Date Received 7-20-83

MECKLENBURG COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH
RECEIVED
JUL 20 1983
ENVIRONMENTAL HEALTH

SIR No. 19894
T. C. No. Part of 105-101-07
Map Date

MECKLENBURG COUNTY
DEPARTMENT OF ENVIRONMENTAL HEALTH

APPLICATION FOR SOIL INVESTIGATION

1) NAME OF OWNER Abernethy (LAST), Joseph (FIRST) Glenn (MIDDLE), Jr.

2) ADDRESS OF OWNER 701 SUGAR CREEK Rd. W. ZIP 28213

3) PHONE NO. Home 596-6211 Office 332-3772

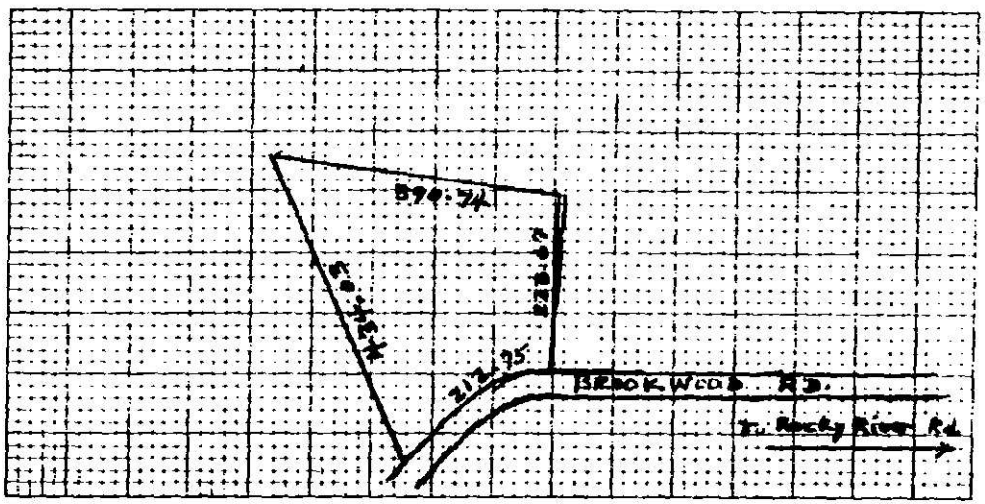
4) LOCATION OF PROPERTY BROCKWOOD DR. (STREET OR COUNTY ROAD)

5) SUBDIVISION _____ LOT NO. _____ BLOCK NO. _____

MAP BOOK NO. _____ PAGE NO. _____

6) DEED REFERENCE DEED BOOK 4673 PAGE NO. 109

Application is hereby made to the Mecklenburg County Department of Environmental Health for the conduct of a soil investigation and an on site inspection of the lot hereinabove described for the purpose of determining if the lot is suitable for the installation of an individual septic tank wastewater treatment system with subsurface, soil absorption, effluent discharge



7) ACCURATELY DIAGRAM & DIMENSION LOT

OWNER Joseph Glenn Abernethy Jr

EHD-S-76

Environmental Health Department's Copy

MECKLENBURG COUNTY
DEPARTMENT OF ENVIRONMENTAL HEALTH
1200 BLYTHE BOULEVARD
CHARLOTTE, NORTH CAROLINA 28203

SIR. NO. 19894
T.C. NO. PO 105-181-0156
DATE: 8-5-83

Mr. Joseph G. Abernethy, Jr.
701 Sugar Creek Road West
Charlotte, NC 28213

RE: Property located at Brookwood Drive

Dear Mr. Abernethy:

At your request, a field investigation was conducted on the property designated above and was classified unsuitable for the installation of a ground absorption sewage disposal system. A copy of the site evaluation report is enclosed for your information.

Sites classified as unsuitable may be utilized for soil absorption disposal systems provided engineering, hydrogeologic, soil and environmental studies indicate that a suitable septic tank system or a suitable alternate system can be reasonably expected to function satisfactorily.

Should you desire to file for permission to install an alternate system, please submit your proposals, in the form of plans and specifications, to this office. They will be reviewed and if it is found that the system may be reasonably expected to function satisfactorily, approval will be given upon the execution by you of "Septic Tank Agreement Form" provided by this office.

If I may be assistance, please feel free to call.

Sincerely,

Bill D. Hardister, Jr.
Environmental Health Supervisor

BDH/kbg

Enclosure

DEPARTMENT OF ENVIRONMENTAL HEALTH
MECKLENBURG COUNTY, NORTH CAROLINA

SITE EVALUATION

S.I.R. NO. 19894

T.C. NO. P.D. 105-181-56

(Ground Absorption Sewage Disposal)

OWNER: Joseph Glenn Adernathy PLAT NO:
ADDRESS: 701 Sugar Creek Rd 28213 LOT SIZE: 2a
LOCATION OF SITE: Blackwood Dr.

FACTORS	AREA 1	AREA 2	AREA 3	AREA 4
1. SLOPE (%)	S (PS) U — 2-8	S (PS) U — 2-4	S PS U	S PS U
2. SOIL TEXTURE (12-36 inches) Sandy, Loamy, Clayey (Note 2-1 Clay)	S PS (U) — Mixed Clay	S PS (U) — Mixed Clay	S PS U	S PS U
3. SOIL STRUCTURE (12-36 inches)	S PS (U) — Weak Blocky	S PS (U) — Weak Blocky	S PS U	S PS U
4. SOIL DEPTH (inches)	S PS (U) — 12"	S PS (U) — 25-30"	S PS U	S PS U
5. RESTRICTIVE HORIZONS (Inches) (Impervious strata, Rock)	S PS (U) — Clay	S PS (U) — Clay	S PS U	S PS U
6. SOIL DRAINAGE/GROUNDWATER (external and internal)	S PS (U) — Slow	S PS (U) — Grey At 10"	S PS U	S PS U
7. OTHER (Specify)	S PS U	S PS U	S PS U	S PS U
8. SOIL GROUP	IIIe	IIIe		
9. SITE CLASSIFICATION	Unsuitable	Unsuitable		
10. SOIL SERIES	Wilkes	Helena		

S - Suitable PS - Provisionally Suitable U - Unsuitable

**See Diagram on Back (includes: soil areas, property lines, roads, streams, gullies, wet areas, fill areas, wells, water bodies, slopes)

