ground surface. This, we felt, would not meet county criteria, nor would it function properly during wet winter months. Consideration must be given to a special design system.

Our study consisted of re-evaluating internal drainage characteristics of the subsoil by means of deep borings and percolation tests. From percolation data in the soil of Site One, rates at depths of 54" to 56" ranged from 15 to 37 minutes per inch; well within the minimum required rate of 60 mpi.

In addition seismic studies were made to determine presence and depth of rock. From this data no solid reflections were noted within 10' of original ground surface. For Site Two there were numerous reflections caused by Talus boulders; however, based on

Drainfield Study (cont'd)
41.29-ac. Tract - Rte 658

May 31, 1977

borings it is felt that should a boulder be encountered they can be moved by heavy equipment.

For Site One, the house location as you have suggested will necessitate a sewage lift pump to utilize the +10,000 sq. ft. suggested drainfield area. At any rate a sewage lift station can be placed in the system or the house can be relocated above the drainfield to allow for a gravity system.

Surface condition of Site One is rough and pitted. It should be graded to provide maximum surface drainage for the site.

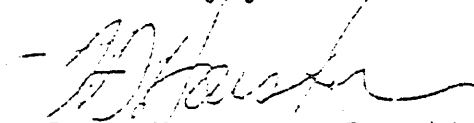
For Site Two, the suggested house site will require a sewage lift pump or relocation above the site to provide a gravity system. In addition removal of large Talus boulders will leave the site in a poor condition, thus grading will be necessary to provide positive surface drainage.

Should the proposed systems meet special design considerations with the health department, it is recommended that an inspector be placed on the site at the time of construction.

For your information attached is a sketch showing typical trench section that takes into consideration special design with deep trench systems. This section will be applicable to both installations.

I trust this information is satisfactory. Please advise if you have any questions or desire additional information.

Sincerely yours,



T. A. Houston, President

TAK:rh

LIMITATIONS: The conclusions and recommendations expressed in this report are based on auger borings and field investigation. It is assumed that soil conditions do not vary appreciably from those disclosed by the borings. Soil limits shown on the attached map are general as minor soil variations can easily occur.

T. A. Houston & Associates

Environmental Geologists
Soil Evaluation Sheet

0230

Project Location 3. V. Miller

Lot No. _____ Site # _____

Degree of Slope 7-10%

Soil Types, U.S.D.A. Classification

Iredell Silt Loam

Soil Profile:

<u>Depth</u>	<u>Description</u>
0 " to 8 "	Gray brown friable silt loam

8	" to	42 "	Olive gray brown firm clay
---	------	------	----------------------------

42 " to 60 " Yellow brown sandy clay loam, friable

60 " to + " Yellow brown tan sandy loam decomposed roc

<u>Depth</u>	<u>Description</u>
0-1	...
1-2	...
2-3	...
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99-100	...

" to "

_____ " to _____ "

_____ " to _____ "

" to "

Depth to Hard Rock Greater than 96"

Any Restricting Layers 0-42" slow internal drainage

Recommended Tile Depth. \pm 72"

Percolation Rates

Estimated: _____ Actual: 30 mpi

General Comments: Pump required from suggested house to suggested
drainfield site (12' lift).

T. A. Houston & Associates

Environmental Geologists
Soil Evaluation Sheet

0231

Project Location G. V. MillerLot No. Site # 2Degree of Slope 110%Soil Types, U.S.D.A. Classification
Iredell Silt Loam

Soil Profile:

<u>Depth</u>		<u>Description</u>
<u>0</u>	<u>" to 24 "</u>	<u>Olive brown firm clay</u>
<u>24</u>	<u>" to 32 "</u>	<u>Yellow brown firm sandy clay</u>
<u>32</u>	<u>" to 60 "</u>	<u>Yellow brown firm sandy clay loam</u>
<u>60</u>	<u>" to 84+ "</u>	<u>Yellow brown friable sandy loam</u>

<u>Depth</u>		<u>Description</u>
<u>0</u>	<u>" to 8 "</u>	<u>Yellow gray brown silt loam friable</u>
<u>8</u>	<u>" to 36 "</u>	<u>Olive gray brown clay firm</u>
<u>36</u>	<u>" to 60 "</u>	<u>Yellow brown-yellow sandy clay loam friable</u>
<u>60</u>	<u>" to 78 "</u>	<u>Yellow brown-yellow sandy clay loam friable</u>
<u>78</u>	<u>" to > "</u>	<u>Yellow brown-yellow rock flour- semi-friable.</u>

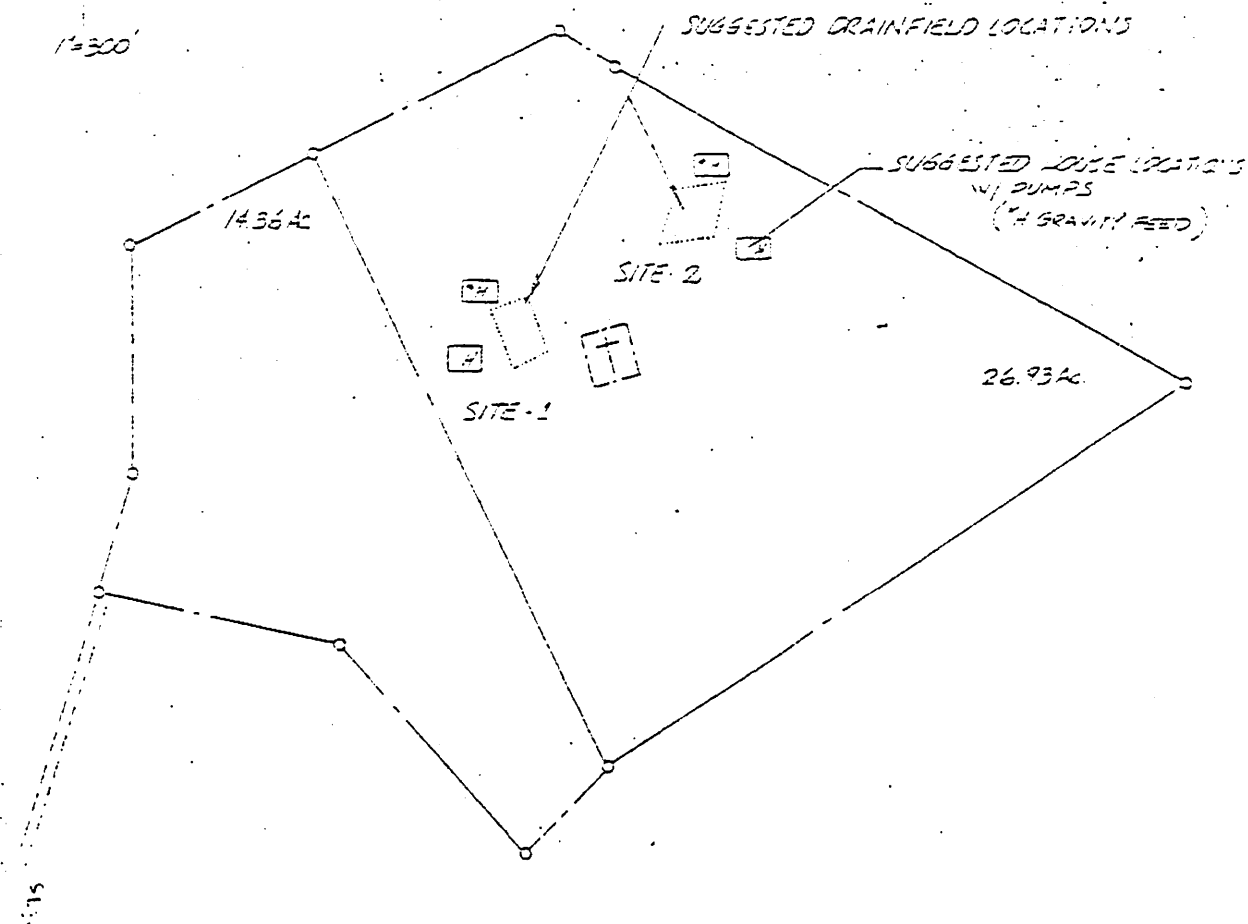
Depth to Hard Rock Greater than 96"

Any Restricting Layers 0-60 slow internal drainageRecommended Tile Depth 36"

Percolation Rates

Estimated: *30 mpi Actual: General Comments: Pump required from suggested house to suggested drainfield location (+6' lift).

0232

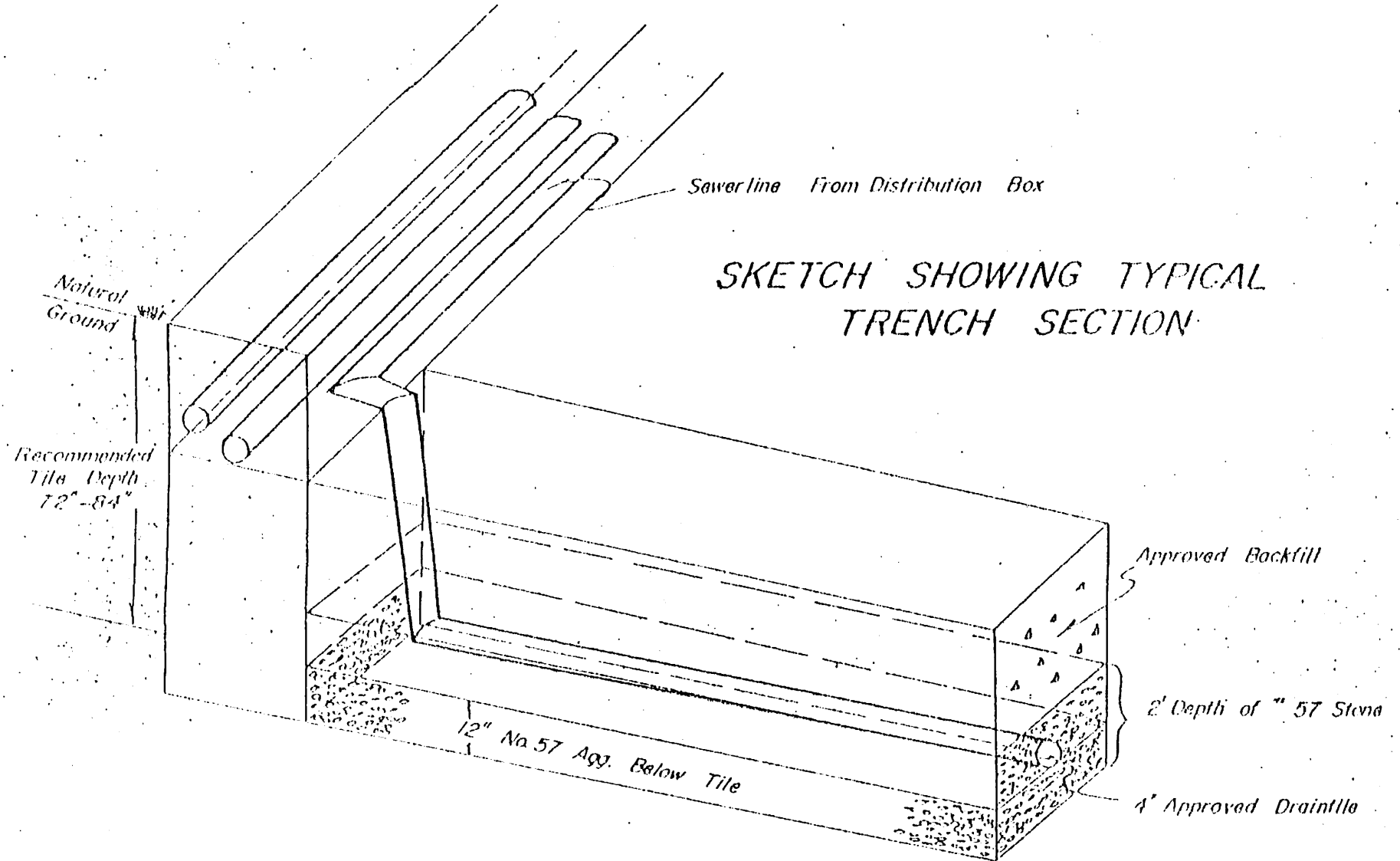


SURVEY DATA - C. T. GUINN C.E.S.

DRAINFIELD LOCATION PLAN

G.V. MILLER PROPERTY
CATALPA DISTRICT, CULDEPER COUNTY, VIRGINIA

T.A. HOUSTON & ASSOCIATES, LTD.
ENVIRONMENTAL GEOLOGISTS



Owner Robert John Miller Address Rt. 1, Box 109, Remington, Va. Phone 0234

Occupant Same Address _____ Phone _____
(Mailing Address) (Mailing Address)

Exact Location Rt. 3 to right on #653 go 1.9 turn left on private road, go .3 miles to end.
of premises

(Subdivision, Street or Road Name, Section or Lot No.)

FGR: ☒ Jeweling ☐ Other _____ Automatic Washing Machine ☒ Yes ☐ No Consumption 30 gal. p. w.

Actual ☒ Potential ☐ Bedrooms 3 Garbage Disposal Unit ☐ Yes ☒ No ☐ Actual _____ Estimated _____

Additional wastes

WATER SUPPLY (Existing) Class Approved ☒ No ☐ Other
(To be installed) Class Cased ft. to be grouted ft.

Unless supported by positive evidence Class III is to be considered as to be installed.

STUDY Naturally drained, suitable by sight ☐ Yes ☐ No Technical Classification

Estimated Percolation Rate 1-10 ☐ 11-25 ☒ 26-50 ☐ 51 ☐ Percolation Test Required ☒ Yes / No ☐ Rate _____
(minutes per inch) (minutes per inch to nearest 10 minutes)

0 1 to 4 Gray Mottles _____ inches (estimate over 4 ft.) OTHER _____
 How drainage required ☒ Yes ☐ No OTHER DRAINAGE _____

1. JOINT SEWER LINE Size _____ inches. Type of material required _____. Distance from Water Supply _____ feet.

DETAILS OF CONSTRUCTION Watertight Septic Tank of _____ Material _____ Liquid Capacity _____ gallons.	
Inside Dimensions Length _____ feet Width _____ feet Liquid Depth _____ feet Depth of Air Space _____ feet.	

Surface Absorption Field	Number of square feet required	Type aggregate required

Depth of aggregate from base of tile to bottom of ditches _____ inches. Allowable fall _____ to _____ inches.

Total aggregate/minimum depth _____ inches or more. Depth of drainfield to be _____ inches from surface of original ground.

List meter from well to septic tank _____ feet; distance from well to drainfield _____ feet.

Round/Sketch of Premises (including adjacent properties if pertinent, Showing Location of Lot Line, Buildings, Water Supplies, Sewage Disposal Systems, Trees, and Other Possible Sources of Contamination of Water Supplies, by Indicating Distances and Slope with regard to one another.

Soil Profile:

hole #1 0-24" grayish brown to olive brown plastic type wet clay; 24 - 36" olive grey sandy silt loam mingled with clay flows to decomposed rock.

Note #2 Same as hole #1 except for decomposed rock at 35"

Note #3 0-10" dark brown silt clay loam.

15-24" yellowish brown silt clay loam streaked with grey with red and black concretions with evidence of water at 30"; 36" plus friable grey clay to decomposed rock. Because of very slow absorption rate in plastic type clay of upper horizon, evidence of seasonal water table at about 30" and restriction of water flow due to clay flows in lower horizon, we must reject this area for use of subsurface drainfield.

Proposed House Site

ANG
OAK TREES ✓

ROAD

\uparrow 30' #2 \uparrow T=50' #1
 \downarrow \swarrow \nwarrow
 \circ \leftarrow 30' \rightarrow \circ 50'

101

Exp. 2700 4416 5277

~~See # 2 in file No 324~~

Not Drawn To Scale TO RT 3 RT 652
Lot 14 acres Plus 10

Note: Owner or his agent must notify _____ Health Department, Phone _____ when installation is ready for inspection. If any Sewage Disposal System, or part thereof, is covered before being inspected by the Health Department, it shall be covered at the direction of the Health Director or his agent. **CONDITIONS DISCOVERED DURING INSTALLATION MAY REQUIRE ADJUSTMENTS TO SYSTEM DESIGN.** Changes from above specifications require Health Department approval before being made.

Based on the above information, the undersigned recommends that this permit be granted.

Date 12/10/76 Approved [Signature] (Reviewing Authority) Signed [Signature] (Sanitarian or Health Director)

(1) Void after twelve months. (2) Automatically cancelled when use conditions are changed from those shown on permit. (3) Automatically cancelled should facts later become known that a potential hazard would be created by continuing installation.

Permit No. 3-9-77 Date 3-9-77 Case No. 0235

Owner Robert John Miller Address Rt. 1 Box 100, Remington, VA Phone

Occupant Same Address Phone

Exact Location of premises Rt. 3 to right on #650 go 1.9 turn left on private road, go .3 miles to end.

FOR: ☐ Dwelling ☐ Other ☐ Automatic Washing Machine ☐ Yes ☐ No Consumption 250 gal. per day
Actual ☒ Potential ☐ Bedrooms 3 Garbage Disposal Unit ☐ Yes ☒ No (☐ Actual ☒ Estimated Water)

Additional wastes

WATER SUPPLY (Existing) Class Approved ☒ Yes ☐ No Other
To be installed Class Approved ☐ Yes ☐ No Other

(Unless supported by positive evidence Class III is to be considered as to be installed.)

SOIL STUDY Naturally drained, suitable by sight ☐ Yes ☒ No Technical Classification (if known)

Estimated Percolation Rate 1-10 ☐ 11-25 ☐ 26-50 ☐ > 51 ☐ Percolation Test Required ☐ Yes ☒ No ☐ Note
(Minutes per inch) (Minutes per inch to nearest 10 minutes)

Depth to Gray Mottles inches (estimate over 4 ft.) OTHER
Surface drainage required ☐ Yes ☒ No OTHER DRAINAGE

HOUSE SEWER LINE Size inches. Type of material required Distance from Water Supply feet.

DETAILS OF CONSTRUCTION Watertight Septic Tank of Material Liquid Capacity gallons.
Inside Dimensions Length feet. Width feet. Liquid Depth feet. Depth of Air Space feet.

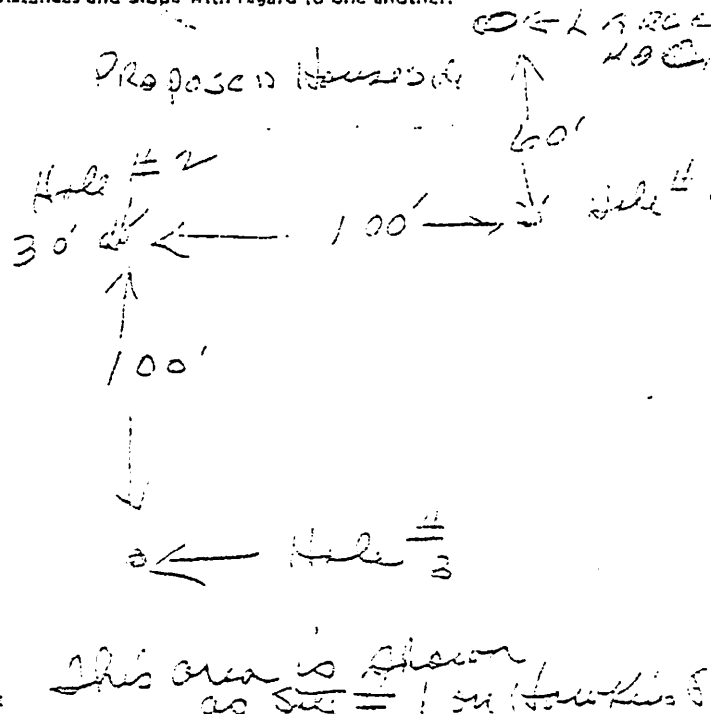
SURFACE ABSORPTION FIELD Number of square feet required Type aggregate required
Depth of aggregate from base of tile to bottom of ditches inches. Allowable fall to inches.
Total aggregate minimum depth inches or more. Depth of drainfield to be inches from surface of original ground.
Distance from well to septic tank feet; distance from well to drainfield feet.

Rough Sketch of Premises (including adjacent properties if pertinent, showing location of lot line, buildings, water supplies, sewage disposal systems, trees, and other possible sources of contamination of water supplies, by indicating distances and slope with regard to one another.

SOIL: This soil is very similar to area previously rejected as unsatisfactory.
0-3" Brown Silt Clay Loam
6-20" Yellowish Brown to Olive Brown plastic type clay.
20" + Weathered material with clay flows also brown and black concretion. This material extends to rock.
NOTE: Because of very slow absorption rate in plastic type clay of upper horizon, restriction of water flow due to clay particles in lower horizon and evidence of seasonal water table, we must reject this area for subsurface drainfield use.

