Tax ID-04-332105

PERMIT

NEW INDEX #

P 47443

A 23129

SEWAGE DISPOSAL SYSTEM

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

DISTRICT

HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
461-9933

INDEXED

DATE 9/02/91

DATE SYSTEM APPROVED 10-16-91

INSPECTOR R Pinkley

Riedel Plumbing IS PERMITTED TO INSTALL X ALTER

ADDRESS 7303 Governor Court, Abingdon, Maryland 21009 PHONE 679-8500

SUBDIVISION Middle Trail LOT 10 A-D ROAD ~~16249 Old Frederick Road~~ 761 Middletrail Court

PROPERTY OWNER Grant and C. Saulsbury

ADDRESS

SEPTIC TANK CAPACITY 1000 GALLONS

NUMBER OF BEDROOMS 4

334 SQUARE FEET PER BEDROOM

LINEAR FEET OF TRENCH REQUIRED 540

LOW PRESSURE DOSING SEWAGE DISPOSAL SYSTEM.

INSTALL: 1-1500 gallon single compartment septic tank.
1-1500 gallon double compartment septic tank.
plus: a pump & float switch/Alarm box control system
(6 trenches - 90 feet long and 7 feet apart)

TRENCHES - Trench to be 1-2 feet wide. Inlet 1/2 feet below original grade. Bottom maximum depth 2¼ feet below original grade. Effective area begins at 1/2 feet below original grade. 1½ - 1½ feet of stone below distribution pipe.

LOCATION - Begin first shallow trench 20 feet from left lot line (507.56'), as viewed from access Right-of-Way, and approximately 90 feet from rear property line (405.00')- i.e. near steel post marked as "Bird House" on plat. Install trenches along contour toward the Front lot line - i.e. toward the existing house and well.

NOTE: ALL TRENCHES ARE TO BE THE SAME LENGTH AND NO TRENCH MAY BE CLOSER THAN 100 FEET TO THE WELL. (See Plan Details and ask sanitarian on-site for specific detail questions.) RJP 9-11-91

PLANS APROVED BY Ron Pinkley DATE 9-2-91

COVER NO WORK UNTIL INSPECTED AND APPROVED

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM

NOTE: CLEANOUT REQUIRED EVERY 70 FEET OF SEWER LINE AND/OR AT 90° SWEEPS IN LINES FROM HOUSE TO DRAIN FIELDS, 90° ELBOWS NOT ACCEPTABLE.

NOTE: ALL PARTS OF SEPTIC SYSTEMS (I.E. TANK, DISTRIBUTION BOX TRENCHES) TO BE 100 FEET FROM WELL (UNLESS OTHERWISE SPECIFICALLY AUTHORIZED)

NOTE: IF DEEP TRENCH(ES) ARE USED CALL FOR INSPECTION BEFORE AND AFTER PLACING GRAVEL IN TRENCH(ES)

NOTE: NO DRY WELL SHALL EXCEED 15 FOOT IN DIAMETER NO ABSORPTION TRENCH TO EXCEED 100 FEET IN LENGTH

NOTE: ALL PIPE FROM HOUSE TO SEPTIC TANK MUST BE CAST IRON OR SCHEDULE 35/40 PVC OR ABS

PERMIT VOID AFTER TWO YEARS

NOTE: INSTALL STAND PIPE ON SEPTIC TANK AND DRY WELL STAND PIPES MUST BE 6 INCHES IN DIAMETER CAST IRON. CONCRETE OR TERRA COTTA OR PVA OR ABS ACCEPTED. IF TOP OF SEPTIC TANK IS DEEPER THAN 3 FEET. MANHOLE TO GRADE REQUIRED.

NOTE: DISTRIBUTION BOXES MUST HAVE BAFFLES

***INSTALLER IS RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT**

*CALL 461-9933 FOR INSPECTION OF SEPTIC SYSTEM.

HD-260(6-90)

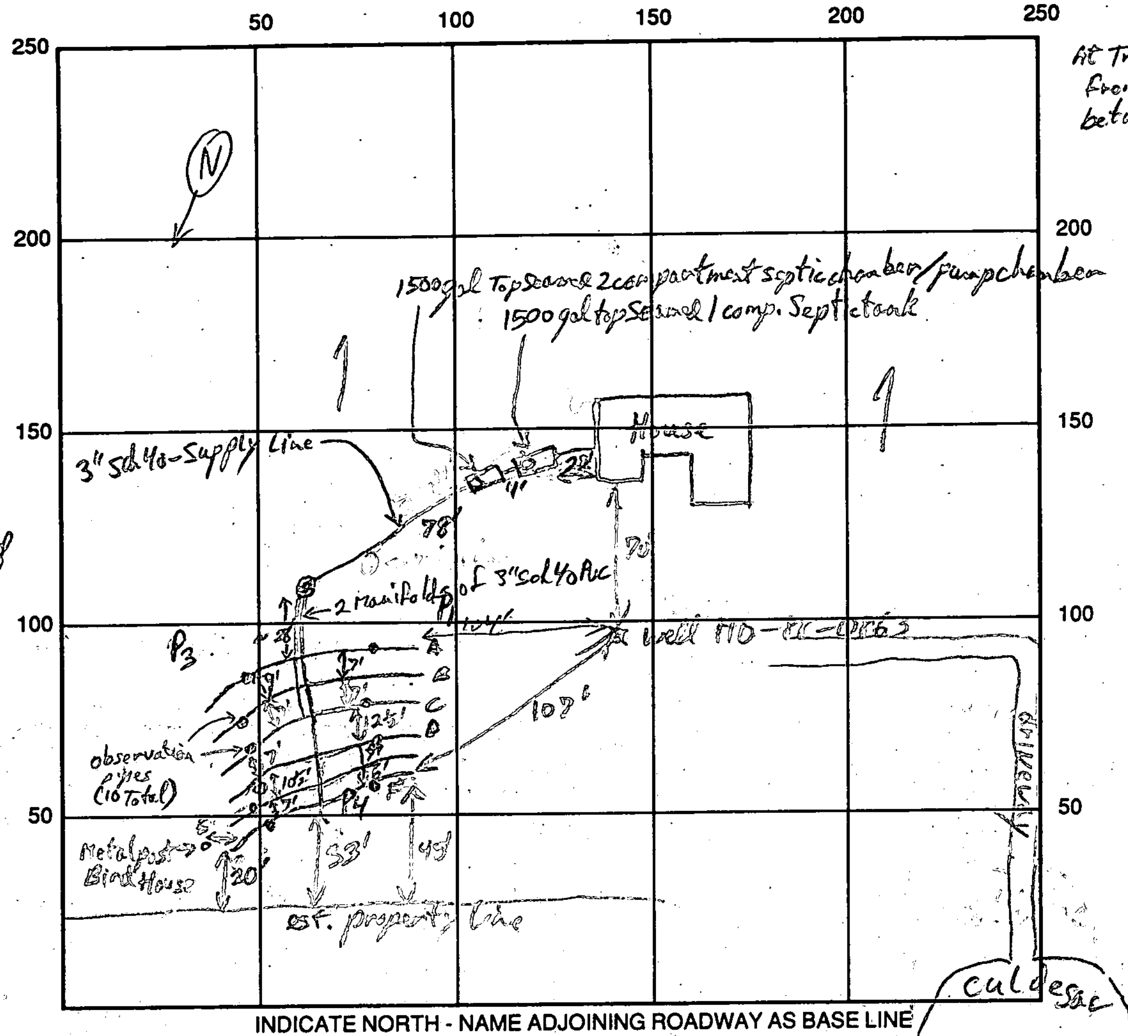
P 47443

A 23129

Drawing of Initial LPD placement @ Middle T Trench Lot #10

At Tr. F OP's are 21' from Manifold (i.e. halfway between perforations)