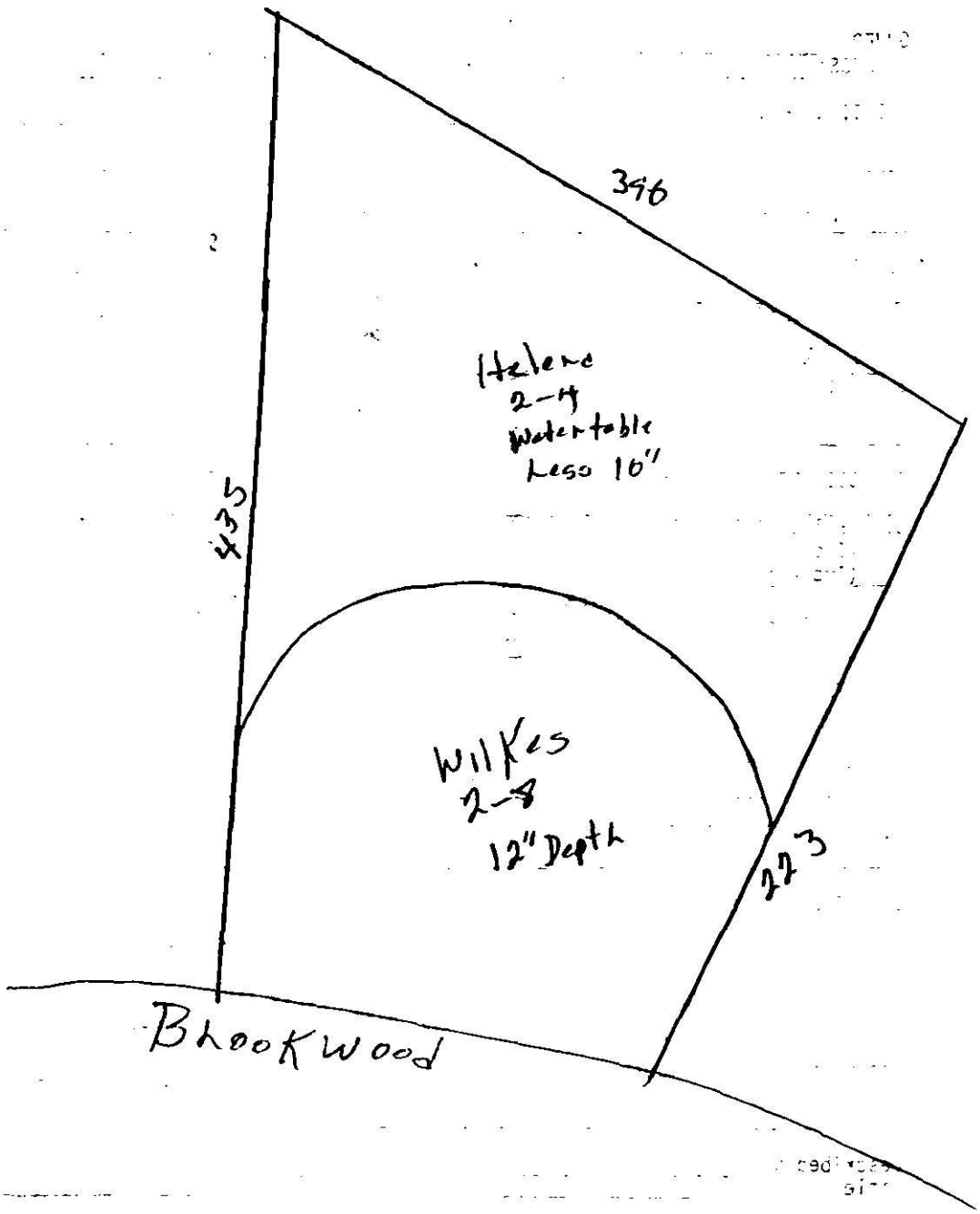
Recommendations/Comments:

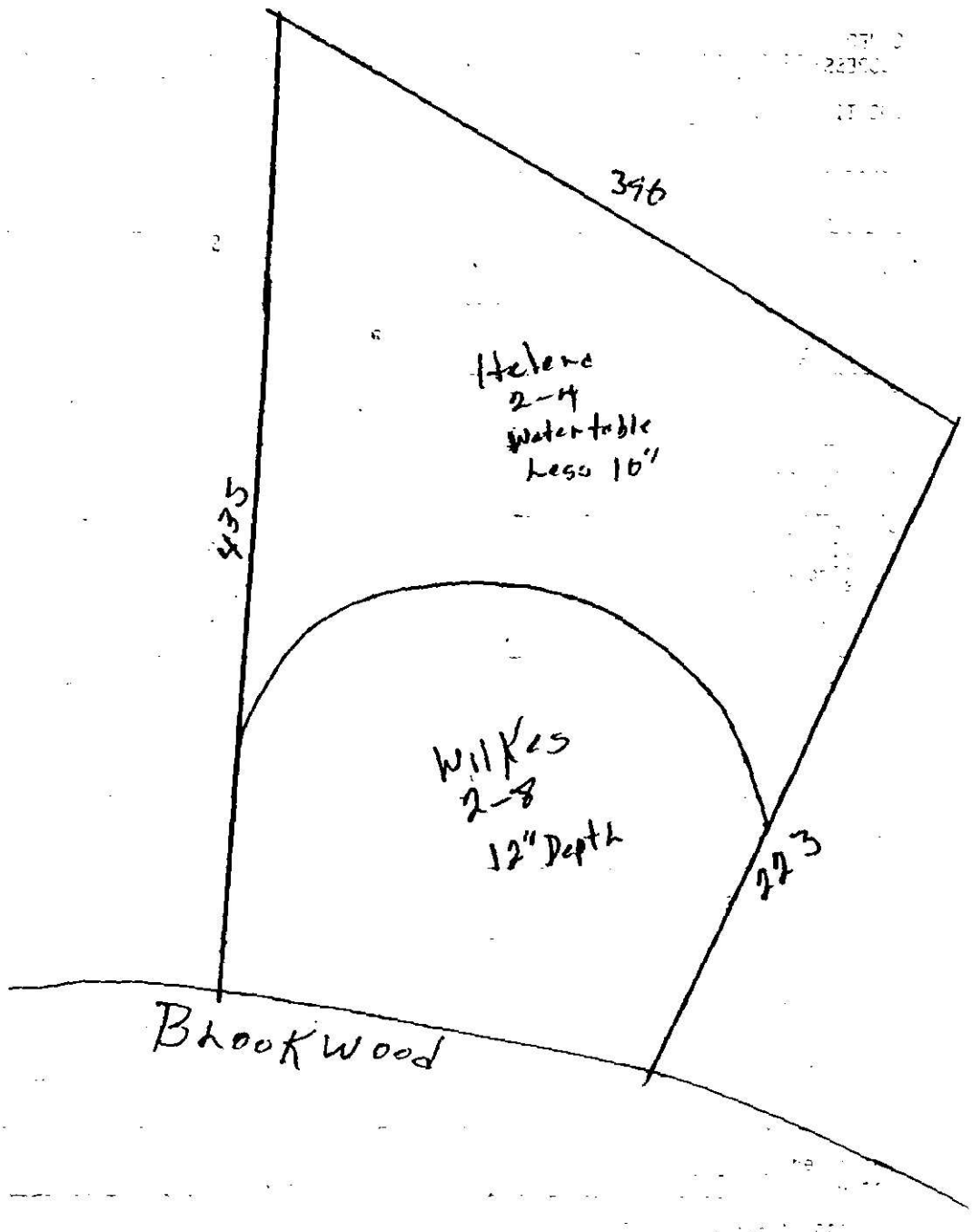
Described by: W. B. Ramsey
Title: Soil Scientist