Previous area examined

NOT DRAWN TO SCALE



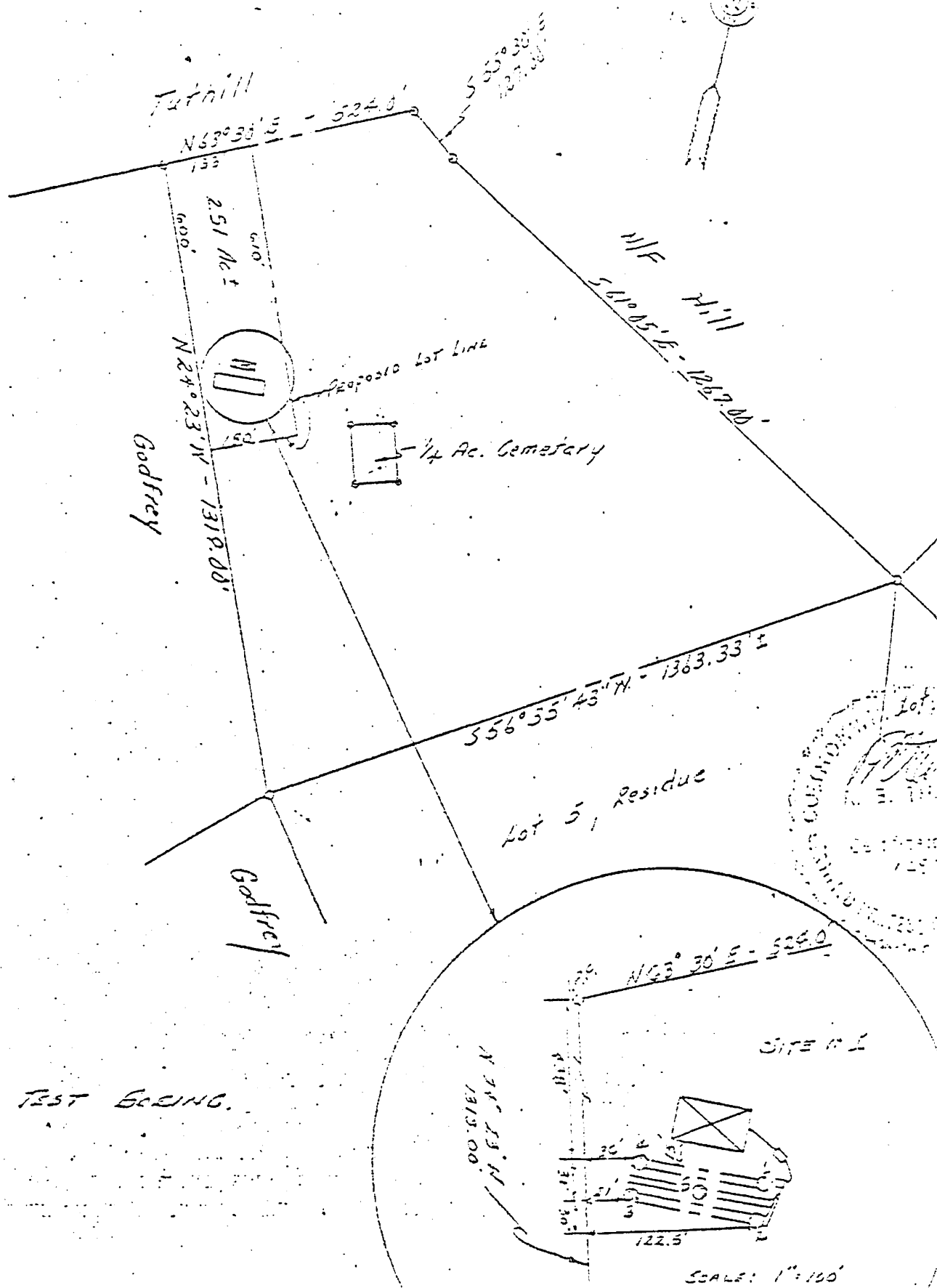
Signature of Owner or his agent must notify Health Department, Phone when installation is ready for inspection. If any Sewage Disposal System, or part thereof, is covered before being inspected by the Health Department, it shall be uncovered at the direction of the Health Director or his agent. CONDITIONS DISCOVERED BEFORE INSTALLATION MAY REQUIRE ADJUSTMENTS OF SYSTEM DESIGN. Changes from above specifications require Health Department approval before being made.

Said on the above information, the undersigned recommends that this permit be issued. Date 3/9/77 Approved Stanley P. ... (Sanitarian or Health Director)

MEAS & BOUNDS TAKEN FROM RECORD PLAT.
 DEANFIELD LOCATION MADE FROM EXISTING
 PROPERTY CORNERS.

EXHIBIT-5

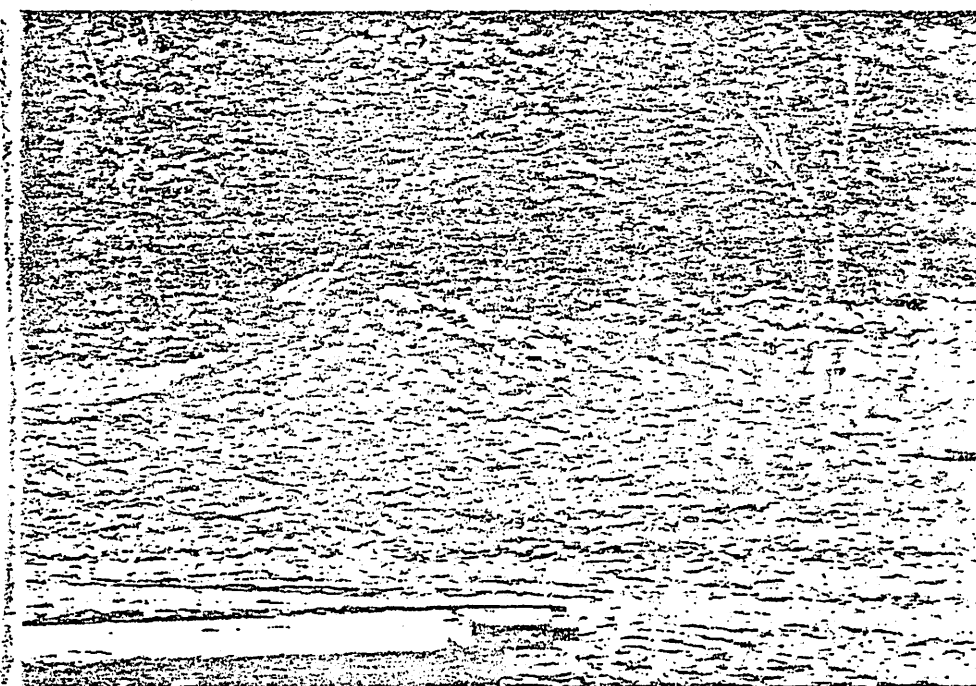
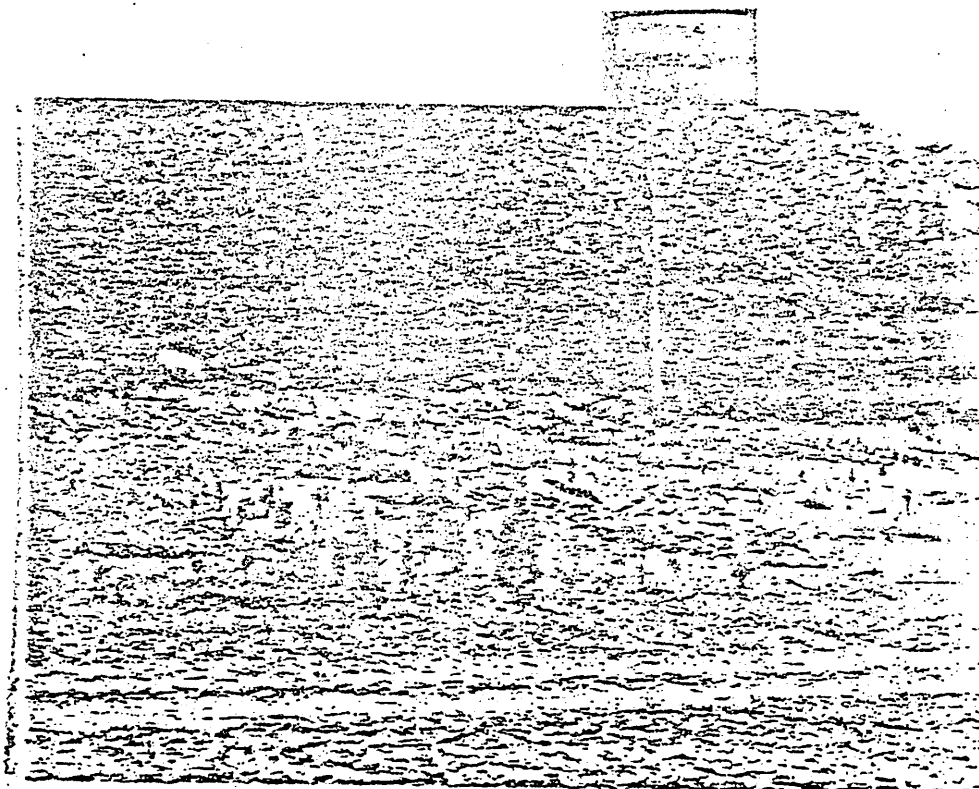
0235



① - SOIL TEST BORING.

SCALE: 1" = 100'

0237



EX-1017

604 South Main Street.; Culpeper, Virginia 22701

0238

December 10, 1976

Serge Miller, Jr.
Rt. 1, Box 92K
Bealeton, Va. 22712

Dear Mr. Miller:

This letter is in response to your request for soils information and suitability interpretations.

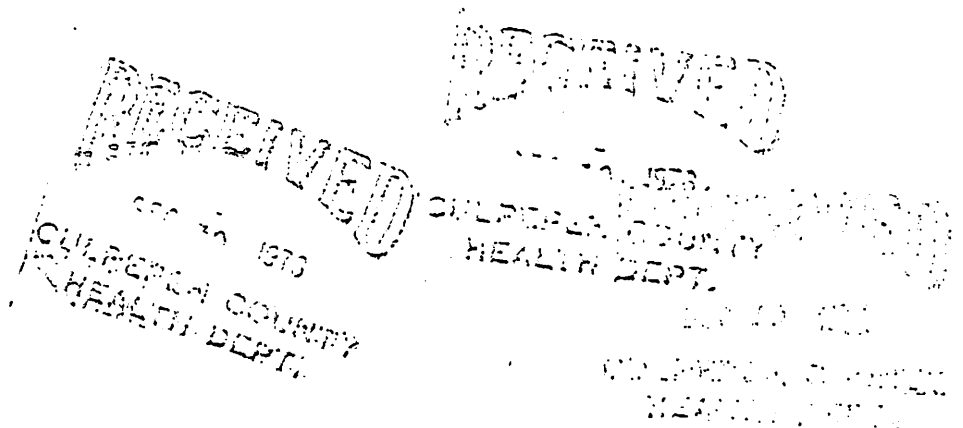
The soils as identified in the Soil Survey Culpeper County, Virginia on this land are Mecklenburg silt loam and Iredell silt loam, eroded undulating phase. Both of these soils have severe limitations for use as septic tank absorption fields due to slow percolation rates. The Iredell soil has an additional limitation due to a perched seasonal high water table (1 to 2 feet from November to March).

As you pointed out there is a coarse layer in the Iredell soil. I have no information as to how this may be used or its chance of success in the disposal of septic tank effluent.

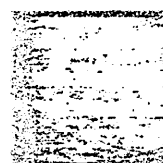
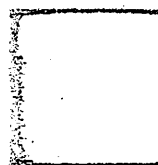
Sincerely,

William R. Adams
District Conservationist

cc: Stanley Borders, Culpeper County Health Department



0239



0240

July 26, 1977

Mrs. Mary L. Mullins
Zoning Administrator
Zoning Office
135 W. Cameron Street
Culpeper, Virginia 22701

THROUGH: R. S. LeGarde M.D.
Health Director

Dear Mrs. Mullins:

This letter is in reply to your recent inquiry concerning the Godfrey property, Sec. 52 Parcel 22, near Mt. Pory.

The rejection of this land has been appealed to the Richmond office through the appeal process under the Rules and Regulations. At this time we have received no reply to this appeal.

Very truly yours,

William W. Burke
Sanitarian Supervisor

WMB:kbs

6241

COMMONWEALTH of VIRGINIA

Department of Health
Richmond, Va 23219

July 26, 1977

Mr. Joseph Godfrey
8929 Burwell Road
Nokesville, Virginia 22123

Dear Mr. Godfrey:

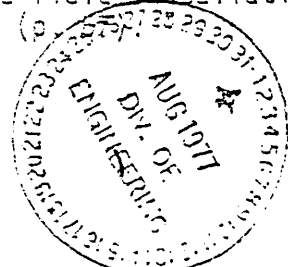
In your behalf, your attorney, Mr. B. W. Crigler, has appealed the decision of the Culpeper County Health Department, denying the installation of a septic tank and tile field on two locations of a two-parcel tract of land consisting of approximately 40 acres. The two denials were as follows:

1. March 9, 1977 -- applicant Robert John Miller, Route 1, Box 109, Remington, VA. Mr. Miller proposes to purchase the land if a septic tank installation will be approved.
2. April 26, 1977 -- applicant Joseph Godfrey, 8929 Burwell Road, Nokesville, VA. You are the owner of the tract in question.

A third location on the tract, the application for which was dated December 10, 1976, Robert John Miller, applicant, was not appealed (p. 25 of transcript).

There have been no specific counter proposals made to the above denials, but your consultant, Mr. T. A. Houston, Jr., a geologist, presented a design concept (p. 40 of the transcript), which he maintains has worked elsewhere in similar situations (pp. 35, 41, and 42). The proposal consists essentially of installing the tile field beneath the surface layers of restrictive clay, and into the more porous subsurface layer of soil consisting of weathered diabase, at a depth of 6 - 7 feet (p. 29). The local health department has not evaluated the information that Mr. Houston has submitted (p. 31).

The local health department denied the above applications at proposed locations specified because of poor percolation rate, poor subsurface drainage, and a water table (p. 44). In similar soils with deep tile field installation, but with less slope, the failure rate is "maybe 10%" (p. 44).



Mr. Joseph Godfrey
Page 2
July 28, 1977

0242

Mr. W. J. Meyer, Soil Scientist from V.P.I.S.U., stated that the type soil in question varies in depth to solid rock, and the varying depth produces pockets (pp. 62 and 73).

Based on the above information, the local health department acted properly in denying the two applications; and that action is sustained.

Mr. Houston has maintained that there may be other locations on the tract where a septic tank tile field would function properly, and this information has not yet been evaluated by the local health department. This information should be assessed and if the following minimum soil conditions are demonstrated to be present in the exact location proposed for the septic tank tile field, the local health department will consider issuing a septic tank permit:

- a) Thickness of at least three feet of weathered diabase situated deeper than the planned bottom of the tile field trench at all points along the proposed location of the tile field.
- b) No evidence of water table in the soil.
- c) Weathered diabase to be continuous and without hard rock interruptions, over each section of tile field. Sections to be no less than 50 feet in length.
- d) Acceptable rates of absorption in the weathered diabase as demonstrated by percolation tests.

Information on items a, b, and c can be developed by the use of soil borings. These should all be referenced to a fixed point of elevation so that the feasibility of tile field installation can be readily assessed. Percolation tests should be conducted according to standard procedures outlined by the health department.

Soil borings only give an indication of actual conditions in this soil type, because depth to hard rock varies considerably even at locations only a few feet apart. Therefore, if a location for a tile field is discovered which appears suitable, final approval for the installation will be given only after the sanitarian views and bores the excavated trenches prior to the gravel being installed.

It is suggested that you request Mr. Houston to develop the information as outlined above. With suitable information in hand, you could apply for a septic tank permit, which will be processed in the usual manner. Final approval will be contingent on the continuity and depth of the weathered diabase as demonstrated by visual inspection and boring of the trenches.

Mr. Joseph Godfrey
Page 3
July 28, 1977

0243

A copy of the transcript is available for inspection at the local health department.

Sincerely,

James B. Kenley, M.D.
State Health Commissioner

cc: Dr. S. A. Graham, Jr.
Mr. J. R. Sutherland
Mr. B. W. Crigler
Mr. P. W. Steketee
Mr. Robert John Miller
Dr. Malcolm Tenney, Jr.
Dr. R. S. LeGarde (with enc.)

1/59/77

No water table

0244

Clay

~~min 50'~~

0 ~~gr. fill~~ ^{Libase} ~~min 50'~~ uniform slope

↑
3' weathered Libase

↓
Rock uniform slope

acceptable fire rates
min 50' length

San moss & horse brush



T. A. HOUSTON & ASSOCIATES LTD.

ENVIRONMENTAL GEOLOGISTS

125 SOUTH EAST STREET

CULPEPER, VIRGINIA 22701

(703) 325-4232

August 8, 1977

0245

RECEIVED	
DEPARTMENT OF HEALTH	
Office of Commissioner	
AUG 10 1977	
Answered.....	_____
Referred to.....	_____
For.....	_____

Mr. James B. Kenley, M.D.
State Health Department Commissioner
Department of Health
Richmond, Va. 23219

RE: Joseph Godfrey Tract & R. J. Miller
Application for Permit

Dear Mr. Kenley,

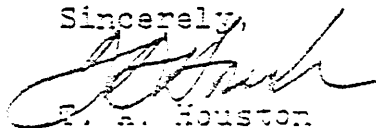
I am in receipt of a copy of your letter of July 28, 1977, to Mr. Godfrey on the above subject matter. After reading the letter and contacting Mr. Stanley Borders, Sanitarian, for assistance, I am still in need of clarification on precisely what is needed.

In reference to page 2, there are mentioned guide lines to assess "minimum soil conditions" to be developed by our firm. We would appreciate clarification on what is meant by:

1. (a)...."at all points" along location of drainfield
2. (c)...."over each section of tile field"
3. Items b and d, as I understand them, were covered in my report of May, 1977. If these items were not sufficiently dealt with, please indicate.

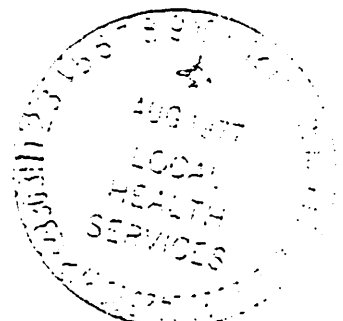
We will be happy to cooperate in any way possible; however, before beginning this work, we will need the above clarifications.

Sincerely,


T. A. Houston

TAH:jh

CC: Mr. Joseph Godfrey
Mr. B. W. Crigler
Mr. Stanley Borders
Mr. R. J. Miller



August 12, 1977

Mrs. M. L. Mullins
Zoning Administrator
Zoning Office
135 W. Cameron Street
Culpeper, Virginia 22701

THROUGH: R. S. LeGarde M.D.
Health Director

Dear Mrs. Mullins:

This letter is in reply to your recent inquiry concerning the state of the Godfrey sewage disposal permit application.

Two proposals have been made on this lot. Both sites were found to be unsatisfactory by the Culpeper County Health Department. These rejections were confirmed at the Appeal in the Richmond office. Another proposal has been made on this lot. This proposal is being processed in the routine manner. We will be glad to advise you as to the results of this examination when it is completed.

Yours truly,

William W. Burke
Sanitarian Supervisor

WAB:kbs

0247



T. A. HOUSTON & ASSOCIATES LTD.

ENVIRONMENTAL GEOLOGISTS

125 SOUTH EAST STREET
 CULPEPER, VIRGINIA 22701
 (703) 325-6252

August 16, 1977

RECEIVED
 AUG 18 1977
 CULPEPER COUNTY
 HEALTH DEPT.

Mr. Stanley Borders
 Sanitarian
 Culpeper County Health Department
 Culpeper, Virginia 22701

RE: Godfrey Tract
 G. V. Miller Septic Permit Request

Dear Stanley,

In reference to our conversation yesterday, test pits have been dug, as instructed, on sites #1 and #2.

Soil Profiles for Site #1 are as follows:

TOP LEFT CORNER #1

0-18" Yellow brown clay loam, plastic
 18-36" Yellow brown sandy clay loam, (rock structure)
 36-48" Light gray brown olive sandy clay saprolite
 48-72" Tan brown olive brown sandy loam, decomposed diabase, firm friable

TOP RIGHT CORNER #2

0-12" Dark brown silt clay loam, plastic
 12-30" Brown olive tan sandy clay loam
 30-72" Tan olive brown sandy loam, decomposed diabase, firm friable

CENTER DRAINFIELD AREA #3

0-12" Brown clay with roots, plastic
 12-36" Yellow olive tan brown sandy loam, trace clay, friable
 36-72" Gray olive tan brown sandy loam, decomposed diabase, firm friable

RECEIVED

AUG 18 1977

CULPEPER COUNTY 0248
HEALTH DEPT

LOWER LEFT CORNER #4

0-12" Brown clay, plastic
12-36" Tan brown olive sandy clay loam
36-72" Gray olive, tan brown sand, decomposed
diabase, firm friable

LOWER RIGHT CORNER #5

0-12" Brown clay plastic
12-48" Tan brown, olive with black streaks,
clayey sand, decomposed diabase
48-68" Tan olive brown decomposed diabase, sandy
friable

Review of test pits and soil borings, after site grading,
indicate that our original recommendation for tile
depth could be ammended from 72" (inches) to 48" to
60" (inches). Your consideration of this after-field
inspection would be appreciated.

Test Pits for Site #2 are as follows:

UPPER LEFT CORNER #1

0-24" Brown clay, plastic
24-48" Yellow brown olive sandy clay
48"- 2' Rock or boulder

UPPER RIGHT CORNER #2

0-36" Brown clay plastic
36-72" Tan olive brown sandy clay, decomposed
diabase

UPPER CENTER #3

0-12" Brown clay, plastic
12-24" Brown silty clay
24-72" Gray olive brown sand, decomposed
diabase

Sheet 3

RECEIVED 0249
AUG 18 1977

LOWER LEFT CORNER #4

CULPEPER COUNTY
HEALTH DEPT

0-24" Brown clay plastic
24-72" Tan olive brown sandy loam, decomposed
diabase

LOWER LINE-CENTER #5

0-12" Brown clay plastic
12-24" Yellow brown silt clay loam
24-36" Yellow brown olive sandy loam
36-72" Yellow brown olive gray sand
72" Rock or boulder

LOWER RIGHT CORNER #6

0-48" Brown clay plastic
48-72" Tan olive brown sandy clay, decomposed
diabase
72" Rock or boulder

Additional test pits dug in the vicinity of Site #2 exhibit similar profiles as above. Regarding the meeting of depth requirements, as outlined, all test pits in the vicinity of Site #2 appear marginal, at best.

Your earliest field inspection and review of the above will be appreciated.

Sincerely,


T. A. Houston

cc: Mr. G. V. Miller

11-12-13

271

2p right

[Handwritten signature]

0250

#1
2nd
Cone

93'

27-42

たろ

24

1/3

150' →

Center

Wash

10.

۱۰۰

Chen

175

V. C. Plafy

2024

✓

15

0251

— August 18, 1977

Mr. T. A. Houston
T. A. Houston & Associates LTD.
Environmental Geologists
125 South East Street
Culpeper, Virginia 22701

Dear Mr. Houston:

In response to your August 8, 1977, inquiry, the following responses are provided:

1. Meaning of "at all points along the proposed.....tile field"

This condition seems well explained in the bottom three paragraphs of the second page. The actual number of soil borings or other tests to be required is left to your discretion, however, you are reminded that the local department will not give final approval until they are satisfied that three feet of weathered diabase underlays the bottom of the tile field trenches.

Accordingly, when you have recommended the location of the trenches, a conditional permit will be issued and the trenches will be dug. In order to assure that there is enough weathered diabase underneath, the sanitarian is expected to bore the trench bottom(s) at random locations, and in sufficient quantity to obtain this assurance. If stone or fractured stone is encountered in boring, that location will be excluded from further consideration.

2. Meaning of "over each section of the tile field"

Rather than a single long tile field trench, the tile field is often divided into sections, the reasonable length of which is expected to be 50 feet. Weathered diabase at a depth of three feet beneath the trench bottom is required. In order not to compartmentalize the effluent, the three foot depth shall not be interrupted by stone or fractured stone.