In Red old scans of I/A Test Holes P_1, P_2, P_3 as noted during construction of LPD system 10/14/91 RP



INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE

SEPTIC TANK LEVEL 1500 gal Topseal Single – 1st chamber ✓ 1500 gal Topseal 2 compart. 1000 – 2nd chamber 500 – pump chamber CLEANOUTS ____________

DISTRIBUTION BOX LEVEL ____________

DRAIN FIELD/TITLE DEPTH 24"–27" ~~FT.~~ TRENCH WIDTH — 1 — FT. Lateral ~~INLET~~ DEPTH varies 4"–15" FT. below original grade; 12" minimum after final grade.

EFFECTIVE GRAVEL DEPTH 18" FT. TOTAL LENGTH 540 FT.

NUMBER OF TRENCHES 6 two ~~ONE~~ SIDEWALL/~~BOTTOM~~ AREA 2½–3 SQ. FT.

DRYWALL INSIDE DIAMETER ____________ FT. EFFECTIVE DEPTH BELOW INLET ____________ FT.

ABSORBENT AREA ____________ SQ. FT.

REMARKS: Tanks (one pc. section) set in holes, manholes/risers + piping not set yet 9-6-91 RP Stone [illegible] ok 9-19-91
1st Trench installed on contour by Transit–bucket at 27" deep, 90' long; changed to 18" below drip's 9-18-91 RP
1st trench dip laid on gravel + gravel covered ē geotextile Fabric. Trench 2 day OK – St [illegible] ē Rain @ 3 PM. 9-19-91 RP
All pipes are drilled correctly + labeled for remaining trenches. Trench E finished, Trench D part gravel (Excavated 3'–3½" deep to
Keep bottom level) Shot surface Elevations by transit to mark off location of Tr C, B, A. 9-20-91 RP Tr D complete Tr C dug + stoned 9/23/91
Tr C complete, Tr B dug, piped + gravel filled – Need Geotextile Fabric, Pump Placed in Pump Chamber RP 9/24/91 – Trench A complete 9/25 [illegible]
Pump Test + elevations for all lateral ends taken on 10-16-91 – OK to finish filling ends of Trenches + final grading.

DATE SYSTEM APPROVED 10-16-91 INSPECTOR [signature]

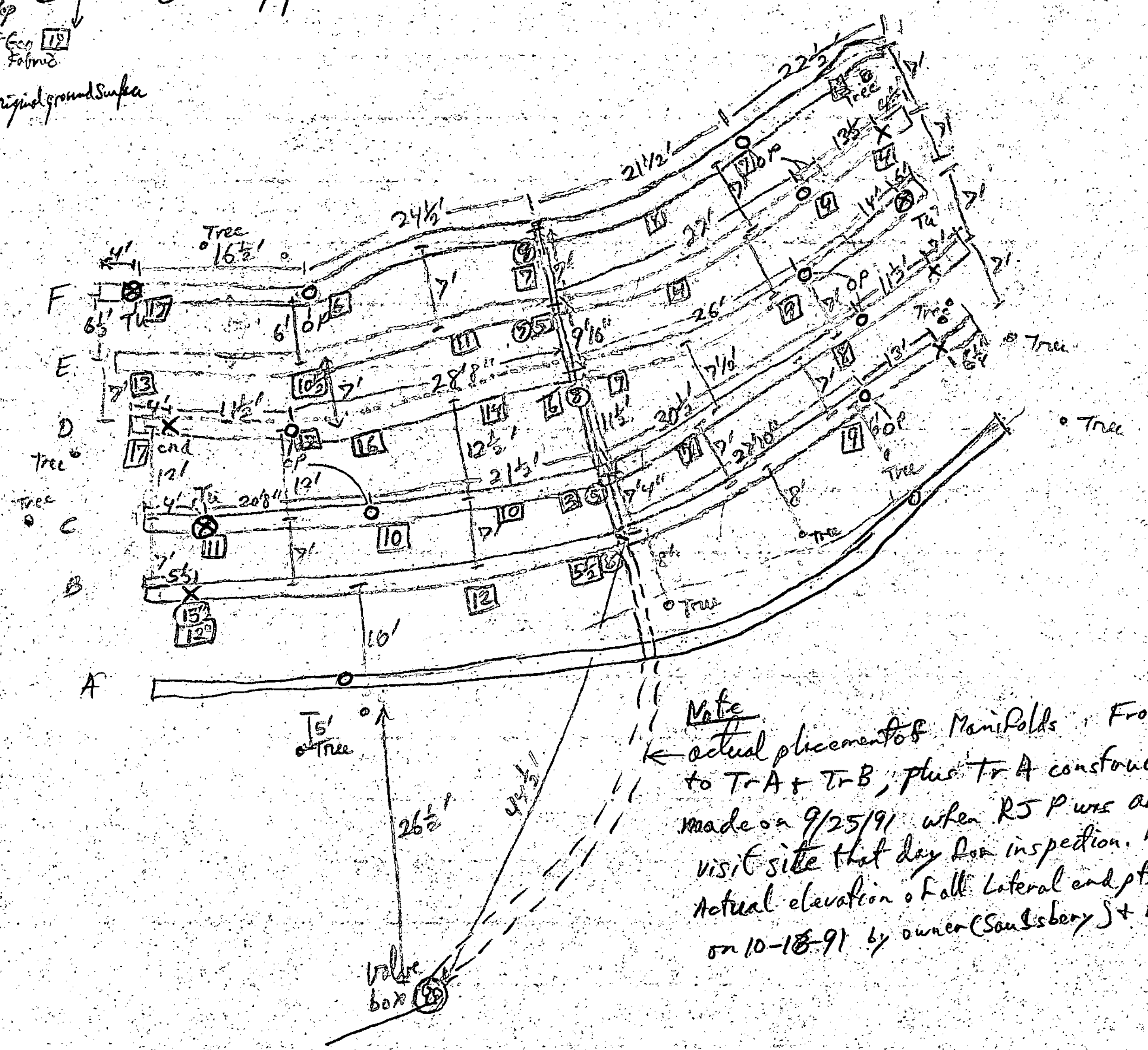
Middle Trails Lot 10 (Saulsbury)
16249 Old Frederick Rd (A-23(29))