Date: 8-3-83

EHD 539 (Revised: 6/82)

24


396
435
Helena
2-4
water table
Less 16"
Wilkes
2-8
12" Depth
223
Brookwood


396
435
Helena
2-4
water table
Less 10"
Wilkes
2-8
12" Depth
273
Brookwood

Date Received 1-11-84

RECEIVED
JAN 11 1984
ENVIRONMENTAL HEALTH

~~T. No. 105-181-56~~

LOAR(S) Application No. 19894

T. C. No. ~~20 105 181 07~~

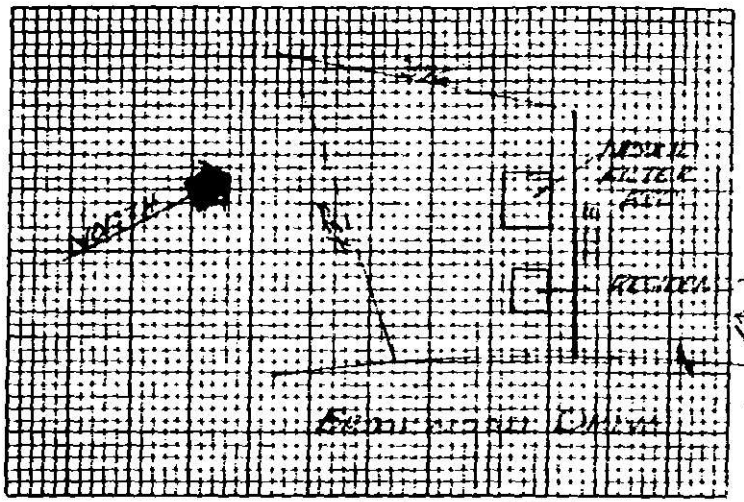
Map Date 105-181-56

MECKLENBURG COUNTY
DEPARTMENT OF ENVIRONMENTAL HEALTH

Application for an
Installation, Construction, Alteration, and/or Repair Permit
(Individual Septic Tank System with Subsurface, Soil Absorption, Effluent Discharge)

The owner of that property described hereinafter hereby applies to the Mecklenburg County Department of Environmental Health for a permit to:

1) X Install or Construct 2) ____ Alter or Repair on individual septic tank wastewater treatment system with a subsurface, soil absorption, effluent discharge.



3) PLOT PLAN (ACCURATELY DIMENSIONED)

Mobile Home ____ Yes ____ No
Residence V Yes ____ No

4) No of Bedrooms 3
5) Business Use — Max No Employees ____
6) Washing Machine V Yes ____ No
7) Garbage Disposal ____ Yes V No
8) Dishwasher V Yes ____ No
9) Water Supply
A) Individual Well V
B) Governmental System ____
C) Community System.
1 Well source ____
2 Governmental source ____
10) Sewage System
House located within 200 feet of public sewer ____ Yes V No
House located within 200 feet of community sewer ____ Yes V No
11) FHA Case No ____
12) VA Case No. ____

13) NAME OF OWNER Abernethy (LAST), Joseph (FIRST) Glenn (MIDDLE), Jr.

14) ADDRESS OF OWNER 701 Sugar Creek Rd., West - Char. N.C. 28213

15) PHONE NO. Home 596-6211 Office 333-9822

16) LOCATION OF SYSTEM 4524 Brockwood Drive (STREET OR COUNTY ROAD)

17) SUBDIVISION ____ Lot No. ____ Block No. ____

Map Book No. ____ Page No. ____

18) DEED REFERENCE — DEED BOOK 4673 AT PAGE 109

19) HAS A SOIL INVESTIGATION BEEN RUN? V YES ____ NO DATE RUN ____

20) PTR NUMBER (See Instructions) 19894

The undersigned person hereby agrees that he has read the foregoing application and that the contents of same are true It is understood that any permit applied for herein shall be void and of no effect if any of the above facts are not true.