Mr. T. A. Houston
Page 2
August 13, 1977

0252

3. Item b refers to mottling as evidence of a water table. The tile field must not be located in soil, the surface layers of which demonstrate mottling.

The single percolation test which you performed will need to be supplemented. There is no question about the porosity of the weathered diabase. The question relates to the assertion of Meyers that the material is contained in pockets. If there are pockets, and the pockets are small with impervious stone to contain the water, there should be little percolation once the layer is pre-saturated as required by a standard percolation test. On the other hand, if the weathered diabase is spread over a large area as you maintain, pre-saturation should not affect the absorption rate; and the test should serve as a good indicator of the ability of the future tile field to deal with the effluent. Accordingly, a percolation test must be conducted at the location of each section of tile field trench, and the rate of each test must be acceptable in order for that section of trench to be approved.

Please contact me if I can be of further service.

Sincerely,

James B. Kenley, M.D.

cc: Mr. Joseph Godfrey
Mr. B. W. Crigler
Dr. R. S. LeGarde
ATTN: Mr. Stanley Borders
Mr. R. J. Miller
Mr. E. T. Goode

JBK/SAGjr:dkh

T. C. LEA, JR.
JOHN J. DAVIES, III
B. WAUGH CRIGLER
CHARLES D. BARRELL

STEPHEN P. WILL

LEA, DAVIES, CRIGLER & BARRELL
ATTORNEYS AT LAW
122 WEST CAMERON STREET
P. O. BOX 712
CULPEPER, VIRGINIA 22701

RECEIVED	
DEPARTMENT OF HEALTH	
Office of Commissioner	
AUG 23 1977	
Answered	_____
Referred	_____
For	_____

0253

AREA CODE 703
225-8000

August 25, 1977

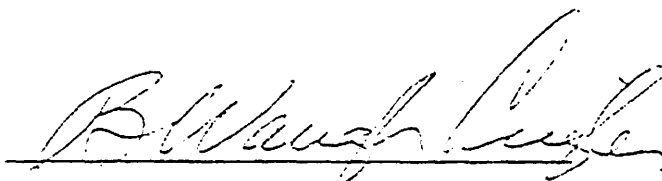
James D. Kenley, M.D.
Commissioner
Commonwealth of Virginia
Department of Health
Richmond, Virginia 23219

RE: Joseph Godfrey
application for sewage permit

Dear Mr. Commissioner:

The purpose of this letter is to serve as a notice of appeal to your decision dated July 28, 1977, in regard to the above referred to matter. You are hereby notified that Mr. Godfrey intends to file his appeal in the Circuit Court of Culpeper County to review the decision that you made on the cited date.

Respectfully Submitted,



B. Waugh Crigler
Counsel for Joseph Godfrey

cc: Culpeper County Health Department
Culpeper, Virginia 22701

STATE DEPARTMENT OF HEALTH

Richmond, Virginia

0254

Inter-Office Correspondence

To: Dr. Vance

Date: 3/29/77

From: Dr. Graham *Sam*

Subject: Appeal of Commissioner's Decision - Septic Tank

Attached is a photocopy of the letter from Mr. Crigler indicating that he plans to appeal the Commissioner's decision to the circuit court of Culpeper. I would appreciate your advice so I can formulate a reply for the Commissioner.

SAGjr/dkh

Attachment

*Letter:
discussed & Vance -
explained the situation further.
we have agreed to issue the
permit under conditions as
outlined by Dr. Crigler's witnesses.
all Septic has to do is to
provide the suitable man
no further action necessary
at this time.
SAG*

VIRGINIA: IN THE CIRCUIT COURT OF DULLES COUNTY

JOSEPH E. GODFREY and
ADLYNE GODFREY, husband and
wife

0256

Complainants

vs.

IN CHANCERY NO. _____

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH

-and-

JAMES B. KENLEY, M.D.
STATE HEALTH COMMISSIONER

Defendants

PLEA IN ABATEMENT

Comes now James B. Kenley, M.D., State Health Commissioner, and says, by counsel, that this Court ought not to have or take any further cognizance of this action by reason of the following facts:

1. Complainants have filed their Bill of Complaint against the Commonwealth of Virginia, Department of Health and against James B. Kenley, M.D., State Health Commissioner.
2. The action complained of resulted from the application to complainants' property of regulations governing the disposal of sewage adopted by the State Board of Health pursuant to powers granted the State Board of Health by Section 32-9, Code of Virginia, 1950, as amended.
3. James B. Kenley, M.D., State Health Commissioner, acted as the agent of the State Board of Health in applying the regulations of the State Board of Health to complainants' property.
4. The State Board of Health possesses exclusive power to regulate the disposition of sewage in Virginia and to require any person to obtain a septic tank permit prior to the commencing of construction on any land.
5. The "Department of Health," the first named defendant in the Bill of Complaint, is nowhere created in the Code of Virginia and does not exist as a legal entity capable of being sued.

6. Complainants, in order to obtain judicial review of the septic tank permit denial they complain of, should properly have filed **0257** their Bill of Complaint against the State Board of Health, against each and every member of the State Board of Health, and against James B. Kenley, M.D., State Health Commissioner.

Wherefore, defendants pray that this Court take no further cognizance of the aforesaid action.

James B. Kenley, M.D.
State Health Commissioner

By _____
Counsel

Anthony F. Troy
Attorney General of Virginia

James E. Ryan, Jr.
Deputy Attorney General

R. Leonard Vance
Assistant Attorney General

1100 Madison Building
109 Governor Street
Richmond, Virginia 23219
(804) 786-1021

STATE OF VIRGINIA

0258

City of Richmond:

This day R. Leonard Vance personally appeared before me,
_____, a Notary Public in and for the city and state
aforesaid, in my jurisdiction aforesaid, and made oath that the matters
and things stated in the foregoing Plea are true to the best of his
knowledge and belief.

Given under my hand this _____ day of September, 1977.

My commission expires: _____

CERTIFICATION

I hereby certify that the original of the foregoing Plea in
Abatement has been mailed, certified mail, return receipt requested,
to the Clerk of this court for filing and true copies of same have been
mailed to B. Waugh Crigler; Lea, Davies, Crigler and Barrell, P. O.
Box 712, Culpeper, VA 22701 and to Peter W. Staketee, Esq.; Smith and
Davenport, P. O. Box 521, Manassas, VA 22110, this _____ day of
September, 1977.

VIRGINIA: IN THE CIRCUIT COURT OF CULPEPER COUNTY

JOSEPH E. GODFREY and
ADLYNE GODFREY, husband and
wife

----- Complainants

vs.

IN CHANCERY NO. _____

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH

-and-

JAMES B. KENLEY, M.D.
STATE HEALTH COMMISSIONER

Defendants

DEMURRER

Come now the defendants, Commonwealth of Virginia, Department of Health, and James B. Kenley, M.D., State Health Commissioner, by Counsel, and demur to the Plaintiff's Motion for Judgment in that it is not sufficient in law.

For the foregoing reason, the defendants respectfully pray for judgment of the Court on their said demurrer.

Respectfully submitted

0260

James E. Kenley, M.D.
State Health Commissioner

By _____

Counsel

Anthony F. Troy
Attorney General of Virginia

James E. Ryan, Jr.
Deputy Attorney General

R. Leonard Vance
Assistant Attorney General

1100 Madison Building
109 Governor Street
Richmond, Virginia 23219
(804) 786-1021

CERTIFICATION

I hereby certify that the original of the foregoing Demurrer has been mailed, certified mail, return receipt requested, to the Clerk of this court for filing and true copies of same have been mailed to B. Waugh Crigler; Lea, Davies, Crigler and Barrell, P. O. Box 712, Culpeper, VA 22701 and to Peter W. Steketee, Esq.; Smith and Dvaenport, P. O. Box 521, Manassas, VA 22110, this _____ day of September, 1977.

0261

ATTORNEY GENERAL

Interoffice Referral

To Sargent 1-17
From Sargent

- ☐ See me as soon as possible.
- ☐ Prepare official opinion.
- ☐ Prepare reply for my signature.
- ☐ Prepare reply under your signature.
- ☐ Review and see me.
- ☐ Review and call me.
- ☐ Prepare written comment and return.
- ☐ Review for correctness and return.
- ☐ Correct as indicated and return.
- ☐ Note and return.
- ☐ Note and file.
- ☐ Make _____ copies and return.

REMARKS:

Sep 27
dis amount 6
vsn
SBH.

ATTORNEY GENERAL

Informance Referral

To

From

See me as soon as possible.

Prepare official opinion.

Prepare reply for my signature.

Prepare reply under your signature.

Review and see me.

Review and call me.

Prepare written comment and return.

Review for correctness and return.

Correct as indicated and return.

Note and return.

Note and file.

Make _____ copies and return.

REMARKS:

The sanitation to go to
Crisper & put out
only turned down to
spit & in operation
are available.

LEA, DAVIES, CRIGLER & BARRELL

ATTORNEYS AT LAW

112 WEST CAMERON STREET

P. O. BOX 712

CULPEPER, VIRGINIA 22701

0263

AREA CODE 703
573-6000

T. C. LEA, JR.
JOHN L. DAVIES III
B. WAUGH CRIGLER
CHARLES D. BARRELL

STEPHEN P. WILL

September 23, 1977

R. Leonard Vance
Assistant Attorney General
110 Madison Building
109 Governor Street
Richmond, Virginia 23219

RE: Joseph E. Godfrey, et als
vs.
Commonwealth of Virginia,
Board of Health, et als

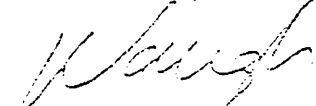
Dear Leonard:

Pursuant to our telephone conversation of September 20, 1977, I have conferred with Mr. T. A. Houston, our geologist. He has indicated that he and Mr. Borders had met on August 15, 1977, and had made several test borings and dug several test pits. It is my understanding that modification was made of the letter from the health commissioner with respect to the depth of the drain tile, which modification would be approvable by Mr. Borders on the local level. It appears that what we need to get done is to have Mr. Sodkin come to Culpeper and check the test pits with Mr. Houston and Mr. Borders. Additionally we would appreciate a modification of the letter regarding the digging of the sewage disposal trenches in that we would appreciate having the local sanitarian there during the entire period of time that the back hoe operator is working on the job so he would only have to be on the job for one day. As the operator dug each trench Mr. Borders or whatever local sanitarian is chosen could test the trenches or check the trenches and we would not be required to have the backhoe operator come and go for each individual trench.

I would appreciate your prompt reply to this matter and if these items can be taken care of within the immediate future it may save a considerable amount of time in pursuing the issues that have been raised in the litigation.

Thank you.

Sincerely,



B. Waugh Crigler

BWC/ed

COMMONWEALTH OF VIRGINIA
OFFICE OF
THE ATTORNEY GENERAL
RICHMOND 23113

0264

September 28, 1977

B. Waugh Crigler, Esq.
Lea, Davies, Crigler, and Barrell
P.O. Box 712
Culpeper, Virginia 22701

RE: Godfrey, et als v. Commonwealth, et als

Dear Waugh:

As I indicated to you in our telephone conversation of September 27, 1977, I discussed your letter to me of September 22 with Dr. Sam Graham on Monday of this week. Dr. Graham stated to me that it was not necessary for Mr. Bodkin to check the test pits we discussed. He stated that Mr. Borders had full authority to carry out percolation tests alone on these pits, and that adding Mr. Bodkin to the picture would just cause you and your clients needless delay.

With reference to a sanitarian staying on the site while the trenches are dug, I believe we reached a mutual understanding on the reasons for the impracticability of that possibility. The percolation test takes 24 hours and neither our sanitarian nor your backhoe operator should reasonably stay on the site for that length of time.

A copy of a letter dated August 3, 1977 from Mr. Houston, your clients' geologist, to Dr. Kenley, State Health Commissioner, and his reply, dated 13 August, 1977, are enclosed.

September 23, 1977

0265

please call me at 804-786-1031 when you are ready to talk further about this matter.

Best regards,

R. Leonard Vance
Assistant Attorney General

זקת / RLV

Enclosures

cc: S. A. Graham, Jr., M.D.

LEA, DAVIES, CRIGLER & BARRELL

ATTORNEYS AT LAW

121 WEST CAMERON STREET

P. O. BOX 712

CULPEPER, VIRGINIA 22701

T. C. LEA, JR.
JOHN J. DAVIES III
B. WAUGH CRIGLER
CHARLES O. BARRELL

ARE 123
0266

STEPHEN P. WILL

October 12, 1977

Mr. Stanley Borders
Culpeper County Health
Department
Culpeper, Virginia 22701

RE: Godfrey/Miller Property

Dear Mr. Borders:

As attorney for Joseph Godfrey, you are hereby authorized to conduct whatever tests may be necessary to secure a septic tank permit for George Miller or Joseph Miller on the property of my client in Culpeper County.

Thank you.

Sincerely,



B. Waugh Crigler

BWC:td

RECEIVED
OCT 12 1977
CULPEPER COUNTY
HEALTH DEPT.

REASONS FOR REJECTION

- (1) Void after (12) twelve months. (2) Automatically cancelled when site conditions are changed from those shown on permit.
- (3) Automatically cancelled should facts later become known that a potential hazard would be created by continuing installation.

Owner Joseph Godfrey Trust Address 3219 Sullivan Rd. Date 10-15-77 Case No. 0267

Occupant G. T. Miller, David Baggett Address _____ Phone _____

Exact Location 20.3 to right on #658. Go 1.2 miles, left on private road, go .3 miles to end, Site 3.

(Subdivision, Street or Road Name, Section or Lot No.)

FOR: ☒ Sewering ☐ Other _____ Automatic Washing Machine ☐ Consumption _____ ga

Actual ☐ Potential ☒ Garbage Disposal Unit ☐ Yes ☒ No ☐ Actual ☒ Estimated

Additional wastes _____

(1) WATER SUPPLY (Existing) Class _____ Approved ☒ Yes ☐ No Other _____

(To be installed) Class _____ Cased _____ ft. to be grouted _____ ft.

(Unless supported by positive evidence Class III is to be considered as to be installed)

(2) SOIL STUDY Naturally drained, surface by sign: ☐ Yes ☒ No Technical Classification _____

Estimated Percolation Rate 1-10 ☐ 11-25 ☐ 26-50 ☐ > 51 ☐ Percolation Test Required ☐ Yes ☒ No ☐ Rate _____

(Minutes per inch)

Depth to Grey Mottles _____ inches (estimate over 4 ft.) OTHER _____

Surface drainage required ☐ Yes ☒ No OTHER DRAINAGE _____

(3) HOUSE SEWER LINE Size _____ inches Type of material required _____ Distance from Water Supply _____ feet

(4) DETAILS OF CONSTRUCTION Water tight Septic Tank of _____ Material _____ Liquid Capacity _____ gallons

Inside Dimensions Length _____ feet Width _____ feet Liquid Depth _____ feet Depth of Air Space _____ feet

SUBSURFACE ABSORPTION FIELD Number of square feet required _____ Type aggregate required _____

(5) Depth of aggregate from base of tile to bottom of ditches _____ inches Allowable fall _____ to _____ inches

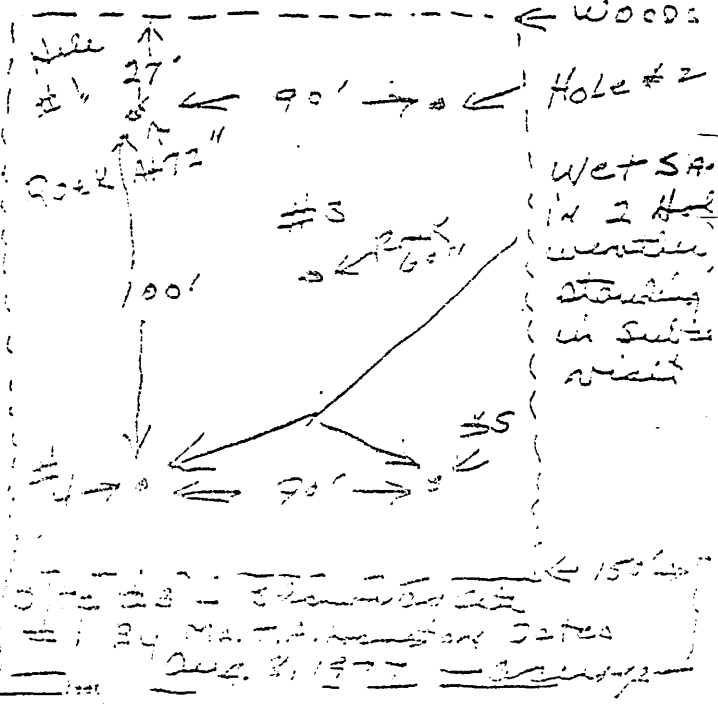
Total aggregate minimum depth _____ inches or more. Depth of drainfield to be _____ inches from surface of original ground.

Distance from well to septic tank _____ feet; distance from well to drainfield _____ feet.

Rough Sketch of Premises including adjacent properties if pertinent, showing location of Lot Line, Buildings, Water Supplies, Sewage Disposal Systems, and Other Possible Sources of Contamination of Water Supplies, by indicating Distances and Slope with regard to one another.

SOIL: The soil generally is:
 0 - 7" brown or dark brown loam
 7" - 36" or 40" yellowish brown and dark brown plastic clay
 40" - 72" except where rocky was yellowish brown and greyish brown weathered material. Note drawing to right for depth of rock. A soil profile of each hole is shown on a supplementary sheet. (available upon request)

NOTE: Because of very slow permeability through plastic clay in upper horizon, insufficient depth to rock as shown and evidence of seasonal water table (wet sand in two lower holes in dry weather), we must reject this site for sub-surface drainfield.



Not Deputed to Seche

Signature _____ Date _____

Health Department, Phone _____

Installation is ready for inspection. If any Sewage Disposal System, or part thereof, is covered before being inspected by the Health Department, it will be covered by the Division of the Health Director or his agent. CONDITIONS DISCOVERED DURING INSTALLATION MAY REQUIRE ADJUSTMENT OF SYSTEM DESIGN. Changes from above specifications require Health Department approval before being made.

Excludes wet hole, 6' deep, 10' dia, 10' deep

10/15/77 Stanley Beck

Sanitarian / Health Director

REASONS FOR REJECTION

- (1) Void after 120 twelve months. (2) Automaticaly cancelled when site conditions are changed from those shown on permit.
 (3) Automaticaly cancelled should facts later become known that a potential hazard would be created by continuing installation.

Project City, Survey No. Date 10-5-77 Date No.

Owner Joseph G. Gentry, Jr. Address Norcross, Ga. Phone 0268
 (Mailing Address)

Occupant G. V. Miller, Permis Recd. Address Phone
 (Mailing Address)

Exact Location 37.3 to right on #558. Go 1.9 miles, left on private road,
 of premises go .3 miles to end, Site 4
 Subdivision, Street or Road Name, Section or Lot No.)

FOR: ☒ Sewerage ☐ Other ☐ Automatic Washing Machine ☐ Yes ☒ No Consumption gal. per day
 Actual ☐ Potential ☒ Bedrooms 3 Garbage Disposal Unit ☐ Yes ☒ No (☐ Actual ☒ Estimated Water)

Additional wastes

(1) WATER SUPPLY Existing Class Approved ☒ Yes ☐ No Other
 (To be installed) Class Based To be installed ft.
 Unless supported by positive evidence Class III is to be considered as to be installed

(2) SOIL STUDY Naturally drained, suitable by sight ☐ Yes ☒ No Technical Classification
 Estimated Percolation Rate 1-10 ☐ 11-25 ☐ 26-50 ☐ > 50 ☐ Percolation Test Required ☐ Yes ☒ No ☐ Ray
 (Minutes per inch) (Minutes per inch to nearest 10 minutes)
 Depth to Gray Mottles inches (Test made over 4 ft.) OTHER
 Surface drainage required ☐ Yes ☒ No OTHER DRAINAGE

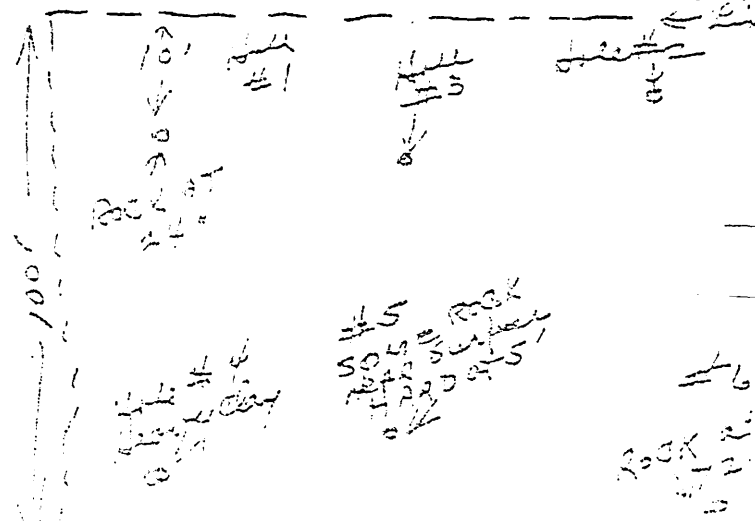
(3) HOUSE SEWER LINE Size inches. Type of material required Distance from Water Supply feet.

(4) DETAILS OF CONSTRUCTION Watertight Septic Tank of Material Liquid Capacity gallons.
 Inside Dimensions Length feet Width feet Liquid Depth feet Depth of Air Space feet

SUBSURFACE ABSORPTION FIELD Number of squares feet required with aggregate required
 Depth of aggregate from base of tile to bottom of ditches inches Allowable fall to inches.
 Total aggregate minimum depth inches or more. Depth of drainfield to be inches from surface of original ground.
 Distance from well to septic tank feet; distance from well to drainfield feet.

Rough Sketch of Premises (including adjacent properties if pertinent, showing location of lot line, buildings, water supplies, sewage disposal systems, trees, and other possible sources of contamination of water supplies, by indicating distances and slope with regard to one another.

SOIL: Soil is brown plastic clay to an olive brown silty clay to 24" with either rock or yellowish brown with gray weathered material under this. Note the drawing to the right for depths to rock. Soil profiles for each hole is shown on supplementary sheet.
 NOTE: Because of heavy plastic clay in upper horizon and insufficient depths due to hard rock or boulders, we must reject this site for sub-surface drainfield.



* available upon request

Not drawn to scale

Submitted by Date

Notes: Owner or applicant must notify Department, Phone
 Installation is subject to inspection by the Sewage Disposal System District (hereafter referred to as the District) before being accepted by the District. If the District is not satisfied with the installation, the District Director or his agent, if authorized, may require adjustments or changes from above specifications before final Department approval can be made.