Detail Sketch of LPD
Trench location

Symbol Key

Depth to pipe top in inches (12)
Depth to Geo Fabric [12]
From original ground surface

in ft
x = end cap placement on drain lines
(8) = Turnup placement



Note
actual placement of Manifolds From Valve box to Tr A & Tr B, plus Tr A construction was made on 9/25/91 when RJP was absent. C.W. visit site that day for inspection. No Notes available. Actual elevation of all Lateral end pts was taken on 10-18-91 by owner (Saulsbury) & RJP. c owner's Transit

Liberty Pumps (Bergen NY 14416)

Pump is a LE 102M (1hp) Manual Submersible Sewage Pump w/3" discharge pipe opening

ht concrete Block = 3 3/4"

ht inlet of Pump ≈ 3"

ht flange collar
Mfg recommended float set   5½

9¼" — setting of pump off float (estimated)

RJP
9/24/91

actual setting on 10/17/91 was 19½" above P.C. Floor,

Pump ON was 50½" above Floor

50½
-19½
31" elev diff

Middle Trails Lot 10 (A-D)
LPD installation

Contr Notes + Calc's

9/18/91 Soils dry except in "O" horizon despite yesterday's rain

(page 1)

Transit Log

site ① 2'9½" to Mark (Top of open Valve Box)
First Transit shots
① to E2 @ 2'7" E2, E3, E4, E5 F1-5 then traced in lime powder 90' line

and placed lines for E1-5 + D1-5 7' spacing downslope of Trench F
Flags are weathered green toned chlorite schists-

Began digging Trench F @ 12:24 using 1ft wide bucket = 1ft wide Trenches

East end of Trench @ 27-29" deep - soil contains 25-35% stone flags (about 2"x4"x1ft)
Soils are red to reddish Brown (Bt32 SiCL (30%C) 2.5YR 5/6-4/8 / A 7.5YR 4/6) LSiL (about 26% clay) (rather @ lt CL)

(bottom of Trench is Tamped as worked moves past & shovel cleaning loose dirt & rocks
∴ This will be bottom level all only anyhow)

Note Revised Plan (because of soil restrictions) will have 18" gravel under d.p.
congo tight on cap

Tr F got thru end of old Trench Hole @ Perl of on plan.

9/19/91 - laying gravel + predrilled 1½" pvc in line (holes are 5/16" diam + 8'4" spaced as on plans)
18" deep gravel under east lateral somewhat less under West one to keep line level

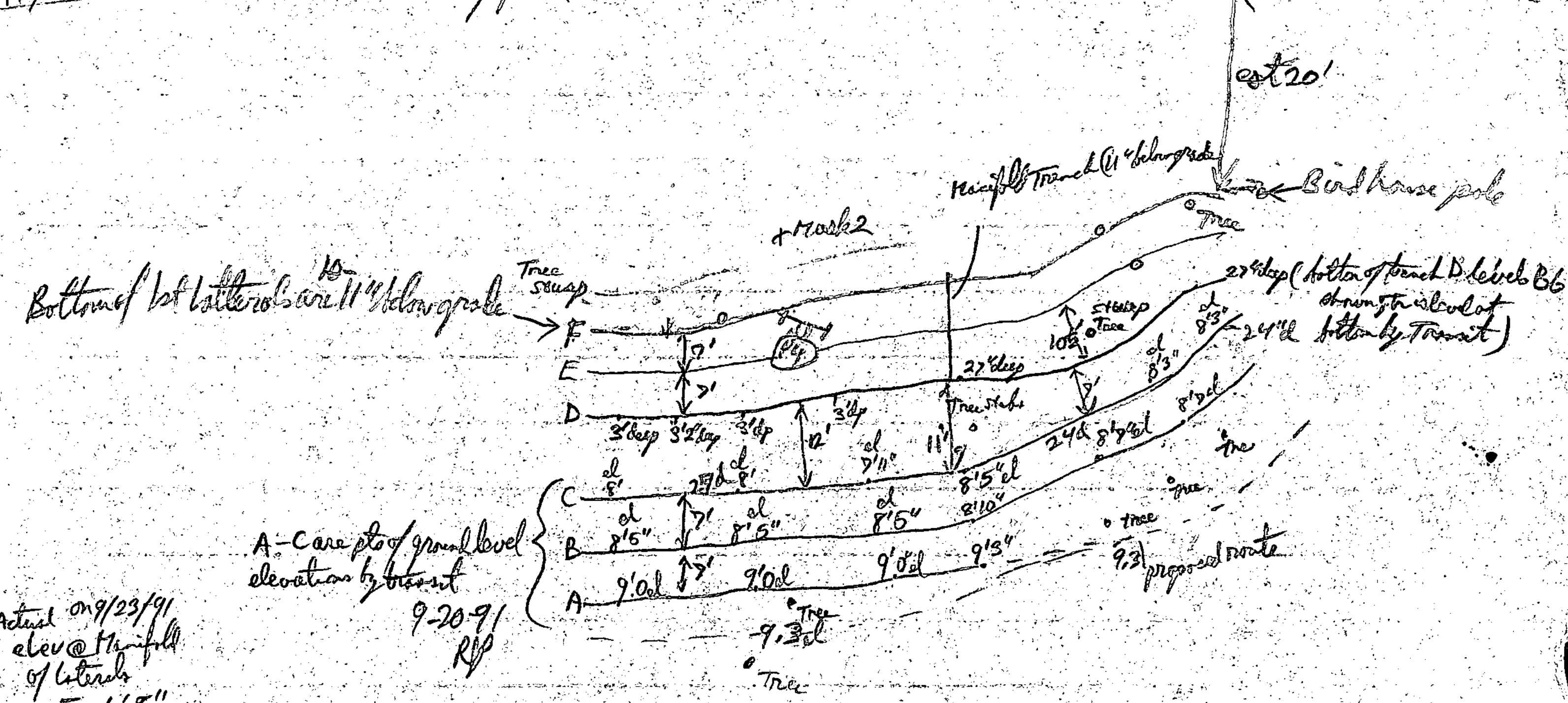
(1½") 10.6 gal/100LF × 486LF of dp = 51.5 gal × 5 = 257.6 gal

FM (3") 38.4 gal × 78 = 29.95 → 30.0 — 30.0
287.6 51.8
51.84 81.8 gal drainback
339.44 gal dose est actual

Manifold 78'
+21
57
+78
135LF Manifold → 1.35 × 38.4 =

9-19-91 [initials]

approx lot line — P.L.