DATE OF APPLICATION

OWNER Joseph Glenn Abernethy Jr

EHD-5-76

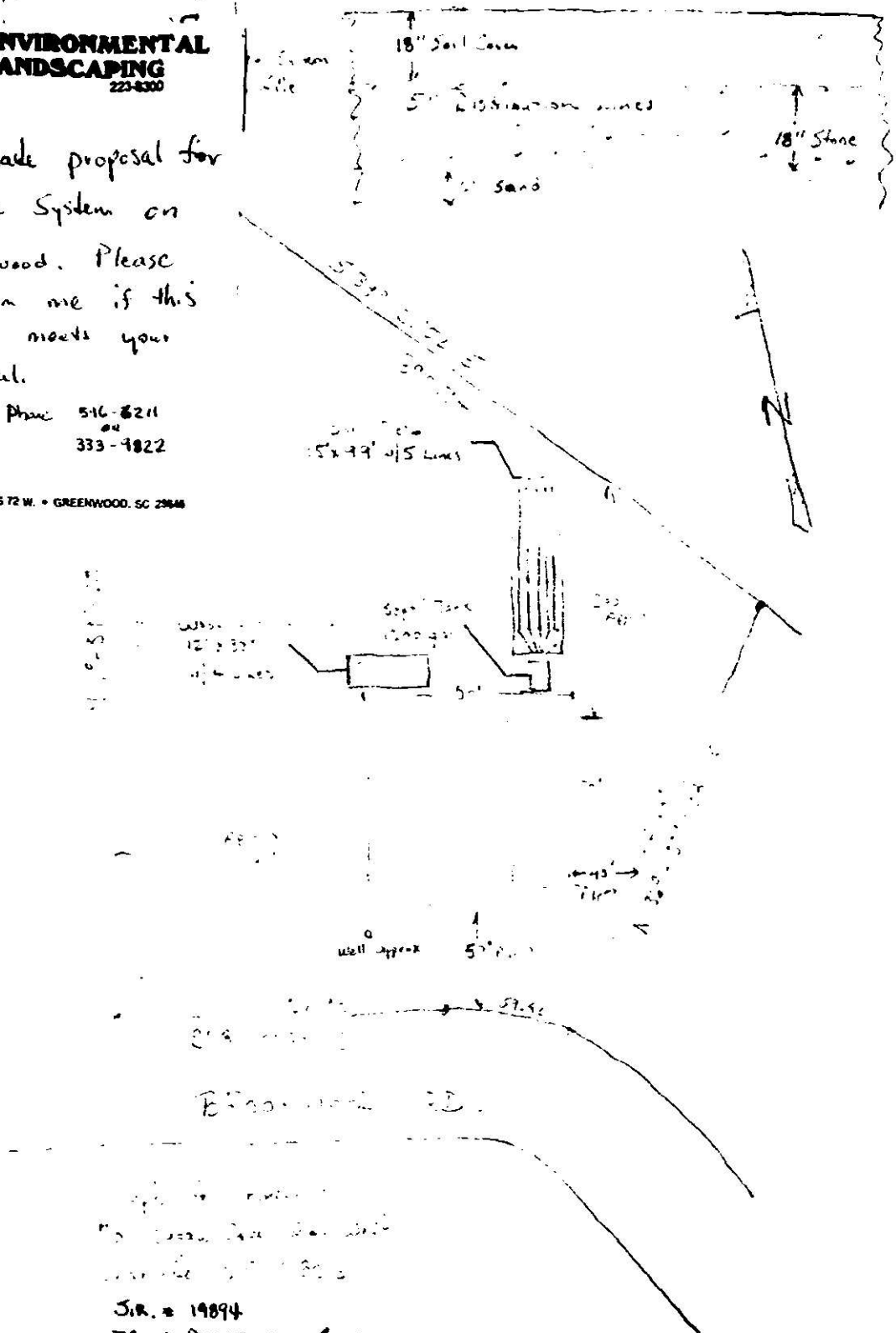
ENVIRONMENTAL HEALTH DEPARTMENT'S COPY

ENVIRONMENTAL LANDSCAPING
223-8300

Alternate proposal for Septic System on Brookwood. Please inform me if this system meets your approval.