Signature Date
 Signature Date
 Signature Date

REASONS FOR REJECTION

(1) Void after 120 twelve months. (2) Automatically cancelled when site conditions are changed from those shown on permit. (3) Automatically cancelled should facts later become known that a potential hazard would be created by continuing operation.

0269

Owner Joseph Anthony Thayer Address Nickassville, Mo. Phone _____

Occupant J. W. Miller Permit Request Address _____ Phone _____

Exact Location Ro. 3 to right on #33. Go 1.9 miles, left on private road. Go .3 miles of premises to end. Side A

Subdivision, Street or Road Name, Section or Lot No.

FOR: ☒ Dwelling ☐ Other _____ Automatic Washing Machine ☐ Yes ☐ No Consumption _____ gal. per day
 Actual ☐ Potential ☒ Bedrooms 3 Garbage Disposal Unit ☐ Yes ☐ No (☐ Actual ☒ Estimated)

Additional Wastes _____

(1) WATER SUPPLY (Existing) Class _____ Approved ☒ No _____ Other _____
 (To be installed) Class _____ Cases _____ to be grouted _____ ft.

SOIL: ☒ Naturally drained, suitable by right ☐ No _____ Technica Classification _____
 (2) Estimated Percolation Rate 1-10 ☐ 11-25 ☐ 26-50 ☐ > 51 ☐ Percolation Test Required ☐ Yes ☐ No ☐ Rare
 (Minutes per inch) _____
 Depth to Gray Mottles _____ inches Test area over 4' x 4' OTHER _____
 Surface drainage required ☐ Yes ☐ No OTHER DRAINAGE _____

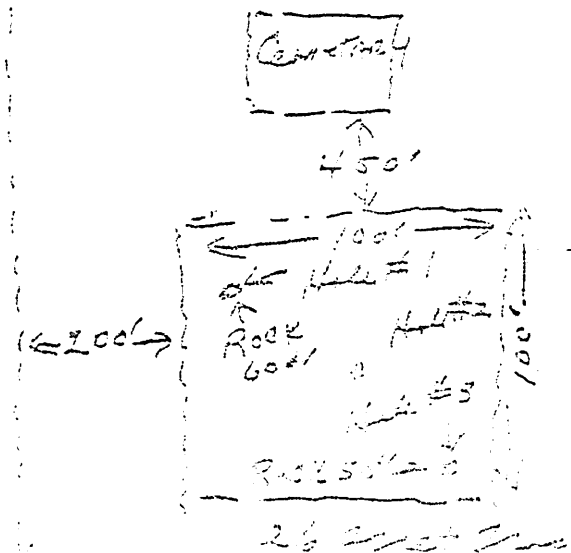
(3) HOUSE SEWER LINE Size _____ inches Type of material required _____ Distance from Water Supply _____ feet

(4) DECAIES OF CONSTRUCTION Water-tight/Septic Tank of _____ Gallons at _____ Liquid Capacity _____ gallons
 Inside Dimensions Length _____ feet Width _____ feet Liquid Depth _____ feet Depth of Air Space _____ feet

SUBSURFACE ABSORPTION FIELD Number of square feet required _____ Aggregate required _____
 (5) Depth of aggregate from base of tile to bottom of ditches _____ inches Allowable fall _____ inches
 Total aggregate minimum depth _____ inches or more Depth of drainfield to be _____ inches from surface of original ground
 Distance from well to septic tank _____ feet Distance from well to drainfield _____ feet

Rough Sketch of Premises (including adjacent properties if pertinent, showing location of lot line, buildings, water supplies, sewage disposal system, trees, and other possible sources of contamination of water supplies, by indicating distances and slope with regard to one another)

SOIL: The soil generally is:
 0-4" dark brown loam
 4" - 36, 40" dark brown plastic clay
 with mottling in one hole at 36" and
 one hole at 24".
 40-60" greyish brown weathered material
 with rock at 60" in one hole and one
 hole at 50".
 A profile of each hole is shown on a
 supplemental sheet. (available upon request)
 REASONS: Because of very slow permeability through
 plastic clay in upper horizon, insufficient
 depth to hard rock and evidence of a seasonal
 water table, as indicated by mottling,
 we must reject this site for subsurface
 installation.



NOT READY TO SIGN _____

Note: Owner of this permit must notify _____ Health Department, Phone _____

Signature _____ Date _____

Signature _____ Date _____

City/County Calaveras Date 10/1/80 **0270**

Report of Don Burke Soil Scientist Calaveras Co. Health Dept.
(Name of person performing evaluation) (Individual or Agency requesting report)

Property Owner Tough Land Farm Property Identification _____

Address 4224 Barrett Rd. Maricopa, Va. 9253

Physiographic Province Piedmont Landscape Position Upland

Check Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)

Soils 2 Soil Profile
or Soils 2 at Application SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1a.	0-7"	Brown	Clay Loam
b.	7-22"	Yellowish Brown	Clay Loam, High Clay Content
c.	22"-72"	Brownish Gray	Weathered Material, Sandy Clay Loam
d.			Rock At 72"
2a.	0-12"	Dark Brown	Clay Loam
b.	12"-40"	Olive Brown	Plastic Clay
c.	40"-40"	Yellowish Gray	Weathered Material
d.			
3a.	0-16"	Dark Brown	Plastic Clay
b.	16"-40"	Yellowish Brown	with Gray Weathered Material
c.			Rock At 40"
d.			
4a.	0-12"	Dark Brown	Plastic Clay
b.	12"-40"	Yellowish Brown	Weathered Material
c.			Water At 30", Standing For Days
d.			

CHECK PROBLEMS) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Sign of Erosion	SLOPE	* Seasonal Water Table - Indicate Periods of Saturation	* Rate of Absorption	* Notes	Colluvial or Alluvial	Other Comments
		Estimated	Estimated			
		4 - 21"		22 - 72"		
		5 - 40"		40 - 40"		

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☐ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

City/County ColoquialDate 10/18/81 **0271**Report of W. M. Burke, D. S. San. Eng. For Coloquial Co. San. Dept.
(Name of person performing evaluation) (Individual or Agency requesting report)Property Owner Joseph G. Gump Property (Identify) Location _____Address #400 Bern. H. 24, Coleridge Va. 22013Physiographic Province Piedmont Landscape Position UplandCheck Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Steep (7-15%); ☐ Hilltop (15-25%); ☐ Steep (>25%)

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	COLOR	PROFILE DESCRIPTION
			TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1.	0-10"	Dark Brown	Clay loam
b.	10-30"	Yellowish Brown	Clay loam
c.	30-40"	Light Brown	Weathered Material
d.			Water at 40" standing for Days
2a.			
b.			
c.			
d.			
3a.			
b.			
c.			
d.			
4a.			
b.			
c.			
d.			

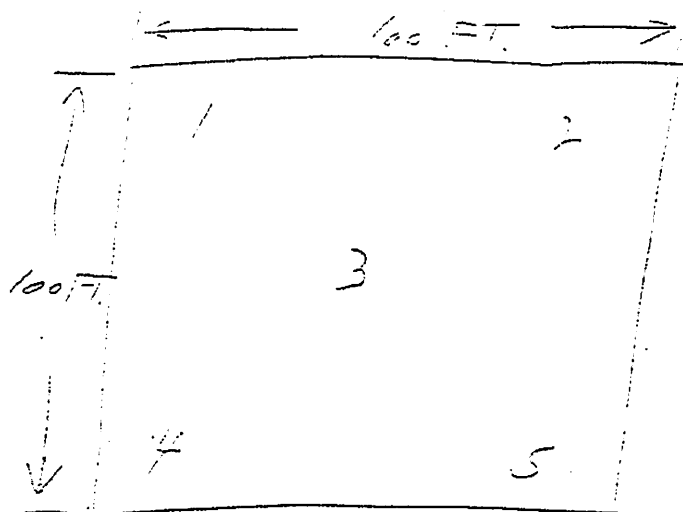
CHECK PROBLEMS! OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Site or Area	Source	* Excesses in Soil Toxicity Indicate	* Rates of Absorption	* Risk	Conductivity or Resistivity	Other Comments
		* Periods of Absorption	Estimated	Estimated		

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☐ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL.

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

0272



City/County: Salisbury

Date: 10/02/13

Report of: W. M. Burke, Inc. P.A.
(Name of person performing evaluation)

For: Sharon C. Smith, Esq.
(Individual or Agency requesting report)

Property Owner: David Eastberg

Property Identification: _____

Address: 2441 River Road, Salisbury, VA 22753

Physiographic Province: Piedmont

Landscape Position: Upland

Check Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Steep (7-15%); ☐ Hill (15-25%); ☐ Steep (>25%)

Site: 1 - 100' x 100'
1. Site: 1 - 100' x 100' - DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT PROPERTIES
1a.	0-3"	Dark Brown	Clay Loam
b.	3"-16"	Dark Brown	Plastic Clay
c.	16"-30"	Dark Brown	Weathered Material
d.			Rock at 30" Water at 26"
2a.	0-36"	Dark Brown	Plastic Clay
b.	36"-50"	Light Brown	Weathered Material
c.			Rock at 50"
d.			
3a.	0-33"	Dark Brown	Rocky Clay Loam
b.			Rock at 33" Some Rock at 44"
c.			
d.			
4a.	0-3'	Dark Brown	Clay Loam
b.	3'-42"	Yellowish Brown	Plastic Clay
c.	42'-72"	Yellowish Brown	Weathered Material
d.			

CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Type of Problem	Boring	Location of Problem	Depth of Problem	Cause of Problem	Other - Description

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☐ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

County Essex Date 10/02/74

Report of W. M. Burke, District Eng. For _____
 (Name of person performing evaluation) (Individual or Agency requesting report)

Property Owner: Joseph G. L. L. Property Identification _____

Address 1000 Barnard Rd. Middleville, Va. 22642

Physiographic Province Piedmont Landscape Position Upland

Check Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)

SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1.	0-2"	Dark Brown	Clay Loam
a.	2-4"	Dark Brown	Plastic Clay
c.	4-22"	Grayish Brown	Weathered Material
d.			
2a.			
b.			
c.			
d.			
3a.			
b.			
c.			
d.			
4a.			
b.			
c.			
d.			

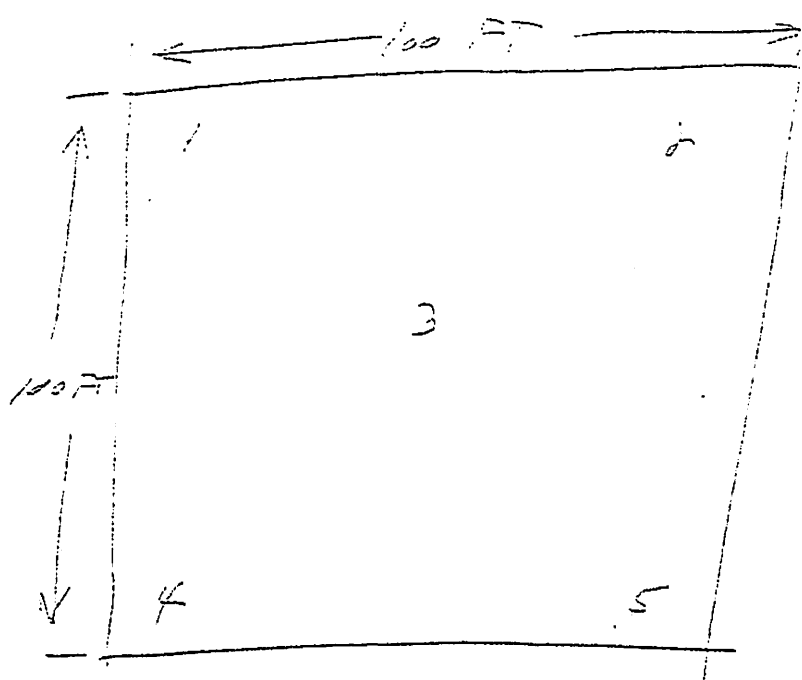
CHECK PROBLEMS* OR WHERE APPLICABLE SHOW * DEPTH (Refer to Boring No.)

Sign of Area	Depth	* Seasonal Water Table - Indicate Presence or Absence	* Signs of Adversity Unsettled Settled	* Rock	Conjunctive or Artificial	Other - Describe

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☐ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL.

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

0275



0276

City/County San DiegoDate 12/1/77Report of W. M. Smith For San Diego State Univ.
(Name of person performing evaluation) (Individual or Agency requesting report)Property Owner San Diego State Univ. Property Address San Diego State Univ.Address San Diego State Univ.Physiographic Province Desert Landscape Position UplandCheck Slope: ☐ Flat (0-3%); ☒ Gentle Slope (3-7%); ☐ Sloping (7-15%); ☐ Hill (15-25%); ☐ Steep (>25%)Site San Diego State Univ.Site San Diego State Univ. SOIL DESCRIPTION - If Seen, Show Depth to Free Water

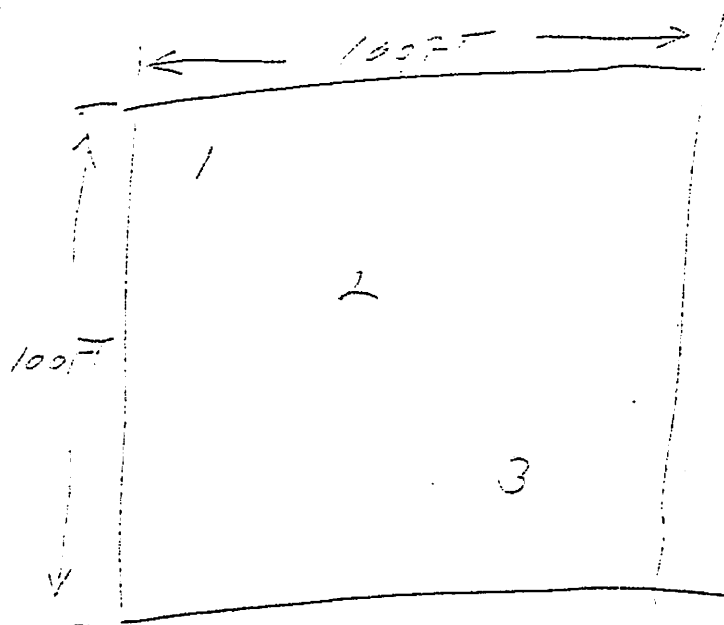
BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1a.	0-4"	Dark Brown	Clay loam
b.	4-12"	Dark Brown	Plastic Clay Grey Mottling at 3 1/2"
c.	12-16"	Greyish Brown	Weathered material
d.			Rock at 16"
2a.	0-4"	Dark Brown	Clay loam
b.	4-32"	Light Brown	Plastic Clay Grey Mottling at 7 1/2"
c.	32-40"	Greyish Brown	Weathered material
d.			
3a.	0-4"	Dark Brown	Clay loam
b.	4-32"	Dark Brown	Plastic Clay
c.	32-40"	Greyish Brown	Weathered material
d.			Rock at 50"
4a.			
b.			
c.			
d.			

CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW "D" DEPTH (Refer to Boring No.)

Site	Season of Water	Season of Observation	Season of	Season of
Area	Threat	Threat	Threat	Threat

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☐ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK



6278

 Date 11-12-77

 County Calaveras

 Report of H. V. Bedkin, Pasadena, California
 (Name of person performing evaluation)

(Individual or Agency requesting report)

 Property Owner Trough Green Corp. Property Identification W. Side Rd. = 158, 117 miles

 Address 2222 Birch Rd., Ukiah, Ca 95528

 Physiographic Province Piedmont Landscape Position Upland

 Check Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hilly (15-25%); ☐ Steep (>25%)

 S.F. = 1 as marked by Mr. Tom Heister.
 SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
1a.			Water Standing in hole to within 27" of ground surface. Hole approx. 5' deep.
b.			
c.			
d.			
2a.			Water Standing in hole to within 42" of ground surface. Hole approx. 5' deep.
b.			
c.			
d.			
3a.	0-7	Fill dirt	
b.	7-14	Brown loam	
c.	14-44	Brown Plastic clay	
d.	44-65	Light Brown weathered rock. Hard rock at 65"	
4a.	0-4	Brown loam	
b.	4-65	Brown Plastic clay	
c.	5-100	Grey weathered rock	
d.	100	Hard rock also in this bore hole approx. 15" from this hard rock at 65"	

CHECK PROBLEM(S) OR WHERE APPLICABLE SHOW DEPTH (Refer to Boring No.)

SLOPE	SLOPE	SLOPE		SLOPE	SLOPE	SLOPE	SLOPE
		Estimated	Estimated				
#1 - 27"				#3 - 65"			
#2 - 42"				#4 - 65"			

 DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

0279

Host County ChaparralDate 12-7-77Report of H. C. Bodkin, Farm Soil & Plant Health Dept.

(Name of person performing evaluation)

(Name of Agency requesting report)

Property Owner Frank BodkinProperty Identification H.S. 211 450 1/2 mileAddress 1929 Everett Rd. Mesquite, N.M. 88048Physiographic Province BasinLandscape Position UplandCheck Slope: ☐ Flat (0-2%); ☒ Gentle Slope (2-7%); ☐ Sloping (7-15%); ☐ Hill (15-25%); ☐ Steep (>25%)S_{1/2} = 1 as measured by 1/4" from horizon
SOIL DESCRIPTION - If Seen, Show Depth to Free Water

BORING NO.	DEPTH IN INCHES	PROFILE DESCRIPTION	
		COLOR	TEXTURE & OTHER IMPORTANT SOIL PROPERTIES
5a.		Dilled with Super - Rock at 24"	
b.			
c.			
d.			
6a.		Hole #6 was in lower extreme corner	
b.		insufficient area. Profile was not made	
c.			
d.			
7a.		0-20 Brown Plastic Clay	
b.		20-60 Light Brown Feathered Rock	
c.		60 Hard Rock, another area to same	
d.		back has hole, Rock at 52"	
8a.			
b.			
c.			
d.			

CHECK PROBLEMS OR WHERE APPLICABLE SHOW "DEPTH" (Refer to Boring No.)

Type of well	Depth	Groundwater		Depth to water	Depth to bedrock	Depth to clay	Depth to sand
		Static	Dynamic				
				5' - 30"			
				7' - 57"			

DO YOU HAVE RECOMMENDATIONS TO CORRECT ANY OF THE ABOVE? Yes ☐ No ☒ IF "YES" SUBMIT SEPARATE WRITTEN REPORT AND DESCRIBE YOUR PROPOSAL IN DETAIL

SKETCH BORINGS LOCATIONS, LANDMARKS, ETC., ON BACK

RECEIVED
0281

OCT 21 1977

COMMONWEALTH of VIRGINIA

CULPEPER COUNTY
HEALTH DEPT.

Department of Health
Richmond, Va. 23219

October 19, 1977

Soil Investigation No. 1591
Requested By: Dr. R. S. LeGarde
Observed: October 18, 1977
Culpeper County, Virginia

Location: Investigation of Designated Sites on Joseph Godfrey Property off of
Hwy. 658.

The designated sites were in the Triassic Lowland and over diabase rock. The sites were on gently sloping topography.

Site 3 of Health Department or Site 1 of Geologist Consultant. The new site 3 was an expansion up slope from the original site.

Hole 1 0-7 inches fill
7-14 inches dark brown loam
14-44 inches dark brown plastic clay grading up to
weathered parent material
44-63 inches olive brown loam weathered diabase
63+ inches hard rock
Two other borings in pit encountered hard rock at 60 and 65 inches.

Hole 2 0-4 inches dark brown loam
4-50 inches dark brown plastic clay grading to weathered
parent material
50-100 inches olive brown loam weathered diabase
100+ inches hard rock
Boring 15 inches away had hard rock at 60 inches.

Hole 3 0-20 inches dark brown plastic clay
20-63 inches olive brown loam weathered diabase
63+ inches hard rock
Another boring showed rock at 58 inches.

Hole 4 Water standing in pit at 48 inches at time of investigation.
0-2 inches dark brown loam
2-36 inches dark brown plastic clay grading to parent
material
36-60+ inches brown loam with pockets of silt and clay
Auger only 60 inches - pit had water.

0282

Hole 6 Water standing in pit at 60 inches at time of investigation.
0-33 inches dark brown plastic clay
33-42 inches brown sandy clay loam
42-60- inches olive brown loam weathered parent material
Auger only 60 inches - pit had water.

Hole 6 0-16 inches dark brown loam
16-30 inches dark brown sandy clay loam
30+ inches hard rock.

Hole 7 0-30 inches dark brown plastic clay
30-60- inches olive brown loam weathered parent material.

The borings indicate a variable depth to hard rock similar to original investigation. No data was presented by consultant as to soil profile or the relative depth or thickness of parent material. No data was presented as to the permeability of the weathered parent material. Since two of the pits were holding water in the parent material, it indicates the pockets of weathered material can be saturated. The thickness of the weathered zone did not meet the proposed criteria. No attempt was made to show that the rock encountered was loose rock as the backhoe holes all terminated above the rock encountered. No data was presented on the location or design of the drainfield ditches. Hard rock was encountered rather shallow in the middle of the proposed drainfield site. The site was approximately 100 by 100 feet.

Site 4 of the Health Department or Site 2 of the Geologist.

Hole 1 0-50 inches dark brown plastic clay grading to weathered
parent material
50-76 inches yellowish brown sandy clay loam weathered
parent material
76+ inches hard rock.

Hole 2 Water standing in hole at 30 inches at time of investigation.
0-2 inches dark brown loam
2-16 inches dark brown plastic clay
16-30 inches olive brown loam weathered parent material
30+ inches hard rock
Additional boring showed rock at 20 inches. Backhoe did not dig through
this rock.

Hole 3 0-2 inches dark brown loam
2-31 inches dark brown plastic clay
31-60 inches olive brown loam weathered parent material
60+ inches hard rock

Hole 4 0-33 inches dark brown sandy clay loam
33+ inches hard rock
Water standing in pit at 33 inches at time of investigation.

Hole 3 Water standing in pit at 34 inches at time of investigation.
0-3 inches dark brown loam
3-22 inches dark brown plastic clay
22-34 inches gray plastic clay.

0283

Site 4 had areas shallow to rock as well as areas of deep clay. Water was standing in 3 of the pits indicating slow absorption.

Site 5 of the Health Department or Site 3 of the Geologist.

Hole 1 0-5 inches dark brown loam
5-42 inches dark brown plastic clay
42-60 inches yellowish brown loam
60+ inches rock.

Hole 2 0-38 inches dark brown plastic clay
38-48 inches yellowish brown loam weathered diabase
48+ inches rock.