Actual on 9/23/91 elev @ Manifold of laterals
F - 6'8"
E - 7'1"
D - 8'1"
C - 8'8'

D - 8'0"
C - 8'8"
B - 9'2" = 9.35 yesterday

@ Valve Box - 11'4"
Top of P.C. (in Manhole) - 16'5"
≅ 14' elev head

9-19-91 RP

Trench F + Trench E

0-8"! Brown (7.5YR 4/6) LSiL (26% clay) 2m-f SBK c̄ 3 mk clay flows (clear colors) 10% cobbles 5-25 & chisters
8-27" - Reddish - Brownish Red (2.5YR 5/8 - 4/8) SiCL (30-38% clay) 2m-f SBK
Floppy MFr Moist (darker above, lighter below) c̄ 2-3 mk clay films + 1f pores
in Tr E + F — platy or horizontal stratification in floppy reddish soils in Bt2 @ 14-25"
9/19/91 yellower (7.5YR 7/8 - 10YR 8/8) sometimes occurs loose loam - SL in area of Hole (P4) - prob disturbed
9/20/91 in Tr D [at 3'-3'2" soils are a little yellower + lighter at bottom but same % flags and texture as at 27" elsewhere + there]

Stopped c̄ Tr D 2/3 filled c̄ 18" gravel off bottom 9/20/91 RP
* [Not put 2 OP's in Trenches D, C + A as well as in F]

9-23-91 Trench D completed, gravel, pipe + geotextile Fabric in place
began digging Trench C 24" deep @ East end 27" @ West end [bottom level all way]

Paddle Trails Lot 10
16249 Old Frederick

pump Jacks
Underlength Eq pump in paper

10/16/91

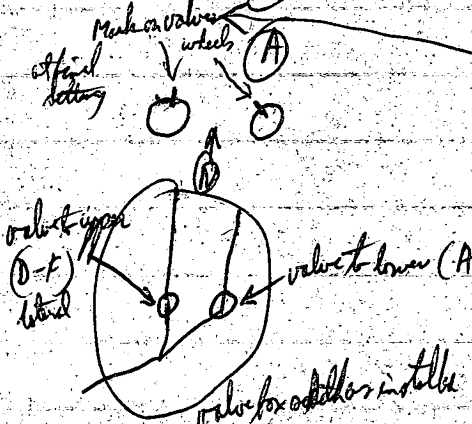
Pump Test (F) elev lateral 6'8" (to Bottom / To Head)

(D) 8'1"

(A) all end perforation drained well no plugs (we use clear well water for pump test)

Turn Valves clockwise to turn off (counter clockwise to open)

(B) Turnups cut at 3'/4" 4" - 3'/4" 6" (F D C A)



(note tags attached on valve wheel @ North & and in line c pipes when valve is fully off)

water overflowing D + A lot than C - of the 2 test got water level c in 1 inch of top of F turn up (valve @ 3 turns from off for D-F, 2 1/8 turns for best balance) result

(C) at 2 turns on lower valve box (D A) upper get water overflowing (just not steady) and lower c in 2-3" of top of pipe at 2 1/4 turns situation reversed

setting left @ X or set at 2 1/8 turns on lower valve 3 turns on upper get best balance that still favor

lower valve is on East end, upper valve on West end of valve box

Best balance set @ 3 ft head pressure for upper trenches slightly favored

Todays Elevation @ top of lateral ends — Mark @ Top above (F)

Tr	old elev.	10/16 W end west end	E end east end	Head 0	0	3 Head	Head 3 1/2
F	-	5'10 1/4"	5'10"	0		(3)	3 1/2
E		- 6'3 1/4"	6'2 1/2"			4'4"	
D		- 7'2 1/2"	7'2"		1'3 3/4"	(4'3 3/4")	4'9 3/4"
C		- 7'8 1/2"	7'8 1/4"	0		(3)	3 1/2
B		- 8'6"	8'5"			4'6"	
A		- 9'1 1/4"	9'2 1/4"		1'5 3/4"	(4'5 3/4")	4'11 3/4"

(D) at activation water comes out of pipes A+D, then B+E, then C+F perforation c in 10-15 seconds of each other, so system under full pressure by 25-30 seconds of cycle start & stays on pressure for 3± minutes, pressure & lose even ±10 seconds Thru system.

Top of ring of Valve Box 10'5 1/2" — Note 1" diff in end pipe elevation

Pump on 1'7 1/2" — 50 1/2 / 19 1/2 / 31" diff. between float setting

Pump off @ 50 1/2" below mark (inside top of PVC lid

(Elapsed time Meter Read 0000.d hrs) Not a minute reader

~~Elapsed~~ Event Counter @ 000025

started today @ 23 events

Now - 40 1/2" after Flowback

so getting 40 1/2 (10" of Flowback)
- 19 1/2
21" actual sewage water to trenches
x 10.58 gal/vert
(222.2 gal dose) each dose

off on switch is off from bottom > 24"
on 38" " " > 5"
down 43" " "

DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MD 21043
PERMITS (410) 313-2455 INSPECTIONS (410) 313-1810
AUTOMATED INFORMATION (410) 313-3800

HOWARD COUNTY PERMIT APPLICATION

PERMIT NUMBER B04 146 993

Building Address 761 Middleton Ct
Suite/Apt. #: ____ SDP/WP/Petition #: ____
Census Tract 6010 01 Subdivision ____
Section ____ Area ____ Lot 10 AD
Tax Map 7 Parcel 10 Grid P-457
Zoning RC Map Coordinates 307-457 Lot size 5

Property Owner's Name Gerald Salisbury
Address 761 Middleton Ct
City ____ State MD Zip Code 21771
Home Phone ____ Work Phone ____
Applicant's Name & Mailing Address, (if other than stated hereon):
Phone ____ Fax ____

Existing Use ____ 4.85AC
Proposed Use ____
Estimated Construction Cost $ ____
Description of Work Sun room 16x14 screen porch

Contractor Company ____
Contact Person ____
Address ____
City ____ State ____ Zip Code ____
License No. ____
Phone ____ Fax ____

Occupant or Tenant ____ Salisbury
Contact Name ____
Address 761 Middleton Ct
City ____ State MD Zip Code 21771
Phone ____ Fax ____

Engineer or Architect Company ____
Contact Person ____
Address ____
City ____ State ____ Zip Code ____
Phone ____ Fax ____

BUILDING DESCRIPTION - *COMMERCIAL*

Building Characteristics
Height: 8'
No. of stories: 1
Gross area, sq. ft. per floor: 460
Use group:
Construction type:
____ Reinforced Concrete
____ Structural Steel
____ Masonry
✓ Wood Frame
____ State Certified Modular

Utilities
Water Supply: ____ Public ____ Private
Sewage Disposal: ____ Public ____ Private
Electric Yes ☐ No ☐
Gas Yes ☐ No ☐
Heating System: Electric ☐ Oil ☐ Natural Gas ☐ Propane Gas ☐
Sprinkler system: N/A ☐
____ Full
____ Partial
____ Other Suppression
____ # of Heads

BUILDING DESCRIPTION - *RESIDENTIAL*

Building Characteristics
SF Dwelling ☒ SF Townhouse ☐

	Depth	Width
1st floor:	16	50
2nd floor:		
Basement:	16	14

Finished Basement ☐ Unfinished Basement ☐
Crawl space ☐ Slab on Grade ☐
No. of Bedrooms ____
Multi-family dwellings:
No. of efficiency units: ____
No. of 1 BR units: ____
No. of 2 BR units: ____
No. of 3 BR units: ____
Other Structure: ____
Dimensions: ____
Footings: ____
Roof: ____
____ State Certified Modular
____ Manufactured Home