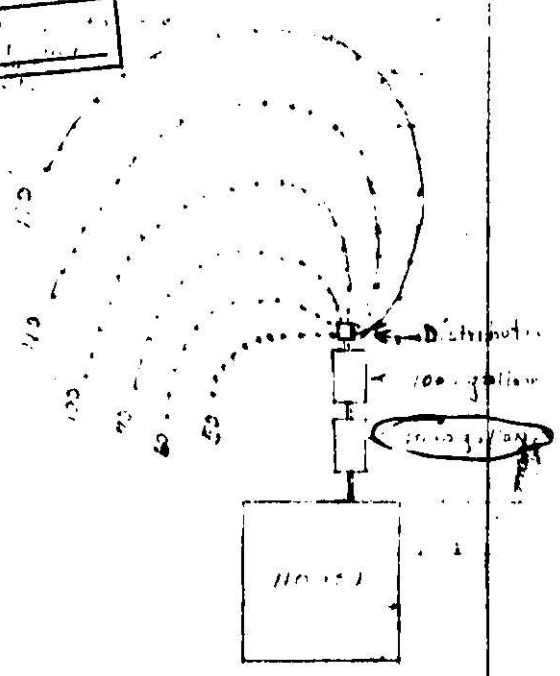
Phone 516-8211
or
333-9822

863 BY-PASS 72 W. • GREENWOOD, SC 29646



S.R. # 19894
T.C. # P0105-181-~~04~~ 56

DISAPPROVED
MECKLENBURG COUNTY ENVIRONMENTAL
HEALTH DEPARTMENT
FILE NO. 19894
LOAR PERMIT NO.
DATE 2/1/84
BY B. Hartsell

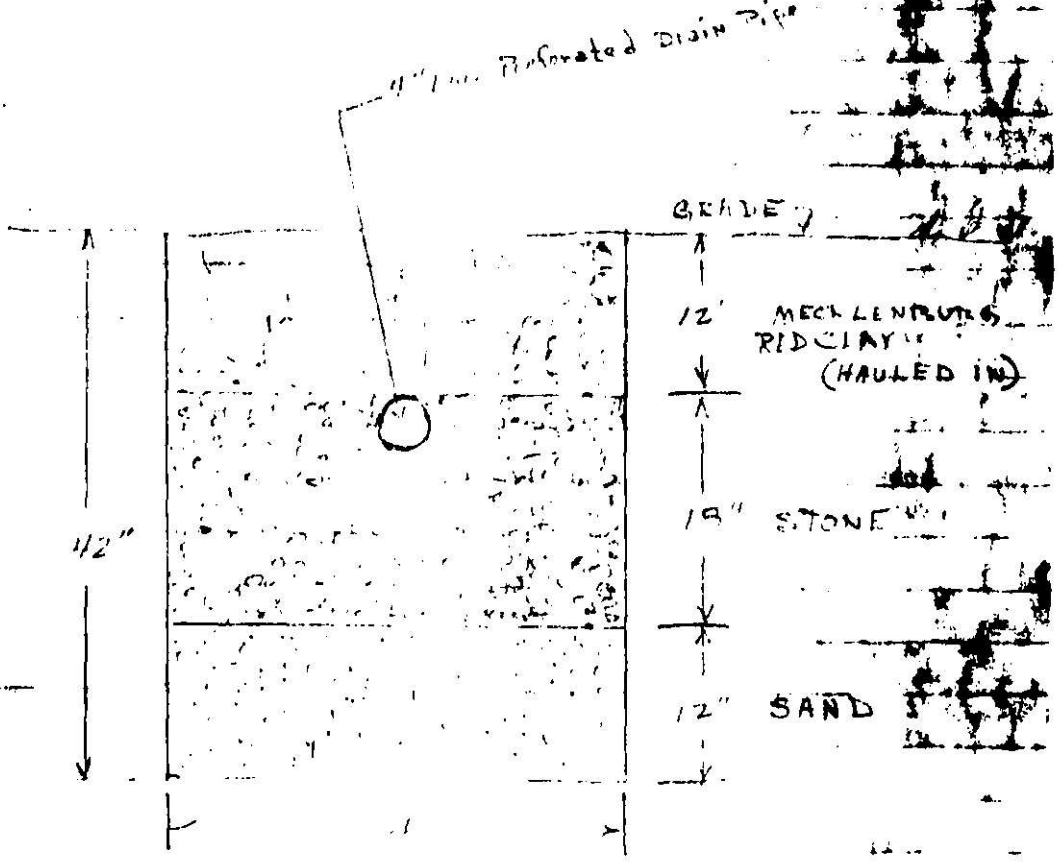


Not to scale

Brook wood Dr.

(NOT TO Scale)

374-2245



SECTION OF DISTRIBUTION CHANNEL

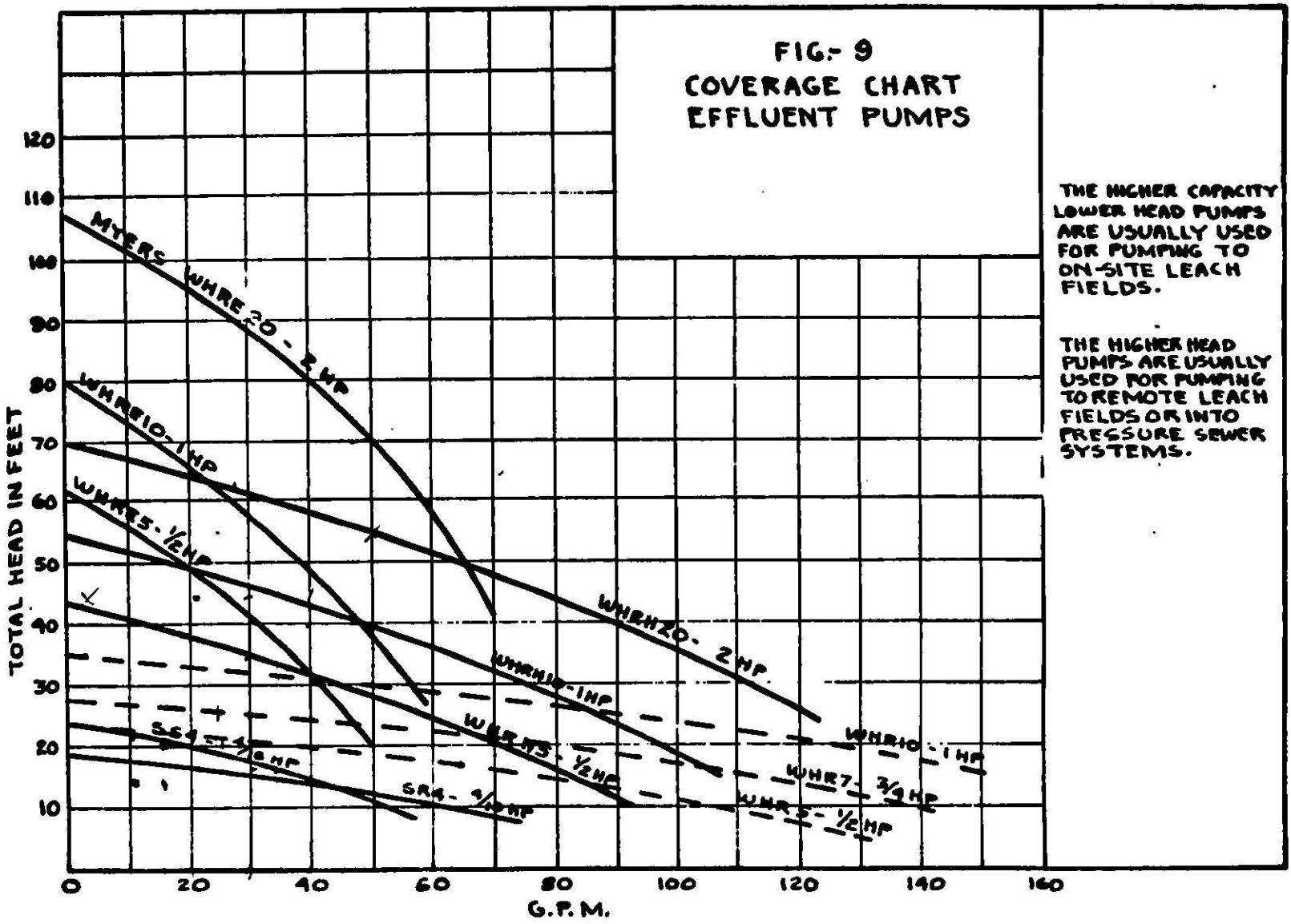
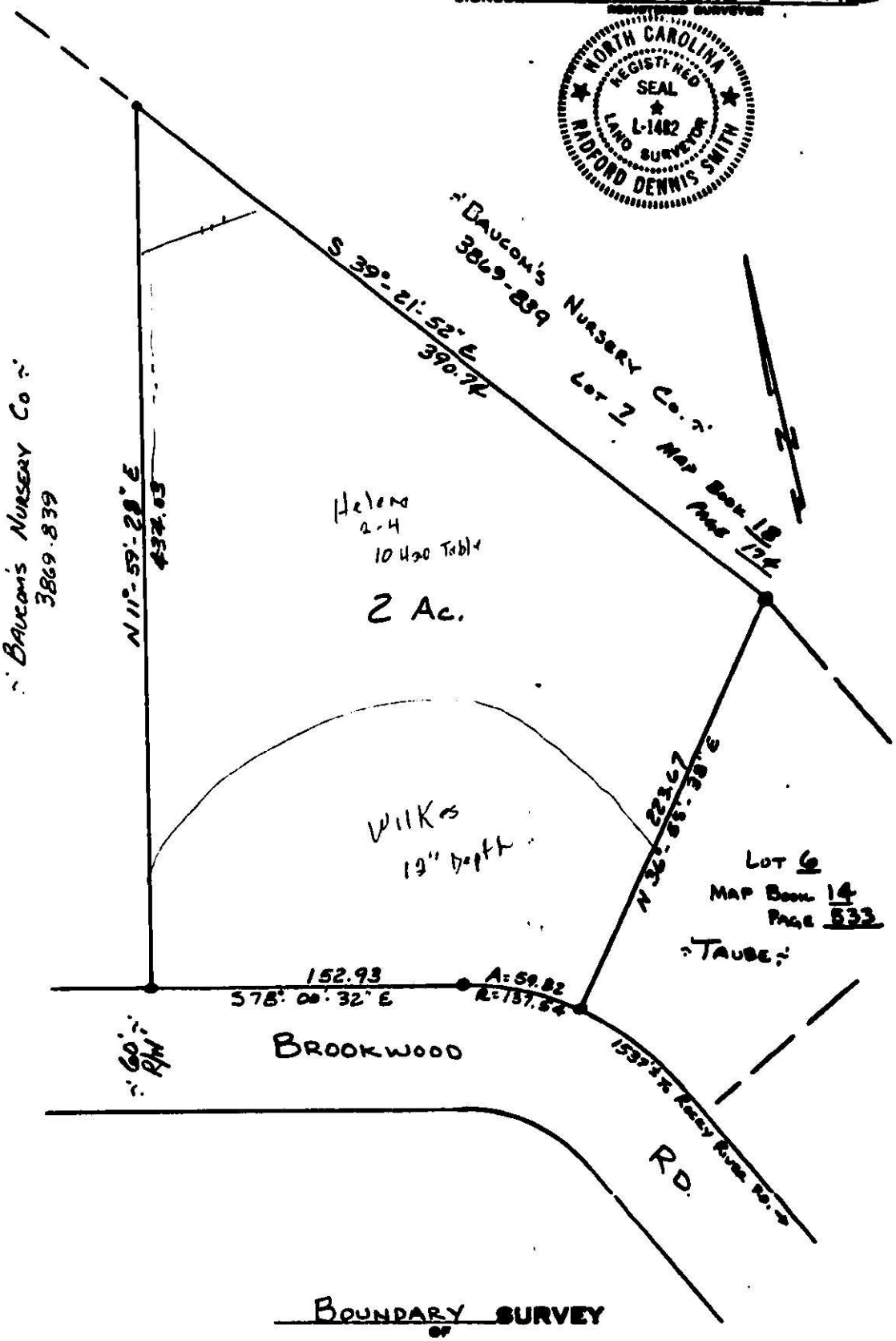