Hole 3 0-44 inches dark brown plastic clay
44-63 inches yellowish brown loam weathered diabase over
hard pockets of rock.

Hole 4 0-16 inches dark brown plastic clay
16-30 inches gray plastic clay mottled with yellowish brown
30-40 inches dark brown plastic clay
40-68 inches yellowish brown loam weathered parent material
grading to hard rock.

Hole 5 0-18 inches dark brown plastic clay
18-31 inches gray mottled with yellowish brown plastic clay
31-45 inches dark brown plastic clay
45-71 inches brown loam weathered parent material
71+ inches rock.

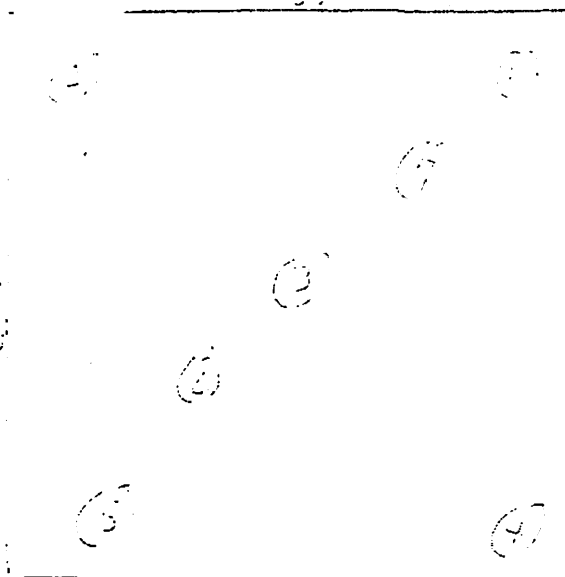
The depth to weathered parent material variable as well as depth to rock indicating pockets. A seasonal water table was indicated by the gray colors in two pits.

W. J. Meyer
Soil Scientist

PLAT FOR INVESTIGATION 1573

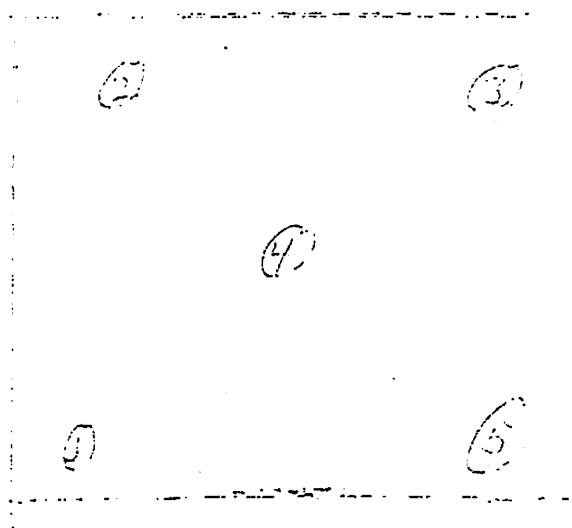
0284

SITE 3



Sign

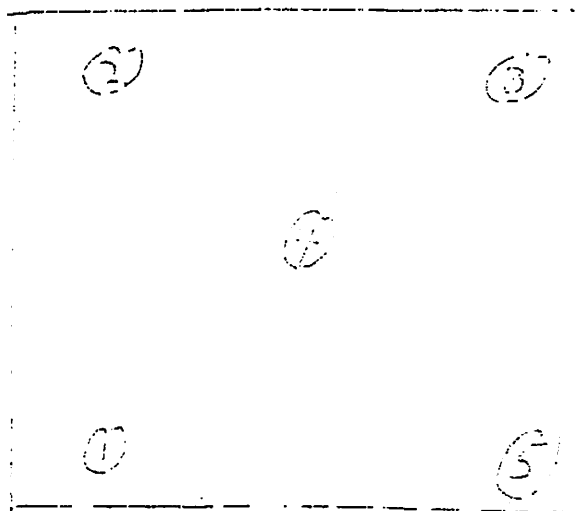
SITE 4



RECEIVED
OCT 25 1977
CULPEPER COUNTY
HEALTH DEPT.

Sign

SITE 5



Sign

Sign

CULPEPER COUNTY HEALTH DEPARTMENT
CULPEPER, VIRGINIA 22701

0285

COOPERATION WITH THE
STATE DEPARTMENT OF HEALTH

October 28, 1977

Mr. B. Waugh Crigler, Attorney at Law
122 W. Cameron Street
Culpeper, Virginia

THROUGH: R. S. LeGarde, M.D. *RL*
Health Director

Dear Mr. Crigler:

RE: Drainfield Permit Application
Godfrey Property

We have completed our examination of the last three proposed drainfield sites as requested by Mr. G. V. Miller. The results of our investigation are shown on the enclosed forms. These sites are identified as Sites 3, 4 and 5.

Site #3 was applied for by Mr. G. V. Miller, this being the same site proposed during the administrative hearing in Richmond. Mr. Miller also applied for Sites 4 and 5.

Please advise if we can be of further service.

Sincerely,

Stanley Borders

Stanley Borders
Registered Sanitarian *ph*

SB:kbs
encs.

Craig

CULPEPER COUNTY HEALTH DEPARTMENT
CULPEPER, VIRGINIA 22701

0286

IN COOPERATION WITH THE
STATE DEPARTMENT OF HEALTH

TO: Dr. S. A. Graham, Jr., Assistant Commissioner
Local Health Services

FROM: Dr. R. S. LeGarde *RSL*
Health Director

SUBJECT: Godfrey Property

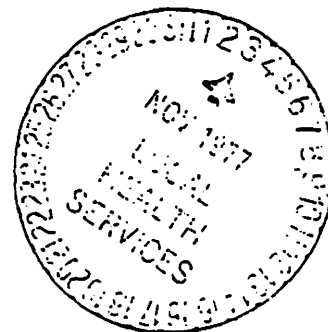
DATE: November 1, 1977

The enclosures are for your updating regarding the situation being appealed in Culpeper.

As expected, no acceptable sites have been found on this tract.

If the appeal goes to court, I respectfully suggest we have conferences with Mr. Vance prior to trial.

You will be advised future developments.



RSL/jlc

*Copy
Legal based
Godfrey*

November 4, 1977

R. S. LeGarde, M.D., Director
Culpeper County Health Department
602 South Main Street
Culpeper, Virginia 22701

Dear Doctor LeGarde:

Thank you for your November 1, 1977, memorandum relating to further studies on the Godfrey property in Culpeper. From the information that you have furnished, it does not appear that Mr. Godfrey, or Mr. Houston, have been able to come up with a tile field location meeting the criteria outlined in Dr. Kenley's letter. It would appear that the denial stands, and any further actions are up to Mr. Godfrey.

Please keep us apprised of any further developments.

Sincerely,

S. A. Graham, Jr., M.D.
Assistant State Health Commissioner
Local Health Services

SAGjr/dkh

cc: Dr. Wood
Mr. Goode
Dr. Vance

NOTE: Information furnished by Dr. LeGarde can be obtained for viewing from Dr. Graham's Office.



File Copy
Legal

0288

COMMONWEALTH of VIRGINIA

JAMES B. KENLEY, M.D.
COMMISSIONER

Department of Health
Richmond, Va. 23219

January 17, 1978

Mr. B. W. Crigler
Lee, Davis, Crigler, and Barrell
Attorney At Law
122 West Cameron Street
Post Office Box 712
Culpeper, Virginia 22901

Dear Mr. Crigler:

Per a request from Dr. Leonard Vance, Assistant Attorney General, I am enclosing with this letter a copy of a soil investigation conducted by Mr. W. J. Meyer, Soil Scientist, State Department of Health, of designated sites on the Joseph Godfrey Property Off of Virginia Highway 658, Culpeper, Virginia.

If I, or the staff of the Local Health Department, may be of further assistance to you in regard to this request, please let me know.

Sincerely,

S. A. Graham, Jr.
Assistant Commissioner
Division of Local Health Services

SAGjr/sak

Enclosures

cc: Vance (L/only)
1-20-78 df

LAW OFFICES

LEA, DAVIES, CRIGLER & BARRELL

0289

POST OFFICE BOX 712
122 W. CAMERON STREET
CULPEPER, VIRGINIA 22701

(703) 825-6000

T. C. LEA, JR.
JOHN J. DAVIES, III
B. WAUGH CRIGLER
CHARLES D. BARRELL

STEPHEN P. WILL

POST OFFICE BOX 235
GAY AND JETT STREETS
WASHINGTON, VIRGINIA 2274

(703) 675-3617

DOUGLAS K. BAUMGARDNER

August 4, 1978

R. Leonard Vance
Assistant Attorney General
1101 East Broad Street
Richmond, VA 23219

Re: Godfrey, et als v. Commonwealth, et als
Circuit Court of Culpeper County

Dear Leonard:

The purpose of this letter is to provide you with a copy with our proposed amended Complaint in the Circuit Court of Culpeper County together with an Order which I would appreciate your reviewing, endorsing, and returning to me.

This procedure is in conformity with our latest telephone conversation which was sometime ago, and I trust that this conforms with same.

Thank you,

Sincerely,


B. Waugh Crigler

BWC/clh
Enclosures

VIRGINIA: IN THE CIRCUIT COURT OF CULPEPER COUNTY

JOSEPH E. GODFREY and
ADYLNE GODFREY, husband and wife,

Complainants

vs.

In Chancery Number

COMMONWEALTH OF VIRGINIA, et als,
DEPARTMENT OF HEALTH
RICHMOND, VIRGINIA 23219,

Defendants

ORDER

CAME THIS DAY the Complainants, Joseph E. Godfrey and Adylne Godfrey, by Counsel and moved the Court to amend their Bill of Complaint heretofore filed, and

IT APPEARING to the Court that the parties heretofore served, by Counsel, did not object to the filing of the amended Complaint, and

IT IS ACCORDINGLY ordered, adjudged and decreed that the Motion to Amend be and same hereby is granted and that the Complainants be and same hereby are permitted to file their Amended Complaint to be served in accordance with the applicable statutes and rules.

ENTER: _____
Judge

DATE : _____

I ASK FOR THIS:

B. Waugh Crigler,
Counsel for Complainants

SEEN AND AGREED:

R. Leonard Vance
Counsel for Defendants of Record

VIRGINIA:

IN THE CIRCUIT COURT OF CULPEPER COUNTY

JOSEPH E. GODFREY and
ADLYNE GODFREY, husband and
wife,

Complainants,

vs.

IN CHANCERY NO.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH
RICHMOND, VIRGINIA 23219

Serve: JAMES B. KENLEY, M.D.
State Health Commissioner
Department of Health
Richmond, Virginia 23219

and

Kenneth M. Haggerty, D.D.S.
Member, State Board of Health
4500 Old Dominion Drive
Arlington, Virginia 22207 and,

Fletcher J. Wright, Jr., M.D.
Member, State Board of Health
49 S. Market
Petersburg, Virginia 23803 and,

John H. Van Hoy, O.D.
Member, State Board of Health
P. O. Box 218
Chase City, Virginia 23925 and,

Wm. R. Hill, M.D.
Member, State Board of Health
401 W. Grace
Richmond, Virginia 23220 and,

Mr. A. Gibson Howell
Member, State Board of Health
Louise Obici Memorial
Suffolk, Virginia 23434 and,

Mr. J. Curtis Nottingham
Member, State Board of Health
1236 Richmond Road
Williamsburg, Virginia 23185 and,

Clarence W. Taylor, Jr., M.D.
Member, State Board of Health
Box 97
Shawsville, Virginia 24162 and,

Brig. Gen. James M. Morgan, Jr.
Member, State Board of Health
Office of Dean
VMI
Lexington, Virginia 24450 and,

Mrs. Fostine G. Riddick, R.N.
Member, State Board of Health
Claim Department Nursing
Hampton Institute
Hampton, Virginia 23668

SMITH AND DAVENPORT
2153 LEE AVENUE
P. O. BOX 51
MANASSAS, VA 22110

and

JAMES B. KENLEY, M.D.
STATE HEALTH COMMISSIONER
DEPARTMENT OF HEALTH
RICHMOND, VIRGINIA 23219

Defendants.

AMENDED BILL OF COMPLAINT

COME NOW, the Complainants, Joseph E. Godfrey and Adlyne Godfrey, husband and wife, by counsel and would state to the Court as follows:

1. That Complainants are the owners of two certain tracts or parcels of land situated, lying and being in Cedar Mountain Magisterial District, Culpeper County, Virginia, as shown on a plat of Curry T. Guinn, Jr., CLS, containing 26.93 acres more or less. Said plats are hereto attached as collective exhibit "A".

2. That some time prior to December 10, 1976, the Complainants entered into a contract for purchase and sale of said real estate with one George V. Miller, which said contract was contingent upon and subject to the furnishing of percolation tests and the guaranteeing to the purchasers that the purchasers be able to obtain a building permit on the said tract or parcel of land. That in order to obtain a building permit on said parcels or tracts of land it was necessary to obtain the appropriate approval from the Commonwealth of Virginia, Department of Health, by and through the Culpeper County Health Department for the installation of a septic tank and drain field on said parcels of land.

3. That on or about March 9, 1977, the contract purchaser through Robert John Miller applied for a permit to locate and install a septic tank and tile field. On April 26, 1977, Joseph Godfrey, one of your Complainants filed an applica-

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P. O. BOX 81
MANASSAS, VA 22110

tion to obtain approval for the installation of a septic tank and drain field on another location on the tracts or parcels of land which is the subject matter hereof.

4. That by subsequent action of the Culpeper County Health Department the applications of March 9, 1977, and of April 26, 1977, were denied. This denial was contained in a certain letter dated May 20, 1977, from R. S. Legard, M.D., Director of the Culpeper County Health Department to Mr. Joseph Godfrey, one of your Complainants, a copy of which is attached as Exhibit "B".

5. That thereafter Joseph Godfrey, by his attorney duly perfected an appeal to the State Health Commission pursuant to the applicable appeal procedure which said notice of appeal was contained in a letter from B. Waugh Crigler, Esquire, counsel for Joseph Godfrey, dated May 12, 1977, to the State Health Commissioner, a copy of which is attached as Exhibit "C".

6. That subsequent thereto George V. Miller, the contract purchaser, individually and by his attorney, presented certain evidence from T. A. Houston, Geologist, to the Culpeper County Health Department, which said additional information was rejected by said department by letter dated June 17, 1977, from Stanley Borders, registered sanitarian, to Peter Wm. Steketee, Esquire, counsel for George V. Miller. That thereafter on June 29, 1977, pursuant to appropriate notice, a hearing was held in the fifth floor conference room of the James Madison Building, in Richmond, before Samuel A. Graham, Jr., M.D., Assistant Commissioner, local health services of the State Health Department, the purpose of which hearing was to review the decision of the Culpeper County Health Department dated May 10, 1977. A copy of the transcript of the proceedings and Mr. Houston's report are attached as Exhibit "D".

7. That by letter dated July 28, 1977, from the defendant, James D. Kenley, M.D., State Health Commissioner to Joseph Godfrey, one of your Complainants herein, the action of the Culpeper County Health Department in denying the applications for installation of a septic tank and the tile drain field on the property of your Complainants was sustained, and it is this action by the Commonwealth of Virginia, its Department of Health, by and through its members: James B. Kenley, M.D., Kenneth M. Haggerty, D.D.S., Fletcher J. Wright, Jr., M.D., John H. Van Hoy, O.D., Wm. R. Hill, M.D., Mr. A. Gibson Howell, Mr. J. Curtis Nottingham, Clarence W. Taylor, Jr., M.D., Brig. Gen. James M. Morgan, Jr., Mrs. Fostine G. Riddick, R.N., and by and through its Commissioner, James D. Kenley, M.D., individually and in his capacity as Commissioner, from which your Complainants now take their appeal to this Court. A copy of the decision below is hereto attached as Exhibit "E".

8. That the action and resultant decision of the Commonwealth of Virginia, its Department of Health, by and through its members: James B. Kenley, M.D., Kenneth M. Haggerty, D.D.S., Fletcher, J. Wright, Jr., M.D., John H. Van Hoy, O.D., Wm. R. Hill, M.D., Mr. A. Gibson Howell, Mr. J. Curtis Nottingham, Clarence W. Taylor, Jr., M.D., Brig. Gen. James M. Morgan, Jr., Mrs. Fostine G. Riddick, R.N., and by and through its Commissioner, James D. Kenley, M.D., individually and in his capacity as Commissioner, were not in accordance with constitutional right, power of privilege or immunity; that the action and resultant decision were not in observance of required procedure and such non-observance was not merely harmless error; that this action and resultant decision were not based upon substantial evidence to support the findings of fact as therein contained and, in fact, ignored the evidence presented; that the actions

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MANASSAS, VA 22110

and resultant decision of the defendants, were arbitrary, capricious and unreasonable to such an extent that Complainants' constitutional rights to both substantive and procedural due process were violated in derogation of the Constitution of the United States of America and the Constitution of the Commonwealth of Virginia; that the actions and resultant decision of the defendants, constitute an unreasonable and unconscionable taking of the Complainant's property without procedural and substantive due process, without compensation therefore, tantamount to condemnation, being a denial of the equal protection of the laws, in derogation of the Constitution of the United States of America and the Constitution of the Commonwealth of Virginia.

9. The Complainants, by virtue of the conduct of the defendants, and each of them, jointly and severally, have suffered irreparable harm and are without an adequate remedy at law.

WHEREFORE, Complainants pray the Court:

1. To review the action of the defendants, Commonwealth of Virginia, its Department of Health, by and through its members: James B. Kenley, M.D., Kenneth M. Haggerty, D.D.S., Fletcher J. Wright, Jr., M.D., John H. Van Hoy, O.D., Wm. R. Hill, M.D., Mr. A. Gibson Howell, Mr. J. Curtis Nottingham, Clarence W. Taylor, Jr., M.D., Brig. Gen. James M. Morgan, Jr., Mrs. Fostine G. Riddick, R.N., and by and through its Commissioner James D. Kenley, M.D., individually and in his capacity as ~~Commissioner~~ State Health Commissioner; and

2. To enjoin the enforcement of the decision of the Commonwealth of Virginia, its Department of Health by and through its members: James B. Kenley, M.D., Kenneth M. Haggerty, D.D.S., Fletcher J. Wright, Jr., M.D., John H. Van Hoy, O.D., Wm. R. Hill, M.D., Mr. A. Gibson Howell, Mr. J. Curtis Nottingham,

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P. O. BOX 51
MANASSAS, VA 22110

Clarence W. Taylor, Jr., M.D., Brig. Gen. James M. Morgan, Jr., Mrs. Fostine G. Riddick, R.N., and by and through its Commissioner, James D. Kenley, M.D., individually and in his capacity as State Health Commissioner; and

3. To vacate and set said decision aside; and

4. To remand the matter to the Commonwealth of Virginia, Department of Health, for further proceedings; and, in so remanding said case

5. To direct the said Commonwealth of Virginia, its Department of Health, by and through its members: James B. Kenley, M.D., Kenneth M. Haggerty, D.D.S., Fletcher J. Wright, Jr., M.D., John E. Van Hoy, O.D., Wm. R. Hill, M.D., Mr. A. Gibson Howell, Mr. J. Curtis Nottingham, Clarence W. Taylor, Jr., M.D., Brig. Gen. James M. Morgan, Jr., Mrs. Fostine G. Riddick, R.N., and by and through its Commissioner, James D. Kenley, M.D., individually and in his capacity as State Health Commissioner, to reverse the decision of the Culpeper County Health Department and to issue a permit for the installation of a septic tank and drain tile field on such location as the Court by the evidence may deem appropriate; and,

6. To enjoin the defendants and each of them from acting in any manner inconsistent with the rulings and decisions of this Court; and,

7. To provide such additional relief to your Complainants as may seem appropriate to this Court.

And, is duty bound, the Complainants will forever pray

JOSEPH E. GODFREY and
ADLYNE GODFREY

By _____
B. Waugh Crigler
Counsel for Complainants

SMITH AND DAVENPORT
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P. O. BOX 51
MANASSAS, VA 22110

B. Waugh Crigler, Esquire
Lea, Davies, Crigler & Barrell
P.O. Box 712
Culpeper, Virginia 22701
(703) 825-6000

and

Peter Wm. Steketee, Esquire
Smith and Davenport
P.O. Box 51
Manassas, Virginia 22110

Counsel for Complainants

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MANASSAS, VA 22110

LAW OFFICES

SMITH AND DAVENPORT

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MANASSAS, VA. 22110

TURNER TALIAFERRO SMITH
JAMES P. DAVENPORT
PETER WM. STEKETEE
CHARLES F. SIEVERS
ROBERT W. BENDALL
J. ROGER CORNELLIER

August 15, 1978

TELEPHONE
(703) 368-8148
(703) 631-1926

Mr. W. W. Burke
Sanitary and Supervisor
Culpeper County Health
Department
Culpeper, Virginia 22701

Re: Godfrey, et ux.
vs.
Commonwealth of Virginia
(Northside Route #658-1.9 miles east of Route 3)

Dear Mr. Burke:

I am writing this letter to confirm our meeting of August 3, 1978, at which time Mr. Miller and I spoke with you concerning the captioned matter. At that time and as confirmed by this letter, we are requesting your reconsideration of previous applications made by or in behalf of Mr. Joseph E. Godfrey and Mr. George V. Miller, more particularly the applications for a health department permit based upon the studies made by Mr. T. A. Houston as contained within his May 31, 1977 report. Alternatively, we would ask that you give consideration for our use of an above-ground system which we understand have been used elsewhere in the state on an experimental basis. Mr. Miller is currently investigating the different kinds and relative merits of those systems available and he hopefully will be in a position to identify a system in the near future.

We would appreciate hearing from you with your thoughts concerning our request.

Sincerely,


Peter Wm. Steketee

PWS:mc

cc: Mr. George Miller
B. Waugh Crigler, Esq.

RECEIVED

AUG 16 1978

CULPEPER COUNTY
HEALTH DEPARTMENT

August 31, 1978

Mr. Peter Steketee
Smith and Davenport Law Office
9253 Lee Avenue
P. O. Box 51
Manassas, VA 22110

THROUGH: R. S. LEGARDE, M.D.
HEALTH DIRECTOR

Dear Mr. Steketee:

We are in receipt of your letter concerning the sewage disposal applications of Mr. Godfrey and Mr. Miller at an earlier time. These applications were also appealed to the Richmond office of the State Health Department. Since an appeal has been made and a decision returned from the Richmond office on these applications, we are unable to make further comments on this subject.

We will, however, give full and prompt consideration to any alternative method of sewage disposal. Mr. Miller and Mr. Godfrey could submit a proposal indicating planning by a certified engineer or the engineer could submit the proposal directly.