Utilities
Water Supply: ____ Public ✓ Private
Sewage Disposal: ____ Public ✓ Private
Electric Yes ☒ No ☐
Gas Yes ☐ No ☐
Heating System: Electric ☐ Oil ☐ Natural Gas ☐ Propane Gas ☐
Sprinkler system: N/A ☒
____ NFPA #13D
____ NFPA #13R
____ Other:

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THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Applicant's Signature [signature]
Print Name Gerald Salisbury
Title/Company ____
Date 3/24/04 CR

Checks payable to: *DIRECTOR OF FINANCE OF HOWARD COUNTY*
** PLEASE WRITE NEATLY AND LEGIBLY. **
- FOR OFFICE USE ONLY -

AGENCY	DATE	SIGNATURE APPROVAL
✓ Land Development, DPZ		
State Highways		
✓ Building Official	3/24/04	[signature]
✓ Dev. Engineering, DPZ	3/24/04	B. Di Salvo
✓ Health	3/24/04	Racie Noonan
Fire Protection		

Is Sediment Control approval required prior to issuance? YES ☐ NO ☐

CONTINGENCY CONSTRUCTION START: ☐
ONE STOP SHOP: ☐

DPZ SETBACK INFORMATION
Front: 50'
Rear: 100'
Side: 30'
Side St.: ____
All minimum setbacks met? YES ☐ NO ☐
Is Entrance Permit required? YES ☐ NO ☐
Historic District? YES ☐ NO ☐
Lot Coverage for NewTown Zone ____
SDP/Red-line approval date ____

PROPERTY ID#: 55534
Filing fee $ 30
Permit fee $ 40
Excise tax $ 174
Add'l per. fee $ 4
TOTAL FEES $ 248
Sub-total paid $ ____
Balance due $ ____
Check # 49
Validation # 42597

Accepted by ____

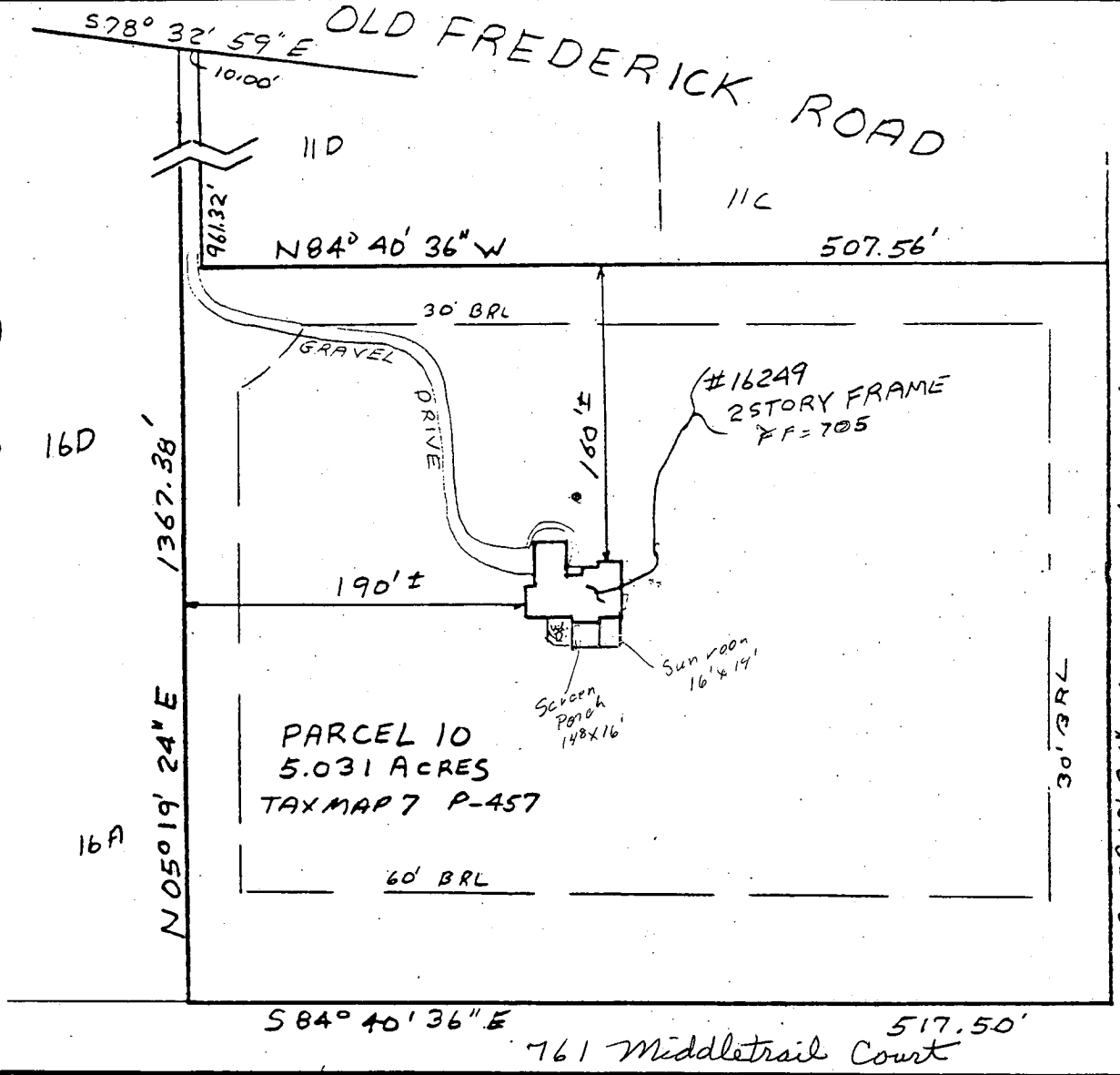
Distribution of Copies- White: Building Official Green: LDD, DPZ Yellow: DED, DPZ Pink: Health Gold: SHA

T:\forms\PERMIT.FRM Rev. 5/17/00

B00146993
Proposed Sunroom + PORCH

3/24/04
No well or septic issues
Owner says dosing system functions great

KN



Subject property is shown in Zone C on the National Flood Insurance Program Flood Insurance Rate Map of HOWARD County, Maryland. Panel # 7 of 45 Community Panel # 240044 0007 Effective Date: Dec 4 1986

This is to certify that I have surveyed the property shown hereon, being the same property described in a deed from

and recorded among the land records of in Liber Folio for the purpose of locating the improvements thereon.

THIS PLAT SHOWS ONLY THAT THE IMPROVEMENTS ARE CONTAINED WITHIN THE OUTLINES OF THE LOT AND IS NOT TO BE USED TO ESTABLISH PROPERTY LINES.