FIG.- 9
COVERAGE CHART
EFFLUENT PUMPS
THE HIGHER CAPACITY LOWER HEAD PUMPS ARE USUALLY USED FOR PUMPING TO ON-SITE LEACH FIELDS.
THE HIGHER HEAD PUMPS ARE USUALLY USED FOR PUMPING TO REMOTE LEACH FIELDS OR INTO PRESSURE SEWER SYSTEMS.
TOTAL HEAD IN FEET
G.P.M.
MYERS WHRE 20 - 2 HP
WHRE10 - 1 HP
WHRS5 - ½ HP
WHRH20 - 2 HP
WHRH10 - 1 HP
WHR10 - 1 HP
WHR7 - ¾ HP
WHR5 - ½ HP
SR4 - ½ HP
SR4 - ⅓ HP
120
110
100
90
80
70
60
50
40
30
20
10
0
20
40
60
80
100
120
140
160

THIS IS TO CERTIFY THAT ON THE 16th DAY OF April 19 83 I, SURVEYED THE PROPERTY SHOWN ON THIS PLAT, AND THAT THE TITLE LINES AND THE WALLS OF THE BUILDINGS IF ANY ARE SHOWN HEREON.

SIGNED R. Dennis Smith L-1482
REGISTERED SURVEYOR

NORTH CAROLINA REGISTERED SEAL L-1482 LAND SURVEYOR RADFORD DENNIS SMITH



Boundary Survey of 2 Ac. Tract

SCALE 1"=60' CRAB ORCHARD TOWNSHIP, MECK. COUNTY, N.C.

THE PROPERTY OF Joe Abernethy IN DEED BOOK 4673 at page 109

MAP RECORDED IN BOOK _____ AT PAGE _____ DEED RECORDED IN BOOK 4673 PAGE 109

REPORT OF GEOTECHNICAL FOUNDATION INVESTIGATION AND ENGINEERING EVALUATION DESIGN FOR SOIL REACTOR WASTEWATER DISPOSAL SYSTEM MECKLENBURG COUNTY, N.C.

OUR PROJECT NUMBER 846

DISAPPROVED
MECKLENBURG COUNTY ENVIRONMENTAL HEALTH DEPARTMENT
FILE NO. 19894
ICAR PERMIT NO. _____
DATE 2/1/84
BY B. Hartsoe

SUBSURFACE INVESTIGATIONS, INC.
P.O. BOX 241204
CHARLOTTE, N.C. 28224-1204

SUBSURFACE INVESTIGATIONS, INC.
P.O. BOX 241264
CHARLOTTE, NC 28224-1264
(704) 364-0810

October 10, 1983

Mr. Joe Abernethey
701 Sugar Creek Road, West
Charlotte, North Carolina 28213

SUBJECT: DESIGN FOR SOIL REACTOR
WASTEWATER DISPOSAL SYSTEM
MECKLENBURG COUNTY, N.C.

OUR PROJECT NUMBER 846

Dear Mr. Abernethy:

Subsurface Investigations, Inc. has completed the authorized site investigation and design for the residence site on Brookwood Drive in Mecklenburg Co., N.C.

The data assembled in the investigation and used to design this system are included as a matter of record so that variance from those conditions can be identified for re-evaluation. The remaining sections of this report will present the findings and design recommended for this site.

LOCATIONS: The site is located in a rural area in Mecklenburg County, approximately 1/4 mile north westerly of Rocky River Road. The ground absorption system will be located on the subject site as plotted in Figure No. 1.

SITE GEOLOGY: This northern part of Mecklenburg County contains soils of the Mecklenburg, Wilkes and Vance Series. These soils characteristically have a slow percolation rate based on U. S. Department of Agriculture studies.

SITE DESCRIPTION: At the time of our investigation, the tract of land was all wooded except where the building site is located. The wooded area consists of pines, cedars and hardwood trees.

In the area of the proposed field, the ground surface slopes 2% to 8% to the west.