Sincerely yours,

W. W. Burke
Sanitarian Supervisor

WWB/jlc

September 12, 1978

The Honorable Allen L. Lucy, Clerk
Supreme Court of Virginia
Richmond, Virginia 23219

Re: State Board of Health v. Saggese

Dear Mr. Lucy:

Kindly file the enclosed Petitions, prepared pursuant to Section 8.01-626 of the Code, with the Court and please present them to Justices Compton, Carrico and Poff.

Sincerely yours,

R. Leonard Vance
Assistant Attorney General

Enclosures

cc: Edward S. Kidd, Jr., Esq.

4:27:142

LEA, DAVIES, CRIGLER & BARRELL

0301

POST OFFICE BOX 712
122 W. CAMERON STREET
ULPEPER, VIRGINIA 22701

(703) 825-6000

T. C. LEA, JR.
JOHN J. DAVIES, III
B. WAUGH CRIGLER
CHARLES D. BARRELL

STEPHEN P. WILL

RECEIVED OCT 6 1978

POST OFFICE BOX 235
GAY AND JETT STREETS
WASHINGTON, VIRGINIA 22747

(703) 675-3617

DOUGLAS K. BAUMGARDNER

October 2, 1978

R. Leonard Vance, Esquire
Assistant Commonwealth's Attorney
Supreme Court Building
1101 East Broad Street
Richmond, Virginia 23219

RE: Godfrey, et ux
vs.
Commonwealth of Virginia

Dear Mr. Vance:

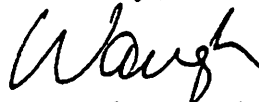
The purpose of this letter is to attempt to get some clarification with respect to the Commonwealth's position in the above referred to matter. I am aware that you have filed a motion to dismiss based on the technical rules of the administrative procedure act. Pursuant thereto, Mr. Miller could make another application before the Health Department, which I presume would result in a similar determination, and thereafter appeal to the Circuit Court.

On the other hand, you may very well desire a ruling on the merits. You may reconsider your position in light of the rules which pertain to amendments of pleadings, especially the relation back theory.

In any event, should you feel that a reapplication would cure any defects, and should you further feel that the State Department of Health may be of mind to change it's position, I would appreciate your advising me.

Thank you.

Sincerely,



B. Waugh Crigler

BWC:td

cc: Peter W. Steketee, Esquire

COMMONWEALTH OF VIRGINIA
OFFICE OF
THE ATTORNEY GENERAL
RICHMOND 23219

0302

October 11, 1978

B. Waugh Crigler, Esq.
Lea, Davies, Crigler & Barrell
P.O. Box 712
122 W. Cameron Street
Culpeper, Virginia 22701

RE: Godfrey, ex ux v. Commonwealth of Virginia

Dear Mr. Crigler:

I received your letter of October 2, 1978, concerning the above-captioned matter. I have sent copies of that letter to appropriate staff members of the State Health Department and I intend to meet with them in the next few days in order to explore the options open to the Department. Additionally, I need to do several hours of legal research myself. I would hope to be back in touch with you within the next two weeks.

With best regards, I remain

Sincerely yours,

R. Leonard Vance
Assistant Attorney General

4:27:142

bcc: O. H. Adams
Gene Goode

MEMORANDUM

TO: O. H. Adams, Acting Director
Division of Community Environmental Programs

FROM: Eugene T. Goode, Director, Bureau of Environmental Health

DATE: October 19, 1978

SUBJECT: Godfrey ex ux vs. Commonwealth of Virginia

Since I will be out of town Thursday and Friday I want you to be aware that L. Vance, Bill Meyer, D. Simmons and myself have discussed this case.

Briefly, it is as follows:

1. Properties rejected for onsite disposal following extensive soil studies by department.
2. Hearing held and Dr. Kenley's decision supported department's rejects. However, he left door open for complainants to produce information to support their claim that there were suitable soils at a depth beyond which they examined. Criteria were submitted for them to follow.
3. They have not followed through, leaving the ball in there park.
4. Thus, the information available is such to support the rejection of the examined lots.

In reviewing the case it was our opinion to let L. Vance pursue the case to Court should it become necessary.

**REGULATIONS
OF THE
BOARD OF HEALTH
COMMONWEALTH OF VIRGINIA**

Governing the Disposal of Sewage



**BUREAU OF ENVIRONMENTAL HEALTH
STATE DEPARTMENT OF HEALTH
RICHMOND, VIRGINIA**

1971

As authorized by Section 32-6, 9, 64, 65, 66, 67, 68, Code of Virginia, the State Board of Health is authorized in conformity with the provisions of Title 9, Chapter 1.1 to adopt, amend, and repeal rules and regulations for the purpose of carrying out the provisions of Chapter 1, governing the means of sewage disposal.

Also, relative to Section 66.1-44.18, 19, Code of Virginia, the State Board of Health in joint jurisdiction with the State Water Control Board is authorized to regulate sewage discharges.

Approved by the State Board of Health on July 13, 1962
To become effective on October 1, 1962

Revised by the State Board of Health on June 13, 1963
To become effective on September 1, 1963

Revised by the State Board of Health on June 2, 1971
To become effective on July 1, 1971

VIRGINIA STATE BOARD OF HEALTH RICHMOND, VIRGINIA

RULES AND REGULATIONS FOR THE DISPOSAL OF SEWAGE IN THE COMMONWEALTH OF VIRGINIA

(Health Laws Reference-Title 32 Code of Virginia)

32-6 Rules and Regulations—The Board may make, adopt, promulgate and enforce reasonable rules and regulations from time to time requiring and providing for the subjects which follow in this chapter.

32.9 Sewage Disposal—The Board may regulate and prescribe the method or methods of disposal of sewage in this State. The Board is authorized and directed through joint studies with authorized representatives of common carriers, to consider control devices and to investigate possible devices where none exists to control the discharge of human wastes from common carriers.

32-64 Occupation of house without sanitary privy or closet in any city or incorporated town in the State and for a radius of one-half mile beyond the incorporated limits thereof and elsewhere in the State whenever the local board of health shall deem it necessary, it shall be unlawful for the owner of any house or other building to be used as a human habitation to occupy or to rent or lease the same for occupancy by any person, firm or corporation, or for any person, firm or corporation to occupy same until such house shall have been supplied with a sanitary privy or closet of such form as to comply with the law. If any landlord shall fail to supply any house of his with a sanitary privy or closet as required by this section, his tenant shall supply the same in conformity with the orders of a health officer or health inspector and may deduct the cost thereof from any sum due to landlord for rent.

32-65 Certain camps and public buildings to have sanitary closets or privies—it shall be unlawful to maintain or to rent or lease any recreation or construction camp, or to use any building for educational purposes, or to permit the use of any building or tent for protracted meetings, until such camps or buildings are supplied with sanitary closets or privies.

32-66 Tenant or lessor not to neglect privies or closets—It shall be unlawful for any tenant or lessor of premises properly supplied with such a sanitary privy or closet to neglect it or to allow it to cease to be sanitary within the meaning of 32-67.

32-67 Meaning of "sanitary closet or privy"—For the purpose of the three preceding sections a "sanitary closet or privy" is deemed to be any one which provides for the disposal of human wastes or excrements in such a manner that they shall not be accessible to flies or obviously endanger a source of drinking water.

32-68 Penalty for violations as to privies or closets—Any person, firm or corporation violating any provision of sections 32-64 to 32-66 shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be fined not less than five dollars nor more than twenty-five dollars, and each week's failure to comply with any provision of such sections shall be deemed a separate offense.

ARTICLE 4. REGULATION OF SEWAGE DISCHARGES

§ 62.1-44.18. Sewerage systems, etc., under joint supervision of Board and Department of Health.—(1) All sewerage systems and sewage treatment works shall be under the general supervision of the State Department of Health and the Board jointly.

(2) The State Department of Health shall, when requested, consult with and advise the authorities of cities, towns, sanitary districts, and any owner having or intending to have installed sewage treatment works as to the most appropriate type of treatment, but the Department shall not prepare plans, specifications, or detailed estimates of cost for any improvement of an existing or proposed sewage treatment works.

(3) It shall be the duty of the owner of any such sewerage system or sewage treatment works from which sewage is being discharged into any State waters to furnish, when requested by the Board, to the State Department of Health from time to time information with regard to the quantities and character of the raw and treated sewage and the operation results obtained in the removal and disposal of organic matter and other pertinent information as is required. The State Department of Health shall furnish the Board with such available information as the Board requires.

§ 62.1-44.19. Approval of plans and specifications.—(1) Before any owner erects, constructs, opens, expands or operates a sewerage system or sewage treatment works designed to serve more than four hundred persons, and which will have a potential discharge or actual discharge to State waters, such owner shall file in duplicate with the State Department of Health a copy of pertinent plans, specifications, maps and such other information as may be required, in scope and detail satisfactory to the Department and the Board.

(2) The Department shall thereupon notify the Board that it has received the plans and other data. If the plans involve facilities from

which there is or is to be a discharge to State waters, the application shall be given public notice by publication once a week for two successive weeks in a newspaper of general circulation in the county or city where the certificate is applied for by such other means as the Board may prescribe. Upon completion of advertising, the Board shall advise the Department of the standards of quality applying to such State waters and the treatment requirements necessary to prevent contravening such standards of water quality.

(3) The Department shall then review the plans without delay and file with the Board within two months one copy and a report in which the plans are approved or disapproved. If they are not approved, the report shall state what modifications, if any, or changes will be required for approval.

(4) The Board shall review the plans and the report from the Department and make a ruling within two months approving or disapproving the plans and stating the grounds for conditional approval or disapproval. If they are approved, the Board shall grant a certificate authorizing construction of the facilities.

(5) Any owner operating under a valid certificate issued by the Board who fails to meet water quality standards established by the Board solely as a result of a change in water quality standards or in the law shall provide the necessary facilities approved by the Board within a reasonable time to meet such new requirements. The Board may amend such a certificate, or revoke it and issue a new one to reflect such facilities after proper hearing, with at least thirty days notice to the owner of the time, place and purpose thereof. If such revocation or amendment of a certificate is mutually agreeable to the Board and the owner involved, the hearing and notice may be dispensed with.

(6) The Board shall revoke the certificate in case of a failure to comply with all such requirements and may issue a special order under § 62.1-44.15(8).

(7) Nothing in this section shall limit the power of the Board and the Department in the control of sewerage systems or sewage treatment works serving less than four hundred persons.

PART I—GENERAL PROVISIONS

ARTICLE 1. DEFINITIONS

The following definitions shall apply in the interpretation and enforcement of these regulations:

SECTION A. Health Commissioner

Shall mean the chief executive officer of the State Board of Health or his authorized agent.

SECTION B. Person

Shall mean an institution, public or private corporation, individual partnership, or other entity.

SECTION C. Sewage

Shall mean the human excrement, kitchen, laundry, shower, lavatory, or industrial liquid wastes as may be present from residences, buildings, vehicles, industrial establishments, or other places.

SECTION D. Permit

Shall mean a written permit issued by the Health Commissioner authorizing the construction or repair of a sewerage system.

SECTION E. Sewerage System

Shall mean all or any part of a device, mechanism or instrumentation designed and constructed to collect, receive, and/or treat and dispose of sewage.

SECTION F. Approved Sewerage System

Shall mean a sewerage system approved by the Health Commissioner.

SECTION G. Building Drain

Shall mean that part of the lowest piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the building sewer beginning 3 feet outside the building wall.

SECTION H. Building Sewer

Shall mean that part of the horizontal piping of a drainage system which extends from the end of the building drain, and which receives the discharge of the building drain, and conveys it to a public sewer, private sewer, individual sewerage system or other point of disposal.

SECTION I. Sewage Disposal and/or Treatment Methods

For the purpose of these regulations an approved method of sewage disposal shall be deemed to be

(a) A flush toilet or sanitary closet installed according to the Commonwealth of Virginia, State Board of Health, Official Plumbing Standards and Regulations, which has been connected to an approved sewerage system, or

(b) An approved Sanitary Privy which is to include vault privy, septic privy, incinerating privy, or

(c) An approved Dumping Station

SECTION J. Temporary

Shall mean overnight use or occupancy, or major portion thereof.

SECTION K. Dumping Station

A specially designed sewerage system for the disposal of sewage and other liquid wastes from self-contained camping units.

ARTICLE 2. TEMPORARY OR PERMANENT OCCUPATION OR USE

SECTION A. It shall be unlawful for the owner of any house, trailer, tent, or other structure, or vehicle whether self-propelled or not, and used as a place of temporary or permanent habitation; any warehouse, public building or other public or private place where human beings congregate or are employed, in the Commonwealth of Virginia, to use or occupy, or to rent or lease the same for use or occupancy by any person, firm or corporation, or for any person, firm or corporation to use or occupy the same unless and until such place or places, as outlined, shall have been supplied or equipped with an inspected and approved method of sewage disposal and/or treatment.

ARTICLE 3. PERMITS

SECTION A. Valid Permit

It shall be unlawful for any person to construct, alter or extend, or to allow construction, alteration or extension to a sewerage system in the Commonwealth of Virginia unless a valid permit has been issued for that system by the Health Commissioner in the name of a specific person for a specific location.

SECTION B. Applying for Permit

Application for a permit must be made to the Health Commissioner. The Health Commissioner shall require such tests, plans and/or specifications as he deems necessary to determine the adequacy and desirability of the system. Such information shall be made a part of the permit.

SECTION C. Approval of Permit

When the Health Commissioner is satisfied that a proposed design is adequate for the conditions under which a system is to be installed and used, a written permit to proceed with construction shall be issued by him and shall contain the signature of the owner or the owner's agent.

SECTION D. Denial of Permit

When the Health Commissioner determines that a proposed design is inadequate, or soil or geological conditions are such to preclude safe and proper operation of the desired installation, he will deny, in writing, a permit to proceed with construction and specify the reason(s) for denial.

SECTION E. Appeal

An appeal in the form of a formal hearing shall be granted by the State Health Commissioner at the Madison Building if request is made in writing by certified mail and within 60 days of the denial of a permit. Such hearing shall be held at the State Health Department, Bureau of Environmental Health, 522 Madison Building, 109 Governor Street, Richmond, Virginia 23219. Within 30 days of the appeal hearing, if such hearing be requested, the State Health Commissioner shall, in writing, notify the appellant of the results of and the reasons for the decisions reached.

If the appellant does not desire to make a personal appearance at the formal hearing, the commissioner will decide the merits of case using the information and data which was furnished in denying the permit, and notify the appellant, in writing, the reasons for the decisions. Such notification shall be given within 30 days of the hearing date. Timely exhaustion of such administrative appeal and review shall be a necessary prerequisite to judicial review.

SECTION F. Voidance of Permit

1. Permits shall be null and void after 12 months from date of issuance, unless extended, in writing, by the Health Commissioner.

2. Permits shall be automatically cancelled when site conditions are changed from those shown on the permit.

3. Permits shall be automatically cancelled should facts later become known that a potential health hazard would be created by continuing installation.

ARTICLE 4. INSPECTIONS

SECTION A. Required Inspections

The Health Commissioner shall make such inspections as he may deem necessary during construction to determine compliance with these Rules and Regulations.

SECTION B. Installation

No part of any installation shall be covered or used until inspected and approved by the Health Commissioner. Any part of an installation which has been covered prior to approval shall be uncovered upon order of the Health Commissioner.

In extraordinary circumstances the Health Commissioner may give final approval to any system, although incomplete (i.e. sewer line not connected from house to septic tank) when reasonable professional judgement indicates a revisit is not practical or feasible. The inspection form shall indicate such waiver.

PART III—PIT PRIVY

ARTICLE 1. DESIGN AND CONSTRUCTION

SECTION A. Location

The privy may be placed near the home but shall be located with care to help prevent and avoid polluting nearby wells, shellfish waters, impounded waters, or streams. Table I identifies "MINIMUM DISTANCES." (See page 10.)

The privy shall be built in accordance with the current issue of the Virginia State Department of Health publication entitled "The Sanitary Pit Privy."

TABLE I

Minimum Horizontal Distance In Feet	Wells by Classification			Shell-Fish Waters†	Impounded Waters†	Streams†	Property Lines	Basements
	I*	II*	III‡					
5							X	
10								
20								X
35	X							
50		X		X	X	X		
100			X					

* Public Water Supply Standards—Division of Engineering, Bureau of Sanitary Engineering, Virginia State Health Department.

† If the water table rises within 2 feet of the surface of the ground, a standard sanitary privy shall not be located nearer than 100 feet of shellfish waters, impounded waters or a stream.

Vault privies when used near shellfish waters shall be installed with the concurrence of the Bureau of Shellfish Sanitation, Division of Engineering, Virginia State Health Department.

‡ It shall be presumed that a Class III well will be installed unless sufficient evidence and assurance is proffered.

PART III—SEPTIC TANK SYSTEM

ARTICLE 1. DESIGN CONSTRUCTION & LOCATION

SECTION A. Septic Tank

1. *Design*—Septic tanks shall be of an approved design as to length, width and depth or other pertinent dimensions so as to effectuate extended use.

2. *Size*—The minimum size of a septic tank shall be based upon a retention period of not less than 30 hours. Any tank receiving waste from a garbage disposal unit shall be increased in capacity by 50 per cent.

All bedrooms shall be considered to have a minimum potential occupancy of two people.

The current water consumption rates as established by the Virginia State Department of Health, Division of Engineering, Bureau of Sanitary Engineering, shall be used as the basis for design and are outlined in Table II, "Minimum Daily Water Consumption Rates."

TABLE II

STATE DEPARTMENT OF HEALTH

Minimum Daily Water Consumption Rates
26 May 1970

	Gallons per Day
Dwellings, per person (minimum rates by fixture below)	
Kitchen sink.....	20
Toilet.....	25
Shower or tub.....	25
Wash basin.....	10
Laundry.....	20
High Schools with showers, per person.....	16
Elementary Schools without showers, per person.....	10
Motels @ 65 gals/person, minimum per room.....	130
Trailer Courts @ 3 persons/trailer, per trailer.....	300
Restaurants per seat which includes toilet wastes, but not air conditioning cooling water.....	50
Interstate or Through Highway Restaurant, per seat (BOD-mg/L500).....	180
Interstate Rest Areas—per person.....	5
Service Station per Vehicle Serviced.....	10
Factories per person per 8-hour shift exclusive of industrial wastes.....	15-35
Shopping Centers per 1000 sq. ft. of ultimate floor space.....	200-300
Hospital (water design).....	300 g/bed/day
Hospital (sewage design).....	300 g/bed/day
Nursing Homes per Bed Capacity.....	200
Nursing Homes (Homes for aged) where patient is ambulatory.....	100/bed
Doctors Office in Medical Center.....	500
Laundromats, 9 to 12 lb. machines, per machine (BOD mg/L500).....	500
Community College (per student and faculty).....	15
Swimming pools per swimmer.....	10
Theaters—Drive-In type, per car.....	5
Theaters—Auditorium type, per seat.....	5
Picnic Areas—Per person.....	5
Camps—Resort Day and Night (With limited plumbing), per camp site (privies).....	50
Luxury Camps (with flush toilets), per camp site.....	100

3. *Construction—Ready Made Concrete Septic Tanks*—Precast concrete septic tanks may be used if they comply with design and capacity requirements. The side walls and bottom of such tanks shall be at least 2½ inches in thickness. The top shall have a minimum thickness of 3½ inches. Such tanks shall have reinforcing of at least 6"x6" mesh, No. 12, welded wire fabric. Minimum compressive strength of concrete shall be 3,000 pounds per square inch. Aggregate used in the concrete shall not be larger than No. 9 stone (Virginia Highway designation ¾ inch size). Concrete shall be vibrated or well rodded to minimize honeycombing and to assure reasonable water tightness.

4. *Construction—Poured in Place Septic Tanks*—For poured in place septic tanks up to 4 feet in width, the reinforcing for the cover

slab shall consist of welded wire mesh reinforcing with 4 inch x 4 inch spacing made of No. 4 gauge wire. For tanks wider than 4 feet, the cover slab shall be reinforced with ½ inch rods spaced 6 inches center to center both ways. Single piece poured in place tanks shall have a bottom at least 6 inches in thickness. The walls of all poured in place tanks up to and including 1,000 gallons capacity shall be at least 6 inches in thickness and the tops of such tanks shall be at least 4 inches in thickness. Poured tanks with capacities greater than 1,000 gallons but less than 1,500 gallons in capacity shall have walls at least 7 inches in thickness. Poured tanks with capacities 1,500 gallons or greater shall have walls at least 8 inches in thickness. All poured tanks with capacities in excess of 1,000 gallons shall have tops at least 5 inches in thickness.

5. *Metal Septic Tanks*—Single compartment Residential Bituminous Coated Metal Septic Tanks may be approved provided they meet the standard design and comply with United States Department of Commerce Commercial Standard 177-51.

The hole to receive the tank shall be large enough to permit the proper placement of the tank and backfill. Where rock or other undesirable obstruction are encountered, the bottom of the hole must be excavated an additional 6 inches and backfilled with sand, crushed stone or gravel to the proper grade.

6. *Inlet and Outlet Fittings*—The inlet invert shall be one inch or more above the outlet invert in any septic tank. Inlet and outlet fittings shall be of cast iron or other material of equal quality or in ready made tanks may be cast with tank and shall be at least 2½ inches thick. Cast iron joints shall be either leaded or welded. The following shall be required for fittings in any septic tank:

Diameter (inside) shall be 4" or greater.

The inlet tee should extend 6"-8" below flow line.

The outlet tee should extend into about 35% of the liquid depth.

SEPTIC TANK LOCATION

TABLE III
LOCATION OF SEPTIC TANK

Minimum Horizontal Distance In Feet	Wells by Classification			Shell- Fish Waters	Impounded Waters	Streams	Property Lines	Base- ments
	I*	II*	III†					
5							X	
10								X
20								
35	X							
50		X	X	X	X	X		
100								

* Public Water Supply Standards—Division of Engineering, Bureau of Sanitary Engineering, Virginia State Health Department.

† It shall be presumed that a Class III well will be installed unless sufficient evidence and assurance is proffered.