STATE OF MARYLAND JAMES C. HUDGINS 96 REGISTERED PROPERTY LINE SURVEYOR

J. Carl Hudgins PLS#96

LOCATION SURVEY

~~16249 OLD FREDERICK ROAD~~
4TH ELECTION DISTRICT
HOWARD COUNTY MD

NTT ASSOCIATES, INC.
16205 Old Frederick Road
Mt. Airy, Maryland 21771
Phone 442-2031

Scale	1"=100'
Date	11/6/91
Field By	JCH
Drawn By	JCH
Drawing #	MISC 537

LIBER 1903 FOLIO 192

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AGREEMENT AND EASEMENT
FOR
INSTALLATION OF AN
INNOVATIVE AND ALTERNATIVE
ON-SITE SEWAGE DISPOSAL SYSTEM

THIS AGREEMENT is made this 26th day of October, 1988, between and among Donald R. Renner Jr. HEREINAFTER REFERRED TO AS Owner, and the Department of the Environment which includes the Howard County Health Dept. HEREINAFTER REFERRED TO AS the Department.

WHEREAS, Owner is seized and possessed of a tract of land located in the 4th Election District of Howard County, Maryland, the deed to same being recorded among the Land Records of Howard County, Maryland, in Liber 1903, RECD FEE 24.50 156 Folio 473.

WHEREAS, this land has been selected as a test site for an #240940 C184 R01 T15: 10/26/ innovative/alternative system of sewage disposal.

WHEREAS, Owner's land is unsuitable for the installation of a conventional on-site sewage disposal system and owner desires the Department's approval to install an innovative/alternative system of sewage disposal.

NOW, THEREFORE, the parties hereto agree as follows:

A. Owner agrees to install a water meter on the incoming side of the water system or event counter on the sewage pumping system that will be checked periodically by the Department to correlate the volume of the meter or event counter reading with the functioning of the system.

D 24.50

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

C. Owner acknowledges and agrees that the proposed innovative/alternative system is experimental and that his participation is voluntary. Owner agrees that there shall be no liability on the part of the Deparment to Owner if this innovative/alternative system fails, and that the Department does not warrant or guarantee that the system will adequately or property function.

D. Owner acknowledges and agrees that neither the Department nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.

E. The Owner will devote such care and effort to the maintenance of the system so that a system malfunction is not the result of poor maintenance, faulty operation or neglect.

F. Owner agrees, that, should the system be determined by the Department to pose a threat to the public health, safety or comfort, the Department may order any necessary changes or corrections and the Owner agrees to pay for all such changes or corrections. System modifications may include requirements for holding of sewage wastes in holding tanks and regular pumping from the holding tanks. The Owner may also be required to enter

into a contract, acceptable to the Department, to allow, and pay a public or private entity to pump on a regularly scheduled basis an approved holding tank system.

G. The Owner agrees to contact both the Water Management Admininstration, Division of Residential Sanitation and the Howard County, at least 48 hours prior to system installation so that the Department may layout the system in the field with the contractor. The Owner further agrees that this system will be installed according to the plans and specifications approved by the Department and any changes approved by the Department determined as a result of the field layout. If installation deviates substantially from the approved plans or changes, such that experimental data will be compromised or reduced, the Owner agrees to pay for all necessary corrections.

H. This agreement shall run with the land and binds the owner, his heirs, successors or assigns except that the provisions of paragraph A & B shall be binding for a period of 5 years only after installation of the system and occupation of the home. Owner further agrees that he shall inform any purchaser or lessee of the property of the special maintenance required by the system. The Owner agrees to record this agreement in the land records of Howard County.

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

WITNESS, the hand and seal of the parties hereto.

DATE: 10/25/88

Owner Donald R. Reuwer, JR.

DATE: _____

Michael E. Kanouse
Department of the Environment

DATE: _____

_____ County

Return to:

James L. Mayer, Esq.
8293 Main St.
Ellicott City, Md 21043

S/E
SANITARY / ENVIRONMENTAL ENGINEERING, INC.
1414 Washington Road
Westminster, Maryland 21157

To: Craig Williams

From: Jim Clise

For your review and comments

SANITARY / ENVIRONMENTAL ENGINEERING, INC.

1414 Washington Road
Westminster, Maryland 21157

James D. Clise, P.E.

(301) 876-7740

Sid
F.Y.I.

April 26, 1989

Mr. Ron Pinkley
Division of Residential Sanitation
Department of the Environment
2500 Broening Highway
Baltimore, MD 21224

Re: Shallow Pressure Dosing System
Lot 10, Middle Trails
Howard County

Dear Mr. Pinkley:

In response to your letter of March 16, 1989, concerning the proposed sewage system for Lot 10, Middle Trails, the following comments are submitted:

A. Site Plan:

1. & 2. We have shown a tentative well and house location; however, since this lot may be sold, we are not in a position to determine an actual site.

3. Test pit locations have been shown.

4. Replacement areas have been shown to encompass tested areas.

B. Profile:

What "major turning points" are you referring to? The supply line is one straight line with elevations at both ends shown and an elevation difference of 16'.

The hydraulic profile as submitted also clearly indicates elevations of the top and bottom laterals and the valve box. As per your request we have transferred elevations from the profile to laterals A and F.

C. Septic Tank:

1. An access opening has been shown for the "T" baffle.

2. Tank dimensions. Dimensions and construction details are not normally shown on a "typical" drawing.

3. Same as #2 above.

4. Invert elevations have been shown.

5. Baffles have been extended.

D. Pumping Stations:

1. Elevation of pump cut-off has been shown. Elevations are meaningless for the remaining points you listed. Appropriate measurements were shown as submitted, based upon measurements included in the specifications - See Page 1, Item 3 of the Specifications.

2. A quick disconnect union is not required on the piping to this pump. The entire pumping unit lifts off the base.

3. See Item C-2.

4. See Item C-2.

5. A pump curve is enclosed for your information.

6. The valve box has a removable lid extending above ground. See Page 2, Item 9 of the Specifications.

7. The galvanized pipe is the guide rail for installing or removing the pump.

E. Disposal Field:

1. See comment B.

2. Please look at the drawing. The trench length and lateral lengths are clearly shown. This information has been summarized for each trench and each lateral in the included table.

3. Lateral hole locations and spacings are clearly shown on the drawing as submitted and again in the table.

4. Spacing between trenches is clearly indicated as 5' minimum.

5. Manifold is shown in all locations as 3".

6. See lateral end turn up detail.

F. Procedures for Site Preparation and Construction:

In my opinion no special site preparation or construction directions are needed. If you have any specific procedures or restrictions, please make them known.

G. Specifications, including manufacturers, model numbers and local representatives are included in the Specifications. See Items 8 and 12.

H. I can't duplicate your TDH calculations. I don't know what method you use to extrapolate from 100 to 108 gpm, or from 50 to 54 gpm if you use the charts included in the sand mound guidelines.

I'm enclosing for your information some pertinent pages from the Handbook of PVC Pipe indicating C values to 165 and that C 150 is an acceptable conservative value.

Equation 80 can be used for any C value, and equation 84 allows you to calculate friction loss/100' for any given flow at C=150.

In applying all of these, my calculations range from 30.8 to 31.7 TDH for the Middle Trails system. I'm satisfied our pump selection is adequate.