SOIL TEXTURE AND DEPTH: Surface Soil observed on the site was primarily tan-grey, clayey, sandy loam. This soil is classified as Mecklenburg and Wilkes loam by the U. S. Department of Agriculture. Tan grey loam with some clay and rock fragments were then encounctered by the hand auger. Refusal to the auger is at an average depth of 32 inches. This horizon shall present a condition generally considered unfavorable to the conventional trench septic field design.

GROUND WATER: No ground water was encountered at the depth of the three auger borings on the hillside site. Tests were not run at the topographically lower area that may be a flood plain.

SOIL PERMEABILITY: Three soil percolation tests were performed by Subsurface Investigations, Inc. in the manner prescribed in the North Carolina Administrative Code, Title 10. The results appear on Table 1 along with the soil stratification.

EVALUATIONS: Due to the shallow restrictive horizon of auger refusal, Subsurface Investigations, Inc. recommends the use of an above-ground low pressure dosing Soil Reactor on this site. A design percolation rate of 240 min/inch will be used to size the basal area of this Soil Reactor. Associated with this is an application rate of 0.12 gal/sq.ft./day.

SOIL REACTOR DESIGN: Presented below are the recommended parameters for the design of the Soil Reactor for this project and the size of the systems required to serve the proposed residence based on these parameters.

1. Project Facility - 6 persons
2. Design Flow - 450 gallons per day
3. Septic Tank Capacity - 1000 gallons

	Dosing Tank Capacity	- 1000 gallons (conforms to N.C.Administrative Code Title 10 criteria)
4.	Percolation Rate	- 240 minutes per inch
5.	System Application Rate	- 0.12 gal/sq.ft./day
6.	System Geometry Configuration	- 56' x 76' Basal
		- 36' x 56'Treatment Area
	Height	- 3 feet
	Slope	- 3 horizontal to 1 vertical or flatter
	PVC Pipe Laterals	- 5' on center, 350' linear feet
7.	PVC Pipe Dimensions	- 7 lines 50' long - 1-1/4 inch diameter PR-150
	Lateral PVC Pipe Perforations	- 1/8 inch diameter orifices spaced 36 inches apart, staggered alternately 20 degrees either side of botton centerline (total number of orifices=112)
	PVC Pipe Slope	- 1/16" to 1/8" per foot
8.	Treatment Medium	- 50% sand (50% passing #200 sieve),5% sandy silt topsoil, well mixed to produce a homogenous medium
9.	Gravel	- Washed stone, N.C. Department of

		Transportation Standard Size #67
10.	Topsoil Cap	- Relatively impermeable (30% clay) topsoil layer adequately limed, fertilized and seeded with Kentucky 31 fescue
11.	Non-woven Filter Fabric	- Stabilenka, Type T-140 or equivalent
12.	Sewage Effluent Pump	- Myers Model WHRH5 1/2 equivalent
13.	Dosing Volume	- 200 gallons
	Pump Level Control	- Myers AWS-1 or equivalent
	Alarm Control	- Myers FLCA or equivalent

ADDITIONAL SERVICES: Subsurface Investigations, Inc. will be available for inspection and observation during the initial stages of installation.

The attached Table and Figures, with accompanying section details, complete the design for this system.

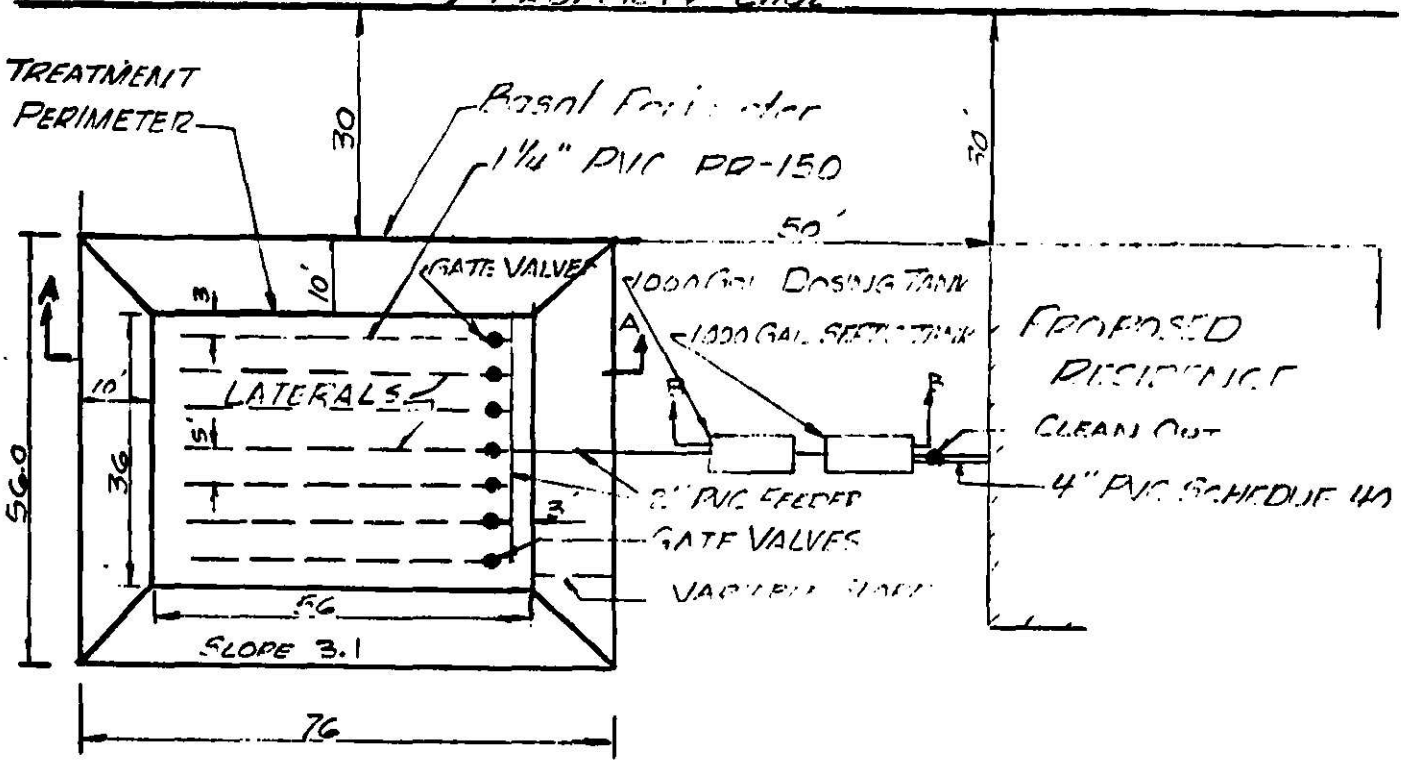
Sincerely,

SUBSURFACE INVESTIGATIONS, INC.