SECTION B. Sewer Line

1. *Construction*—The sewer line from the house to the septic tank must have tight joints so there will be no leakage. The building drain must be extended to a point 3 feet outside the building where it is joined to the sewer from the house to the septic tank. If the well is located within 35 feet of this point, the cast-iron pipe or other material of equal quality must be extended more than 35 feet from the well before it joins the building drain or sewer. Pipe used for the building sewer shall be 3 inches or greater in diameter as determined by fixture unit value in State Plumbing Code, and constructed of cast iron, vitrified clay, concrete, cement asbestos, bituminous fiber, or other materials of equal quality. Where two different types of sewer pipes are connected, a proper type of conversion adapter shall be used. The elevation of the house sewer shall be such as to permit the installation of the septic tank system at optimum depth. Clean outs shall be installed when turns of 45 degrees or greater are necessary and where straight runs are in excess of 90 feet. When the sewer line cannot be laid straight from the house to the tank, it shall be laid in a straight line as far as possible and then a one-eighth or one-sixteenth bend used. The next section shall be laid straight as far as conditions permit and another bend put in. The point where bends are made should be marked in some way so that the line can be found easily. If it is neces-

sary to have a bend of more than 45 degrees, a manhole shall be installed.

2. *Grade*—For a 3 or 4-inch sewer line, the grade shall be not less than 12½ inches per 100 feet or 1¼ inches for each 10 feet in length. The grade for a 6-inch sewer line shall be 7½ inches per 100 feet or ¾ inch for each 10 feet of length.

1. *Location*—See Table IV, below, "Location of Drainfield."

TABLE IV
LOCATION OF DRAINFIELD

Minimum Horizontal Distance In Feet	Wells by Classification			Shell- Fish Waters†	Impounded Waters‡	Streams‡	Property Lines	Base- ments
	I*	II*	III‡					
5							X	
10								
20								X
35	X							
50		X		X	X	X		
100			X					

* Public Water Supply Standards—Division of Engineering, Bureau of Sanitary Engineering, Virginia State Health Department.

† If the water table rises within 2 feet of the surface of the ground, a standard drainfield shall not be located nearer than 100 feet of shellfish waters, impounded waters or a stream.

‡ It shall be presumed that a Class III well will be installed unless sufficient evidence and assurance is proffered.

2. *Units*—The units of the subsurface drainfield shall consist of a distribution box and subsurface drainfield distribution systems to carry the liquid from the distribution box to the field.

3. *Distribution Box*—The distribution box may be constructed of either concrete, brick, or masonry block, with one inlet pipe and as many outlet pipes as desired. The outlet pipe should be 4" or more above the bottom of the box. The inlet pipe shall be placed at least one inch higher than the outlet pipe. Where excessive velocities are anticipated, the flow shall be reduced by the use of a baffle, tee or ell. The distribution box must be installed on a solid foundation, either natural or artificial. When equal distribution of effluent is desirable to all outlets, it shall be determined by water testing.

4. *Feeder Lines*—The feeder lines shall consist of water tight lines connecting the outlet from the distribution box to its respective subsurface drainfield.

5. *Drainfield*—The open joint subsurface drain field usually consists of a series of shallow lateral trenches 18 to 36 inches in width and excavated to a depth offering the highest potential absorptive conditions. The slopes of the line shall be not less than 2 inches nor more than 4 inches per 100 feet unless otherwise stated. The size of the individual aggregate media used in trenches shall be not less than ½ inch nor than 2½ inches. Aggregate material to a depth of 6 inches shall be placed in a trench with top of stone flush with the top of the grade board or grade stake. The open joints should be covered with tar paper strip; or other suitable material. After laying, aggregate material shall be placed around the tile to hold it in place, covering it to a depth of 2 inches. Paper or straw should be placed over the aggregate to prevent soil penetration. There shall be at least 6 inches of aggregate under the tile, providing a total of 13 inches of aggregate under, beside, and on top of tile. When the trenches are filled, the earth should be well rounded above the surface of the ground to allow for settling. Subsurface drain tile lines shall be spaced at least three times the width of the trench. Length of subsurface drain tile lines should not exceed 100 feet and should be 75 feet or less where feasible.

6. *Drainfield Materials and Construction*

(a) Concrete tile shall be Extra-Quality and meet current ASTM standards for non-reinforced concrete. The tile should be 4 inches in size and should not exceed 1 foot in length.

(b) Clay tile shall be Extra-Quality and meet current ASTM standards for clay tile. The tile should be 4 inches in size and should not exceed 1 foot in length.

(c) Perforated Corrugated Plastic Drainage Tubing shall meet current ASTM standards and comply with all applicable sections of Commercial Standard 228-61. At not greater than 10' intervals the pipe shall be plainly marked, embossed or engraved thereby showing the manufacturer's name or hallmark and that the product meets a bearing load of 1,000 lb. per foot. In addition, a painted or other clearly marked line or spot shall be marked at not greater than 10' intervals to denote the top of the pipe.

The tubing shall have 3 holes, ¾ inch in diameter evenly spaced and placed within 130°, the center hole being directly opposite the top marking. Spacing of each set of 3 holes shall be at 4 inch intervals along the tube. If there is any break in the continuity of the tubing, an appropriate connection shall be used to join the tubing.

(d) Bituminous Fiber Drainage Pipe shall meet current ASTM standards for bituminous fiber drainage pipe. At not greater than 10' intervals the pipe shall be plainly marked, embossed or engraved.

thereby showing the manufacturer's name or hallmark and that the product meets a bearing load of 1,000 lb. per foot. In addition, a painted or other clearly marked line or spot shall be marked at not greater than 10' intervals to denote the top of the pipe.

The tubing shall have 3 holes, $\frac{3}{4}$ inch in diameter evenly spaced and placed within 130°, the center hole being directly opposite the top marking. Spacing of each set of 3 holes shall be at 4 inch intervals along the tube. If there is any break in the continuity of the tubing, an appropriate connection shall be used to join the tubing.

7. *Soil Evaluation*—Soil evaluation for a drainfield system shall follow a systematic approach including consideration of physiographic province, position of landscape, degree of slope and soil profile (thickness of horizon, color, texture). Such evaluation shall indicate whether or not the soil has problems relative to the position in the landscape, seasonal water table, shallow depths, rate of absorption, or a combination of any of the above. If absorption rate problems are suspected and there is no indication of a water table, percolation tests should be made but their result shall not be presumptive, prima facie or conclusive evidence as to the suitability for effluent absorption. Such percolation tests may be considered and analyzed as one of many criteria in determining soil suitability for absorption of effluent.

8. When percolation tests are performed, they will be made according to the following:

(a) Percolation tests may be used as one of the means of determining the suitability of the soil for subsurface tile fields and to determine the amount of absorption area needed. When percolation tests are made, such tests shall be made at points and elevations selected as typical of the area in which the disposal field will be located.

(b) Tests shall be made in holes which have been kept saturated with water at least 4 hours.

(c) Percolation rates shall be figured on the basis of the test data obtained after the soil has had the opportunity to become saturated and to swell at least 24 hours.

(d) Enough tests should be made in separate holes to assure that the tests are accurate.

(e) Type of test hole: Dig or bore a hole with horizontal dimensions of 4 to 12 inches and vertical sides to the depth of the proposed absorption trench.

(f) Preparation of test hole: Carefully scratch the bottom and sides of the hole with a knife blade or sharp pointed instrument, in order to remove any smeared soil surfaces and to provide a natural soil

interface into which water may percolate. Remove all loose material from the hole. Add 2 inches of coarse sand or fine gravel to protect the bottom from scouring and sediment.

(g) Saturation and swelling of the soil: It is important to distinguish between saturation and swelling. Saturation means that the void spaces between soil particles are full of water. Swelling is caused by intrusion of water into the individual soil particle.

(h) In the conduct of the saturation, carefully fill the hole with clear water to a minimum depth of 12 inches over the gravel. In most soils, it is necessary to refill the hole by supplying a surplus reservoir of water, possibly by means of an automatic siphon, to keep water in the hole for at least four hours and preferably overnight. Determine the percolation rate 24 hours after water is first added to the hole. This procedure is to insure that the soil is given ample opportunity to swell and to approach the condition it will be in during the wettest season of the year. Thus, the test will give comparable results in the same soil, whether made in a dry or in a wet season. In sandy soils containing little or no clay, the swelling procedure is not essential and the test may be made as described under item i, after the water from one filling of the hole has completely seeped away.

(i) Percolation rate measurement: With the exception of sandy soils, percolation rate measurements shall be made on the day following the procedure described under item h above. If water remains in the test hole after the overnight swelling period, adjust the depth to approximately 6 inches over the gravel. From a fixed reference point, measure the drop in water level over a 30-minute period. This drop is to be used to calculate the percolation rate. If no water remains in the hole after the overnight swelling period, add clear water to bring the depth of water in the hole to approximately 6 inches over the gravel. From a fixed reference point, measure the drop in water level at approximately 30 minute intervals for four hours, refilling 6 inches over the gravel as necessary. The drop that occurs during the final 30-minute period is used to calculate the percolation rate. The drops during prior periods provide information for possible modification of the procedure to suit local circumstances. In sandy soils or other soils in which the first 6 inches of water seep away in less than 30 minutes after the overnight swelling period, the time interval between measurements shall be taken as 10 minutes and the test run for one hour. The drop that occurs during the final 10 minutes is used to calculate the percolation rate.

9. *Minimum absorption area requirements for private residences*—The following "Minimum Area Requirements" (Table V) shall apply based on percolation rate measurements. These recommendations provide for the use of garbage grinder and automatic sequence washing machine units.

TABLE V
MINIMUM ABSORPTION AREA
REQUIREMENTS FOR PRIVATE RESIDENTS

<i>Percolation rate (Time required for water to fall 1 inch, in minutes)</i>	<i>Required absorption area, per 100 gallons/ day of water used in ft.²</i>
1 or less	52
2	63
3	74
4	85
5	93
10	122
15	140
30	184
45	222
60	244

Note 1—Over 60 minute rate will require special design which meets the approval of the Regional Sanitarian and/or the Director of the Bureau.

Note 2—In every case, sufficient area shall be provided for at least 400 sq. ft. unless otherwise indicated by soil evaluation.

Note 3—Absorption area for standard trenches is to be figured as trench-bottom area.

Note 4—Drainfield design should be based on peak loading and not on long time averages.

Note 5—Peak loading creates other stresses, including the immediate need for discharge space.

Other Considerations: Absorption will be adversely affected if the ground is dug while wet.

PART IV—STABILIZATION POND

The following standards shall apply for the installation, alteration, repair or extension of any waste stabilization pond in the Commonwealth of Virginia.

ARTICLE 1. DESIGN AND CONSTRUCTION

SECTION A. Design

1. Original construction shall provide at least one (1) surface acre, measured at the four ft. depth water level, per 200 persons served at 0.2 lbs. 5 day 20° C-B. O.D. per capita per day, including the population equivalent of any industrial wastes to be discharged to the sewer system under the following conditions:

(a) Depending on the site location and requirements of the receiving stream, the 200 persons per acre per day figure may be appropriately reduced to provide the storage period referred to above.

(b) Minimum detention shall be 50 days at 100 gallons per person per day at depth of four feet or less.

(c) Chlorination and perhaps also means for removing algae shall be provided where demanded by the receiving stream.

(d) The outlet structure shall be placed on the horizontal pond floor adjacent to the inner toe of dike embankment. A permanent type walkway from top of dike to top of outlet structure for access shall be provided for all stabilization ponds.

2. Stabilization Ponds for Schools

(a) For high schools with showers the equivalent full-time population shall be considered to be in the ratio of 100/16 or 6.25 pupils equal one full-time resident.

(b) For elementary schools without shower facilities the ratio shall be 100/10 = 10 pupils equal one full-time resident.

3. Dual cells will be mandatory for all new plants which discharge into critical waters such as those used for public water supplies, shellfish or primary contact recreation. The pond cells should be of nearly equal size and designed to operate in either series or parallel.

4. Where ponds of one or more cells follow some type of conventional primary treatment device, the requirements in A-1 may be reduced to compensate for the B. O. D. reduction in the pretreatment unit(s) but the surface area should be not less than 75% of A-1.

5. The shape of all cells shall be such as to produce a uniform perimeter, with no islands, peninsulas or coves permitted.

6. Sufficient area shall be provided at all installations to allow room for expansion due to normal growth.

SECTION B. Location

1. Criteria used in setting the distance of conventional sewage treatment plants from the nearest habitation or residence will apply in case of raw sewage stabilization ponds.

2. If practical, ponds shall be located so that prevailing winds will be in the direction of non-inhabited areas. Preference should be given sites which will permit an unobstructed wind sweep across the ponds, especially in the direction of local prevailing winds.

3. Natural run-off from the drainage areas around or above shall be excluded from the pond by adequate drainage ditches or by-passes.

4. Proximity of ponds to water supplies and other facilities subject to contamination shall be critically evaluated to avoid creation of health hazards or other undesirable conditions.

SECTION C. Embankments and Dikes

1. Compacted embankments of impervious materials shall be con-

structed, unless the entire pond and dikes are water proofed or sealed. See Section D-4.

2. From the standpoint of maintenance and structural stability the following slopes and widths of embankments are recommended:

(a) Minimum embankment top width should be not less than 8 feet for ponds of 1 acre or larger.

(b) Maximum embankment slopes should not be steeper than:
Inner--3 horizontal to 1 vertical
Outer-- 3 horizontal to 1 vertical

(c) Minimum embankment slopes should not be flatter than:
Inner---4 horizontal to 1 vertical
Outer--not applicable, except that significant volume of surface water shall not enter the ponds

(d) Minimum free board should be 3 feet

3. Normal minimum liquid depth shall be 3 feet.

4. Normal maximum liquid depth shall not be more than 5 feet.

5. Embankments and excavated areas shall be dressed with top soil, raked, fertilized and seeded, except below the water line. Newly seeded areas shall be protected by straw or other suitable cover until a good stand of grass cover has been obtained. Alfalfa should not be included in seed mixtures since the long roots of this plant are apt to impair the water holding efficiency of the dikes. Additional protection for embankments such as riprap may be necessary as soil conditions and pond size warrant.

SECTION D. Pond Bottom

1. The pond bottom shall be as level and as smooth as practicable at all points. Shallow or feathering fringe areas usually result in locally unsatisfactory conditions.

2. The bottom shall be cleared of vegetation and debris. Organic material thus removed shall not be used in embankment construction.

3. Soil formations must be relatively tight to avoid undue liquid losses through percolation or seepage. Soil boring to determine soil characteristics shall be made a part of preliminary surveys to select pond sites.

4. The ability to maintain a satisfactory water level in the lagoons is one of the most important aspects of design; one for which the owner must be primarily responsible. Some use has been made of bentonite, asphalt coatings, clay blanket, plastic linings and other seal-

ing materials. Sealing by these methods can best be considered as a special problem for individual installations, with the owner basically responsible for adequate sealing to permit maintenance of satisfactory water levels.

SECTION E. Influent Lines

1. The influent line into single celled ponds shall be essentially center discharging and influent lines into the primary section of multiple-celled ponds shall be essentially center discharging, but this does not apply to those cells following the primary cell in series operation.

2. Either upward or horizontal discharging influent lines may be used where the sewage is pumped to the pond. Horizontal inlets shall be used for gravity flow. When upward discharging lines are used, the discharge end of the pipe should be located approximately one foot above the bottom of the pond. If sewage is discharged to pond through force main an anti-siphoning device shall be provided on force main at a point immediately outside the dike.

3. The end of the discharge line shall rest on a suitable concrete apron with a minimum size of four feet square. Larger aprons and influent piping supports are suggested in cases where the soil is unstable.

4. Manholes or clean-outs are required where inlet pipe passes through the embankment. Normally this should be a drop manhole with invert of influent sewer placed at or above the 5 ft. water level of the pond.

5. Influent lines shall be placed on or under the bottom. The use of exposed dikes carrying influent lines to the center of the pond will be prohibited, as such structures will impede circulation. Inlet lines on pond bottom shall be anchored to concrete pads placed flush with the pond bottom.

SECTION F. Interconnecting Piping and Overflows

1. Cast-iron pipe of ample size is recommended for interconnecting piping and overflows.

2. The final overflow structure shall provide means for varying the water level from 3 ft. depth to 5 ft. depth in increments of 0.5 ft. or less with points of withdrawal of effluent spaced so that the effluent can be withdrawn from depths of 0.75 ft. to 2.0 ft. below pond water surface irrespective of the depth of water in the pond. At depths greater than 2 ft. below surface, the pond water will often be devoid of oxygen.

3. Overflow lines shall discharge onto concrete slabs. These lines should be vented if siphoning may be developed.

4. The pond or ponds shall be provided with means for completely draining each unit independent of other units.

5. Cast-iron pipe is recommended for pond effluent and/or drain line.

SECTION G. Chlorination Equipment and Contact Tank

1. Chlorination equipment when required shall be of the solution feed type for feeding liquid chlorine from cylinders. Duplicate chlorinators are required each to feed at least 35 mg/l based on the design flow. Chlorinators shall be housed in a separate heated chlorinator room provided with mechanical exhaust fan. Scales of adequate capacity for weighing cylinders of chlorine shall be provided for each installation. A chlorine testing set for testing residual chlorine and direct reading of residuals up to 2.0 mg/l or more shall be provided.

2. The chlorine contact tank shall be either a self-cleansing type or it shall be provided with means of removing solids that may accumulate. The contact tank shall provide a detention period of not less than 30 minutes based on design flow.

SECTION H. Miscellaneous

1. Each stabilization pond shall be provided with a primary metering device located on pond effluent for flow measurement. At small installations where recording and totalizing instruments are not provided, the primary metering device shall be equipped with a brass or stainless steel staff gauge graduated in tenths and hundredths of a foot mounted on side wall of approach chamber of float well with the zero set for zero flow through the metering device.

A metering device is also desirable on pond influent. Any measuring device placed on the influent to the pond should be a Parshall flume or other equipment suitable for measuring raw sewage flow.

2. The pond area shall be adequately enclosed with a suitable fence to keep out small animals and children. The fence shall be at least six (6) ft. high with not less than two strands of overhanging barbed wire spaced at 0.5 ft. vertical intervals above the six ft. fence. For ponds of one acre or more, at least one gate eight ft. wide, clear opening, shall be provided to allow entrance of power mowing equipment, trucks hauling chlorine cylinders or service vehicles. Additional gates may be provided as desired, all of which shall be provided with means of locking.

3. Appropriate signs shall be provided to designate the nature of the facility. The size of the sign and lettering used shall be such that it can be easily read by a person with normal vision for a distance of 50 or more feet.

4. An all-weather road shall be provided for nearest existing all-weather road to the stabilization pond for access for maintenance, moving in mowing equipment, for transporting chlorine cylinders, and for inspection and observation.

PART V—OTHER SEWAGE TREATMENT PLANTS FOR SCHOOLS AND OTHER PUBLIC BUILDINGS

ARTICLE 1. IMHOFF TANKS

In the design of the Imhoff tank, the following capacities have been provided: settling compartment—2½ hours retention based on the flow from day schools taking place in 8 hours. The capacity of the sludge digestion compartment is based on 6 cubic feet per capita for the full-time resident population, calculated from a point starting 18 inches below the slots.

ARTICLE 2. SLUDGE DRYING BEDS

Sludge drying beds must be surrounded by a concrete, brick or cinder block wall which extends about 12 inches above the sand and is at a higher level than the adjoining ground surface.

The underdrainage system consists of drain or farm tile laid with open joints.

The sand for the bed shall be clean, coarse and free of silt and fine particles. The graded gravel or stone shall be clean, hard, durable stone such as crushed stone or clean gravel. Crushed limestone is not suitable for the top layer of fine gravel.

Basis of design for sludge drying beds shall be 1½ square feet per capita, based on full-time resident population for open beds. If glass green house covers are used, the area may be reduced to 1 square foot per capita.

The bottom of the sludge drying bed shall be sloped to 4" underdrains. The underdrains shall be surrounded with No. 4 stone with at least 3" of No. 4 stone above the underdrains. The middle layer of stone shall consist of at least 3" of No. 9 stone. The upper layer of stone supporting the sand shall consist of at least 12" stone. At least 12" of sand shall be provided.

ARTICLE 3. DOSING TANKS

It is essential that all parts of the sand or trickling filter receive as nearly as possible the same quantity of sewage. This is accomplished by installing a dosing tank provided with siphon which discharges the sewage to the filter at intermittent intervals. One siphon shall be re-

quired for each sand or trickling filter onto which sewage is discharged by a rotary distributor.

Table No. I gives the effective volume of the dosing tank for discharging the sewage to rotary distributor on sand filter. This volume shall be sufficient to provide a dosage of $\frac{3}{8}$ to $\frac{1}{4}$ inch of sewage over the entire sand bed being dosed at each discharge of the siphon. Table No. II gives the effective volume of the dosing tanks for discharging the sewage to rotary distributor on trickling filter. For a trickling filter, the sewage shall be applied in small doses at frequent intervals.

TABLE I
SAND FILTER WITH ROTARY DISTRIBUTOR

NUMBER OF PERSONS			SIPHON AND DOSING TANK	
Day Students		Full Time Residents	Eff. Vol. Dos. Tank	Inlet Pipe
Without Showers	With Showers			
50	30	5	68	4"
75	45	7	102	4"
120	80	12	169	4"
175	110	17	242	4"
250	155	25	300	4"
370	235	37	350	4"
500	310	50	450	6"
620	390	62	500	6"
750	470	75	550	6"
1000	625	100	725	8"
1500	940	150	1060	8"
3000	1250	200	1360	8"

Note: Effective volume is the volume of liquid in gallons contained in the dosing tank between high and low water level.

The dimensions and other details except effective working volume, of the dosing tank and siphon for operating rotary distributors must be furnished by the manufacturer of the rotary distributor. Names of firms furnishing siphons and rotary distributors will be furnished on request by the State Department of Health. (The use of distributor arms with mercury seals will not be permitted).

TABLE II
TRICKLING FILTER WITH ROTARY DISTRIBUTOR

NUMBER OF PERSONS			SIPHON AND DOSING TANK	
Day Students		Full Time Residents	Eff. Vol. Dos. Tank	Inlet Pipe
Without Showers	With Showers			
50	30	10	68	4"
75	45	15	68	4"
120	80	25	68	4"
175	110	35	90	4"
250	155	50	90	4"
370	235	75	90	4"
500	310	100	150	6"
620	390	125	150	6"
750	470	150	150	6"
1000	625	200	180	8"
1500	940	300	180	8"
2000	1250	400	180	8"

Note: Effective volume is the volume of liquid in gallons contained in the dosing tank between high and low water level.

For sand filters with intermittent flooding, a sufficient amount of sewage shall be applied onto the bed at each dosage to cover the sand to a depth of approximately two inches. The rate of dosing is controlled by the automatic dosing siphons so as to obtain this depth of flooding in a short period in order that the sewage will spread over the entire bed, thereby providing uniform loading on the filter. If pumps are used in place of the automatic siphons, the pump capacity shall be equal to the average discharge rate of the siphon shown in the tables.