I. The selected pump is 1-1/2 hp. Pump and motor efficiencies are normally provided only on specific request. I can't imagine how they would assist in your review.

If you have any questions concerning this response, please call me.

Sincerely,

James D. Clise, P.E.

Encs.

Copy: Jack Holthaus
Frank Skinner

Specifications

At the termination point of each lateral, the last perforation is to be placed in the turn-up elbow or end cap as shown on the drawing.

8. The pump is to be of submersible construction, mounted 8" above the pumping station floor, capable of delivering 108 gallons per minute at 31' TDH. The pump should be a Model SJS 15 standard sewage ejector pump as manufactured by ABS Pumps, Inc., or equal (Contact Sherwood-Logan & Associates, (301) 269-5523). The control box is to be mounted outside the pump chamber in a weatherproof enclosure.

9. Gate valves (two needed) are to be installed on the 3" supply line inside a valve box as shown on the drawing to allow accurate adjustment of the distal pressure. The valve box should extend above ground with a removable cover to allow for inspection and future adjustment.

10. Supply lines, from the pumping station to the laterals, are to be installed with a continuous slope to assure complete drainage of effluent from the supply lines and manifolds following each pump cycle.

11. The high level sounding alarm is to be hardwired on a separate electrical circuit. The sounding alarm is to be located inside the dwelling.

12. An event counter and an elapsed time meter are to be installed on the pump electrical circuit. The elapsed time meter can be any reliable dial-type electric clock. The event counter is to be non-resettable and is to be hardwired into the pump circuit. The event counter should be a Redington counter, electrical, non-resettable, 115V, Model 1 A 188, or equal (Available from W.W. Grainger Co., Landover MD (301) 459-7780).

13. Gravel for the disposal trenches is to be 3/4" to 2" in diameter, washed and free of fines. Gravel is to be inspected and approved prior to placement in the trenches. Trenches are to be dug level and laterals placed level. Following covering of the laterals with gravel, a layer of geotextile fabric is to be applied and sufficient backfill and topsoil placed to provide a minimum of 12" of cover over the top of the stone. Crushed limestone is <u>not</u> an acceptable substitute for gravel.

14. Elevations shown on the drawing are based upon a survey of 11/24/876 by NTT Associates, Mt. Airy, MD.

Low Pressure Dosing
Sewage Disposal System

A 23129

SUBDIVISION: Middle Trails I

LOT NUMBER: 10 A-D

DRY WELL OR DRY WELL AND TRENCH

_____ sq. ft./bedroom

	Septic Tank	Minimum Total Square Feet
3 bedroom	1000 gallon	
4 bedroom	~~1250 gallon~~ one 1500 gal single compartment S.T. one 1500 gal dbl compartment S.T.	
5 bedroom	1500 gallon	

plus a pump + Float switch/Alarm box control system

Inlet _____ feet below original grade.

Bottom maximum depth _____ feet below original grade.

Effective area begins at _____ feet below original grade.

NOTE: If trench is used to make up absorbent area, run the trench on level ground and leave a 5-foot earth buffer between dry well and trench. No trench is to exceed 100 feet in length. Trench inlet to be same as dry well, with _____ feet of stone below distribution pipe.

TRENCHES

540 LF Trench Total (6 tr 90' long each)

334 sq. ft./bedroom

Trench to be 1-2 ft wide.

Inlet ½ feet below original grade.

Bottom maximum depth 2½ feet below original grade.

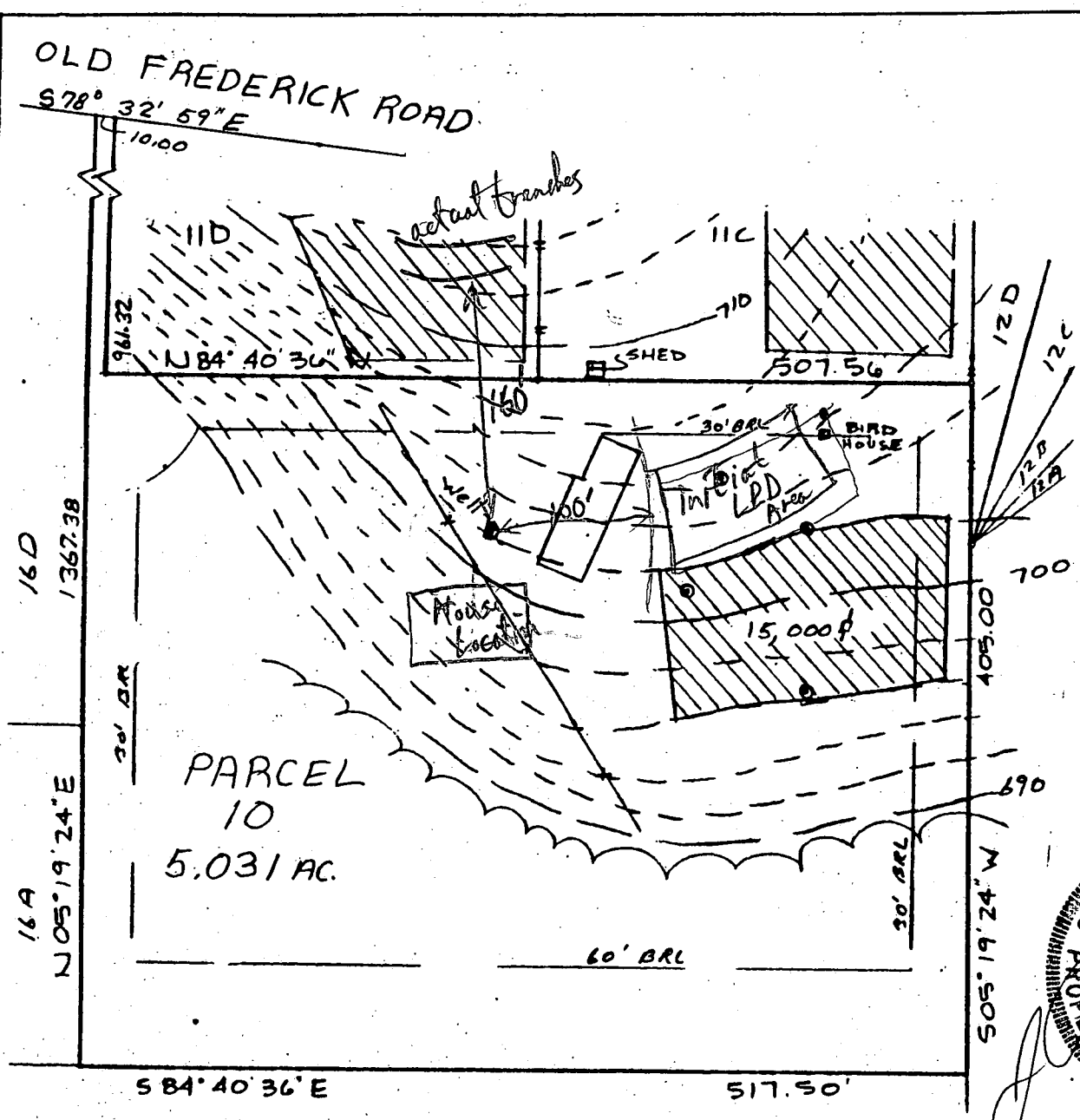
Effective area begins at ½ feet below original grade.