Thomas Wright
Engineering Technician

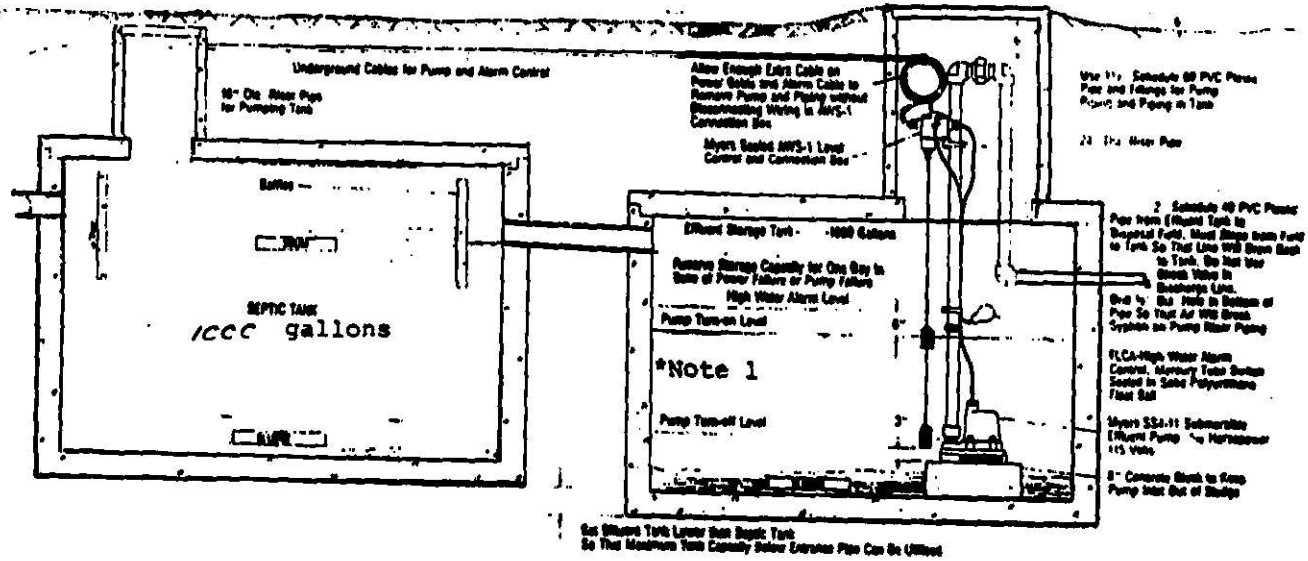
William G. Smith, P.E.
President

TW/WGS:ij



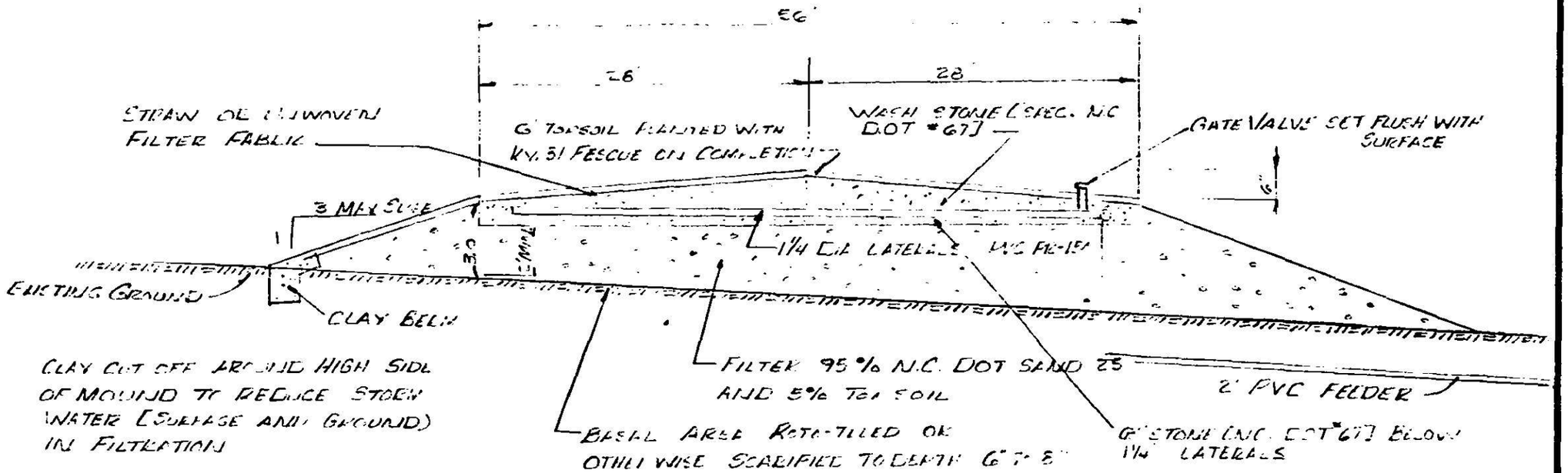
FIELD LOCATED 30' FROM ANY PROPERTY LINE
OR 100 FEET FROM ANY WELL
VEGETATIVE BUFFER DOWN SLOPE, KY. 31 FESCUE

Legend		Project
MOUND DESIGN	SUBSURFACE INVESTIGATIONS, INC. P.O. BOX 241204 CHARLOTTE, NC 28224	ARBENETH RESIDENCE BROOKWOOD DRIVE MECKLENBURG CO. N.C.
Scale: 1"=20'		



Float Setting Allows 200 -gallon Storage

Legend		
SECTION 6-6	SUBSURFACE INVESTIGATIONS, INC. P.O. BOX 241204 CHARLOTTE, NC 28224	[illegible] [illegible] [illegible]



Legend		Project
SECTION AA	SUBSURFACE INVESTIGATIONS, INC. P.O. BOX 241204 CHARLOTTE, NC 28224	ABERNETHY RESIDENCE BROOKWOOD DRIVE MECKLENBURG CO., NC
Scale: NONE		