Dimensions and other details of dosing tanks and siphons for intermittent flooding of open sand filter beds are shown in Table III, page 25.

TABLE III

DOSING TANK AND SIPHONS FOR SAND FILTER USING INTERMITTENT FLOODING

NUMBER OF PERSONS			DOSING TANK AND SIPHONS						
Day Students		Full Time Residents	No. Siphons	Siphon Size	Inside Dimensions		Inlet Pipe	Outlet Pipe	Min. Water Depth
Without Showers	With Showers				Length and Width	Max. Water Depth			
50	30	5	2	3"	4'-0"	13"	4"	4"	3"
75	45	7	2	3"	5'-0"	13"	4"	1"	3"
120	80	12	2	4"	5'-0"	17"	4"	6"	3"
175	110	17	2	4"	6'-9"	17"	4"	6"	3"
250	155	25	2	5"	7'-0"	23"	4"	8"	3"
370	235	37	2	5"	7'-0"	23"	4"	8"	3"
500	310	50	2	5"	8'-0"	23"	6"	8"	3"
620	390	62	2	6"	7'-0"	30"	6"	10"	4"
750	470	75	2	6"	8'-6"	30"	6"	10"	4"
1000	625	100	2	6"	9'-9"	30"	8"	10"	4"
1500	940	150	2	6"	12'-0"	30"	8"	10"	4"
2000	1250	200	2	6"	14'-0"	30"	8"	10"	4"

Note: 1. Reinforce cover slabs with wire mesh.

Note: 2. Cover slabs should be approximately 3'-3"x1'-0"x2½" to facilitate removal.

Note: 3. When ordering siphons specify that automatic alternation is required.

Dosing tanks for subsurface sand filters are similar in design to those for open filters with intermittent flooding except for the working capacity or effective volume of the dosing tank. For subsurface sand filters, the effective volume of the dosing tank must be equal to the total holding capacity of the tile distribution lines in each unit of the filter in order to fill the lines at each discharge, this insuring equal distribution over the filters. See Table IV, page 27.

The capacity of dosing tanks for subsurface percolation fields shall be directly proportional to the total holding capacity of the tile drainage lines. Since the tile lines may not always be completely emptied between dosing by soil percolation, it is not advisable to attempt to completely fill the tile lines at each dosage. Therefore, in order to apply sufficient sewage effluent to obtain good distribution throughout the tile lines of the entire field and at the same time not flood the field, a dosing tank capacity equal to six-tenths (0.6) of the total holding capacity of the tile drainage lines shall be used. See Table V, page 27.

TABLE IV

DOSING TANK AND SIPHONS FOR SUBSURFACE SAND FILTERS

NUMBER OF PERSONS			DOSING TANK AND SIPHONS						
Day Students		Full Time Residents	No. Siphons	Siphon Size	Inside Dimensions		Inlet Pipe	Outlet Pipe	Min. Water Depth
Without Showers	With Showers				Length and Width	Max. Water Depth			
50	30	5	0	..	.....	...	4"	...	..
75	45	7	0	..	.....	...	4"	...	..
120	80	12	1	3"	4'-7"	13"	4"	4"	3"
175	110	17	1	3"	6'-0"	13"	4"	4"	3"
250	155	25	1	4"	6'-1"	17"	4"	6"	3"
370	235	37	2	3"	6'-0"	13"	4"	4"	3"
500	310	50	2	4"	6'-0"	17"	6"	6"	3"
620	390	62	2	5"	5'-8"	23"	6"	8"	3"
750	470	75	2	5"	6'-2"	23"	6"	8"	3"
1000	625	100	2	5"	7'-2"	23"	8"	8"	3"
1500	940	150	2	6"	7'-10"	30"	8"	10"	4"
2000	1250	200	2	6"	9'-10"	30"	8"	10"	4"

Note: 1. Reinforce cover slabs with wire mesh.

Note: 2. Cover slabs should be approximately 3'-3"x1'-0"x2" to facilitate removal.

Note: 3. When ordering siphons specify that automatic alternation is required.

TABLE V

DOSING TANK AND SIPHONS FOR VARIOUS SIZE TILE PERCOLATION FIELDS

Number Feet Tile	Number Siphons	Siphon Size	INSIDE DIMENSIONS				
			Length and Width	Max. Water Depth	Inlet Pipe	Outlet Pipe	Min. Water Depth
800	1	4"	5'-4"	17"	4"	6"	3"
1000	1	4"	5'-0"	17"	4"	6"	3"
1200	1	5"	5'-9"	23"	4"	8"	3"
1400	2	5"	4'-4"	23"	4"	8"	3"
1600	2	5"	4'-8"	23"	4"	8"	3"
1800	2	5"	4'-11"	23"	4"	8"	3"
2000	2	5"	5'-4"	23"	4"	8"	3"
2400	2	6"	5'-0"	30"	4"	10"	4"
2800	2	6"	5'-5"	30"	4"	10"	4"
3200	2	6"	5'-9"	30"	6"	10"	4"
3600	2	6"	6'-1"	30"	6"	10"	4"
4000	2	6"	6'-5"	30"	6"	10"	4"
4400	2	6"	6'-9"	30"	6"	10"	4"
4800	2	6"	7'-1"	30"	6"	10"	4"

Note: Effective volume of dosing tank based on 0.6 volume of drain tile used.

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ARTICLE 4. SAND FILTERS

SECTION A. General Construction

Sand filter beds shall consist of level areas of sand beneath which there are graded layers of gravel around and over the underdrains. The sewage is discharged onto the beds through rotary distributors or through pipes on to splash plates or, in case of covered filters, through lines of drain tile laid with open joints with the tile lines placed in a 12-inch layer of No. 5 gravel. For open sand filters, the beds shall be surrounded by a concrete, brick, or cinder block wall extending above the sand and at least one foot above ground level to prevent washing in of clay or loam which might clog the sand bed or to prevent encroachment of vegetation or flooding. For covered sand filters, the surrounding wall is not necessary except in case where it is necessary to prevent caving of the earth walls while the sand and gravel are being placed.

The underdrainage system shall consist of drain or farm tile laid with open joints.

SECTION B. Materials

The sand for the filter bed shall be clean, coarse sand, free from clay, loam, or organic matter, and fine particles. The sand shall have an effective size of 0.30 mm. to 0.50 mm. and a uniformity coefficient of not more than 4.0. No more than two per cent shall be finer than 0.177 mm. (80 mesh sieve) and not more than one per cent shall be finer than 0.149 mm. Not more than two per cent shall be larger than 4.76 mm. (4 mesh sieve). The sand beds shall be not less than 30 inches deep.

The gravel for sand filters shall conform to "Virginia Department of Highways Material Specification (April 1, 1954) Section 206 Coarse Aggregate." (See Appendix No. 1)

The gravel must be carefully placed in well-leveled layers, with the coarse or No. 4 gravel at the bottom around and over the underdrains, with at least 3" of No. 4 gravel above underdrain. Care must be taken to avoid movement or injury to the underdrains. The middle layer shall consist of the medium size or No. 9 gravel, at least 3" deep. The fine or No. 12 gravel at least 3" deep is the top layer for supporting the sand above. Crushed limestone is not suitable for the top layer of fine gravel.

Since the efficiency of the filter depends to a large extent on the filter medium (sand and gravel), care shall be taken to obtain sand and gravel of a known quality and size. Before obtaining the sand and

APPENDIX NUMBER I

AGGREGATES FOR SAND FILTERS AND TILE PERCOLATION FIELDS

TOTAL PERCENT PASSING												
No.	Square Sieves—Sizes in Inches								Sieve Numbers			
	3½	2½	2	1½	1	¾	½	⅜	4	8	16	100
4	100	95-100	.....	35- 70	.....	10- 30	.....	0- 5	.....	.....	.....
4-F	100	85-100	60- 85	25- 50	.....	0-10	.....	.....	As 40-50% of No. 4
5	100	95-100	15- 50	0- 15	.....	.....	.....	.....	.....	.....
6	100	95-100	40- 75	.....	0- 15	0- 5	.....	.....	.....
7-C	100	95-100	40- 75	0- 15	.....	.....	.....	.....	As 50-60% of No. 7
9	100	95-100	.....	30- 65	5-25	0- 5	.....	.....
12	100	95-100	10-40	0-10	.....	.....

gravel, a sample of approximately one pint each of the sand and gravel must be submitted to the State Department of Health or a qualified commercial testing laboratory for observation, sieve analyses and comment as to its suitability.

All sand shall be hand placed in the filters by use of shovels and wheelbarrows. Dumping from trucks onto the filter beds will not be permitted. Board runways shall be provided when wheelbarrows are used.

SECTION C. Construction of Sand Filters with Rotary Distributors

A rotary distributor will effect the most even application of the sewage over the bed, thereby increasing the efficiency of the filter bed, making it possible to use a higher dosage rate, or for equal sewage flows to safely reduce the area of sand bed required.

A supply pipe from the dosing tank feeds the sewage to a vertical pipe at the center pier of the filter from which it enters the distributor. The rotary distributor shall consist of two or more horizontal pipes or arms, extending the diameter of the filter and rotating about a central hollow shaft. The sewage shall flow through these distributors from which it is spread over the filter through ports designed to give even distribution over the entire surface of the bed. The horizontal arms are placed a few inches above the sand bed and the discharge of sewage through the ports rotates the distributor.

Since the distributor is driven by the flow of the sewage through the ports, it will be necessary to provide a closely limited hydraulic head on the distributor. Mercury seals in the distributor are not permitted.

The dosing tank and siphon serve to provide this head to maintain it within required limits. Therefore, it will be necessary for the manufacturer of the rotary distributor to furnish the dimensions and other details, except effective volume of the dosing tank, and including the difference in elevation of high and low water level and that of the arms of the distributor. Also, the manufacturer shall furnish the details of the center pier for the rotary distributor base. The siphon and rotary distributor shall be purchased from the same manufacturer to be certain that these requirements will be met.

There are several companies that furnish siphons and rotary distributors. The names of such companies will be furnished on request by the State Health Department.

The design of the area of the filter beds equipped with rotary distributors shall be based upon a rate of application of 150,000 gallons of sewage per acre per day, which is approximately 3.5 gallons per square foot per day or one-third more than the safe dosage where rotary distributors are not used. The amount of sewage applied to the sand filter with rotary distributor at each discharge of the siphon shall be equal to a depth of $\frac{3}{8}$ " to $\frac{1}{4}$ " over the entire sand bed area being dosed.

SECTION D. Construction of Sand Filters with Intermittent Flooding

Sand filters designed for intermittent flooding shall be divided into at least two beds for small filters and three beds for the larger filters. Distribution boxes must be provided for diverting the sewage onto the filter bed or beds desired, as it is often necessary to cut one filter bed out of operation for rest periods.

In the design, the area of the filter beds shall be based upon a rate of application of 100,000 gallons of sewage per acre per day or 2.3 gallons per square foot per day.

On filters employing intermittent flooding, a sufficient amount of sewage shall be run onto the bed at each discharge of the siphon to cover the sand to a depth of two inches.

SECTION E. Subsurface Sand Filters with Distributing Tile Lines

On account of their inaccessibility and liability of clogging of subsurface sand filters, the rate of dosage allowable shall be 50,000 gallons per acre per day or 1.15 gallons per square foot per day.

The sewage shall be applied to the filter through lines of drain tile laid with open joints with the tile placed in a 12-inch layer of No. 4 stone.

In all cases possible, the top of the filter shall be finished with a 12-inch layer of stone without any earth cover over the stone.

In cases where it is not feasible or desirable to finish the top of the subsurface filter with the stone, then on top of the gravel shall be placed a 3-inch layer of straw, and then the filter shall be covered with a layer of top soil not less than 4 inches nor more than 8 inches deep.

The sand and gravel beneath the top layer of stone and the underdrains shall be the same as for open sand filters, using intermittent flooding.

All sand shall be hand placed in the filters by use of shovels and wheelbarrows. Dumping from trucks onto the filter beds will not be permitted. Board runways shall be provided when wheelbarrows are used.

Distribution boxes must be provided for diverting the sewage onto the filter beds through individual lines or headers with each header connecting to not more than four lines. The far ends of the distributing lines shall be tied together through bell and spigot tile and should be vented to atmosphere. As with surface filters, stop gates or shear gates shall be provided in the distribution box to permit either filter unit or header to be placed out of service.

Vehicles and heavy machinery will not be permitted on the bed when placing the cover of gravel, or gravel, straw and earth, since the tile distribution and drain lines may be crushed or moved out of alignment.

SECTION F. Trickling Filters with Rotary Distributors

The standard rate trickling filters shall be of crushed stone, about 6 feet deep, with individual pieces ranging in size from 2 inches to 4 inches in diameter.

Sewage shall be applied to the surface of the stone in the form of a spray as uniformly as possible so that it trickles down to the underdrainage system, where it is collected and conveyed to the final settling tank. The filter stone and the underdrainage system must be such as to avoid clogging and permit free circulation of air through the bed. Vent wells shall be provided to aid in circulation.

The side walls of the filter shall be of concrete, brick or cinder block. A solid water-tight wall, suitably designed to prevent clay and

loam from washing into the filter and encroachment of vegetation shall be provided.

A concrete floor shall be necessary in trickling filters and this shall be sloped to a central drain to convey the effluent from the filter.

The trickling filter underdrainage system shall consist of vitrified clay underdrain blocks laid directly on and covering the entire floor. The blocks shall comply with all requirements of the specifications of the ASTM and of the Trickling Filter Floor Institute. Cover blocks for the center drainage channel shall have at least three inches of bearing at either end.

The stone for the filter beds shall consist of hard, durable pieces of crushed limestone, traprock or granite screened to the size limits required and shall be free from thin, flat or long pieces. It must be washed and screened and free from sand, clay, loam and organic impurities. All stone shall be hand placed in the filter and dumping from trucks onto filter will not be permitted.

The sewage shall be applied to the trickling filter by a rotary distributor operated by a dosing siphon or pump. The manufacturer of the rotary distributor and dosing device shall furnish dimensions and other details except effective volume of the dosing tank, including difference in elevation required and also dimensions and other details of the center pier for supporting the rotary distributor. Mercury seals in the distributor are not permitted.

Trickling filters are not acceptable for secondary treatment of the effluent from septic tanks. The design of the trickling filter shall be based on a loading of 275 pounds of B.O.D. per acre foot per day or 3.14 square feet of surface area per 100 gallons.

ARTICLE 5. CHLORINATION FACILITIES

SECTION A. Final Settling of Chlorine Contact Tanks

The effluent from trickling filters shall be treated in a final tank as it will contain a considerable amount of suspended material washed from the filter stone.

The final settling tank shall be a plain settling tank, rectangular in shape. The hopper shall be provided at the inlet end to aid in removal of accumulated solids. The settled sludge can be squeezed or scraped into the hopper and pumped to the inlet of the primary treatment device. A small portable pump equipped with sufficient suction and discharge nose may be provided in lieu of a fixed pump moving the sludge from the final tank. A circular tank with center or peripheral discharge with satisfactory sludge removal equipment is acceptable.

When chlorination of the effluent from the trickling filter plant is necessary, the final tank will also serve as a chlorine tank for providing the necessary detention period for reaction of the chlorine.

The required detention period in final settling tanks following trickling filters in $1\frac{1}{2}$ hours. If this final tank is to be used for flows from school populations, which flows take place in an eight hour period, the dimensions of the tank shall be increased accordingly so as to provide the $1\frac{1}{2}$ hour detention period.

Final settling tanks are not necessary for the removal of solids from the effluent from sand filters as such effluents are usually clear and free of settleable solids. In case it is necessary to disinfect the plant effluent before it is discharged into a stream, the final tank can be used as a chlorine contact tank for providing the necessary detention period for reaction of the chlorine. The detention should be a minimum of 30 minutes based on average flow over the time the plant is in service or for 20 minutes detention based on siphon discharge rate or pumping discharge rate if applicable. Duplicate chlorinators are required.

SECTION B. Chlorinator House

A chlorinator house shall never be less than 8 feet by 8 feet inside dimensions. The building shall be of brick, cinder block or concrete block construction. A ventilator shall be provided near the ceiling on one side and near the floor on the opposite side. The floor shall be of concrete and sloped to a drain. No windows shall be provided in this small building. Heating equipment for maintaining a temperature of 50° F. or above at all times shall be provided.

A water line to supply clean water free from suspended or floating solids and under a pressure of at least 15 to 20 pounds shall be run to the building for operating the chlorinator. Use of an approved potable supply which will also serve for washing up and other uses is preferred, and a sink or lavatory shall be provided in the building.

A terra cotta or concrete pipe with no bends larger than 45° shall extend through the floor and continue to the sewer line, or point of application of chlorine to serve as a conduit for the chlorine hose.

SECTION C. Chlorinators

Either liquid chlorine, calcium hypochlorite or Na hypochloride may be used in the disinfection of sewage and there are several manufacturers of equipment for feeding either liquid chlorine or hypochlorite.

Chlorine gas taken from cylinders or liquid chlorine may be ap-

plied to sewage by chlorinators either as a gas or dissolved in water. However, the solution feed chlorinator for feeding chlorine dissolved in water is much more satisfactory.

ARTICLE 6. FINAL DISCHARGE OF THE PLANT EFFLUENT

The plant effluent from the final unit of the treatment plant shall be piped to the stream where it will be discharged into the water so as to prevent pooling at the outlet. A concrete head wall may be necessary at the stream bank to support the outlet sewer and shall always be provided where there may be erosion around this pipe.

ARTICLE 7. SEWAGE PUMPS

With few exceptions sewage pumps shall be installed in duplicate with either pump having adequate capacity to handle maximum flow. They shall be adequately housed to protect the pump motors from bad weather and protection shall be given to prevent freezing in any portion of the unit.

No cross-connection between a potable water supply line and sewage pump for priming or sealing packing glands will be permitted.

Pump sumps shall be of adequate size to avoid too frequent operating cycles of the pumps. The sump shall also be designed to prevent excessive settling and accumulation of solids.

For some installations where lift is required between primary settling and final treatment units, the pump sump and pumps can be designed as to eliminate the need for a separate dosing tank. At any installation where double pumps are substituted for alternating siphons, dual pipe lines and automatic alternating equipment will be required. Where this is done, special consideration must be given to capacity and design of the pump sump, pump discharge capacity and, particularly where delivery is to a rotary or other distributor of this type, the discharge head characteristics of the pump used must be considered. On most units of the latter some form of flow level control box would be used. Distributor manufacturer's recommendation must be accurately followed for each installation.

ARTICLE 8. SUBSURFACE DRAIN FIELDS

When subsurface tile fields are used to serve schools and other large public buildings some means of dosing the field will be necessary.

A single siphon with one distribution box may be used for dosing a single field that has a total length of drainage tile up to 1200 linear feet. A single siphon together with a weir diversion box and two distribution boxes, or twin alternating siphons and two distribution boxes,

may be used for dosing two separate fields having a total length of drainage tile up to 2400 linear feet. All installations having more than 2400 linear feet of drainage tile shall have twin alternating siphons, two weir diversion boxes, four distribution boxes and four separate tile drainage fields.

The maximum total length of tile in the four tile fields must not exceed 4800 linear feet. Any installation that will require more than 4800 linear feet of tile drainage lines will be considered a special case and the owner's engineer will submit detailed plans and specifications to the State Department of Health for approval. Also, the owner or his engineer will submit in writing a proper justification for the larger installations and a satisfactory explanation as to why some other method of secondary treatment would not be more feasible and/or practical for any installation requiring a total length of tile drainage lines in excess of 4800 linear feet.

ARTICLE 9. CONCRETE

All concrete shall be made from carefully selected, proportioned and mixed material and placed in accordance with current recommendation of the Portland Cement Association. Each cubic yard of concrete shall contain a minimum volume of six gallons. In all cases, however, the amount of water per sack of cement shall be the minimum amount necessary to produce a plastic workable mixture which can be spaded or vibrated into place in the forms. In no case shall the slump be less than two inches or more than six inches.

No concrete shall be placed when the atmospheric temperature is below 35 degrees Fahrenheit. When the air temperature is between 35° F. and 40° F. adequate means shall be employed to heat the water (water shall not be heated to a temperature exceeding 150° F.) and/or aggregate so that the concrete after placement in the form shall have a temperature of not less than 75° F. nor more than 100° F. The heating apparatus shall be such that the materials shall be heated uniformly and preclude the possibility of the occurrence of hot spots which will burn the materials. When the air temperature is below or likely to go below 50° F. all concrete placed during this period shall be protected with sufficient housing or covering of an approved type in such manner that the air surrounding the fresh concrete will be maintained at a minimum temperature of 60° F. for a period of seven days following pouring.

No materials containing frost, lumps or crusts of hardened material shall be used.

Reinforcing steel shall be new billet steel A.S.T.M. 15-54T or Rail steel, A.S.T.M. 16-54T deformed round or square bars and shall be

free from dirt, rust, paint, or grease. In order to secure even, smooth finish concrete, construction form must be substantial and unyielding, and erected so that the concrete will conform to the required dimensions and be so constructed as to prevent leakage. Structural concrete work shall not be undertaken except under the immediate supervision of a person thoroughly experienced in this type of construction.

In design of the concrete it is assumed that all units will be substantially below ground level and backfilled around upon removal of the forms and that concrete will not be subjected to ground water pressure before the units are filled. Should it be necessary to construct the units above ground level, or partly above ground level, steel shall be added as required. Also, if any unit such as the Imhoff tank is constructed partly below ground water level the necessary steel shall be provided.

PART VI—GENERAL REQUIREMENTS FOR SEWAGE DISPOSAL SYSTEMS

ARTICLE 1

A. Nothing contained in Parts II through V shall be construed as debarring any sewerage system which has been demonstrated as of at least equal efficiency and is approved by the Health Commissioner.

B. Plans and specifications for all sewage treatment facilities must be submitted to the Health Commissioner by the owner or sponsor for review and approval prior to the beginning of construction. All treatment facilities must be constructed in accordance with the approved plans and specifications.

C. All sewage disposal systems shall be located, constructed, or operated and maintained in a manner so that they:

1. Do not contaminate any drinking water supply.
2. Do not pollute or contaminate the water of any bathing beach, shellfish breeding ground, or stream used for a public or domestic drinking water supply purposes or for recreational purposes.
3. Are not a health hazard by being accessible to children.
4. Will not violate any Commonwealth of Virginia Laws, Rules or Regulations governing water pollution or sewage disposal.
5. Will not create a nuisance.