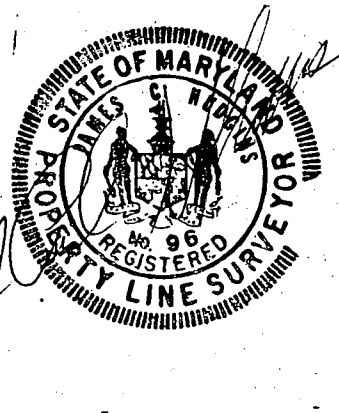
1¼-1½ feet of stone below distribution pipe.

NOTE:
(1) No trench to exceed 100 feet in length.
(2) ~~If more than one trench used, a distribution box is required.~~
(3) Trenches to be installed on level ground.
(4) Call for inspection of trench before gravel is installed.
(5) Provide 6" - 8" diameter cleanout and cap to grade or above on septic tank and drywell.
(6) If a garbage disposal is used, increase septic tank capacity by 50% and increase absorbent sidewall area by 22%.

LOCATION: Begin First Shallow Trench 20' From Left Lot Line (507.56') as viewed From access Right of way, and approximately 90' From Rear property Line (405.00') - ie. near steel post marked as "Bird House" on Plot. Install trenches along Contour Toward The Front Lot Line - i.e. Toward the existing House + well. Note All Trenches are to be The same Length and no trench may be closer Than 100' to the well. (See Plan Details + Ask Sanitarian on Site for Specific Detail Questions).

HD-191





▨ This area designates a private sewage easement of 10,000 square feet as required by the Maryland State Department of Health and Mental Hygiene for individual sewage disposal. Improvements of any nature in this area are restricted until public sewage is available. These easements shall become null and void upon connection to a public sewage system. The County Health Officer shall have the authority to grant variances for encroachments into the private sewage easement. Recordation of a modified sewage easement shall not be necessary.

Percolation test holes shown hereon have been field located and shown as "⊕".

The lots shown hereon comply with the minimum ownership width and lot areas as required by the Maryland State Department of Health and Mental Hygiene.

Percolation areas and water wells for adjoining lots have been shown where pertinent.

APPROVED: For Private Water and Private Sewage Systems

OK/SA Joseph Boylan 6-6-89

County Health Officer Date

PERCOLATION TEST PLAT

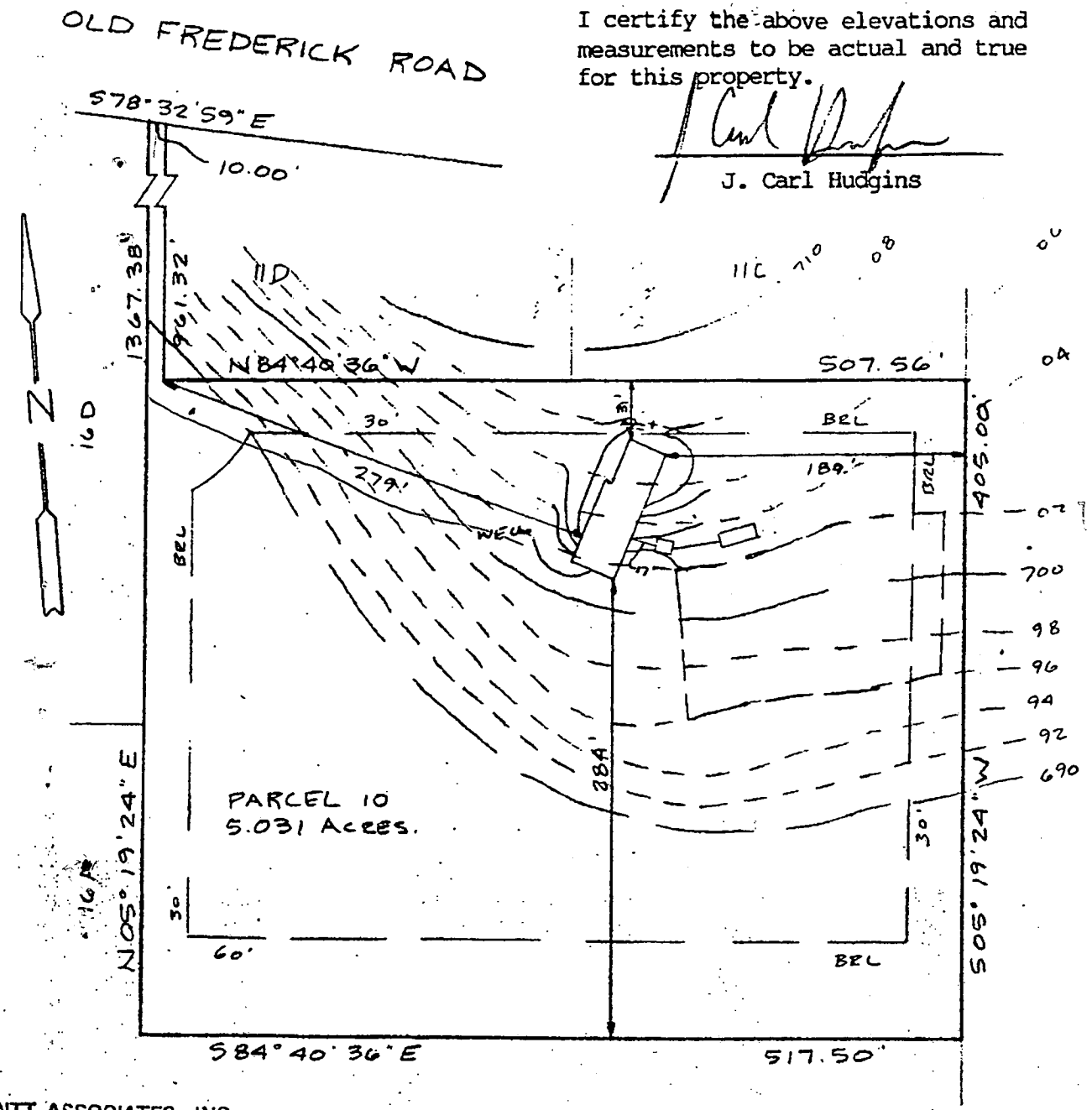
PARCEL 10

MIDDLE TRAIL

TAX MAP 7 PARCEL 407

4TH Election District
Howard County, Maryland
Scale 1"=100'
Date 5-26-89

NTT Associates, Inc.
16205 Old Frederick Road
Mt. Airy, MD 21771
(301) 442-2031



I certify the above elevations and measurements to be actual and true for this property.

J. Carl Hudgins

HOUSE:

FIRST FLOOR	710.0
BASEMENT	701.0
INVERT	699.0

SEPTIC TANK:

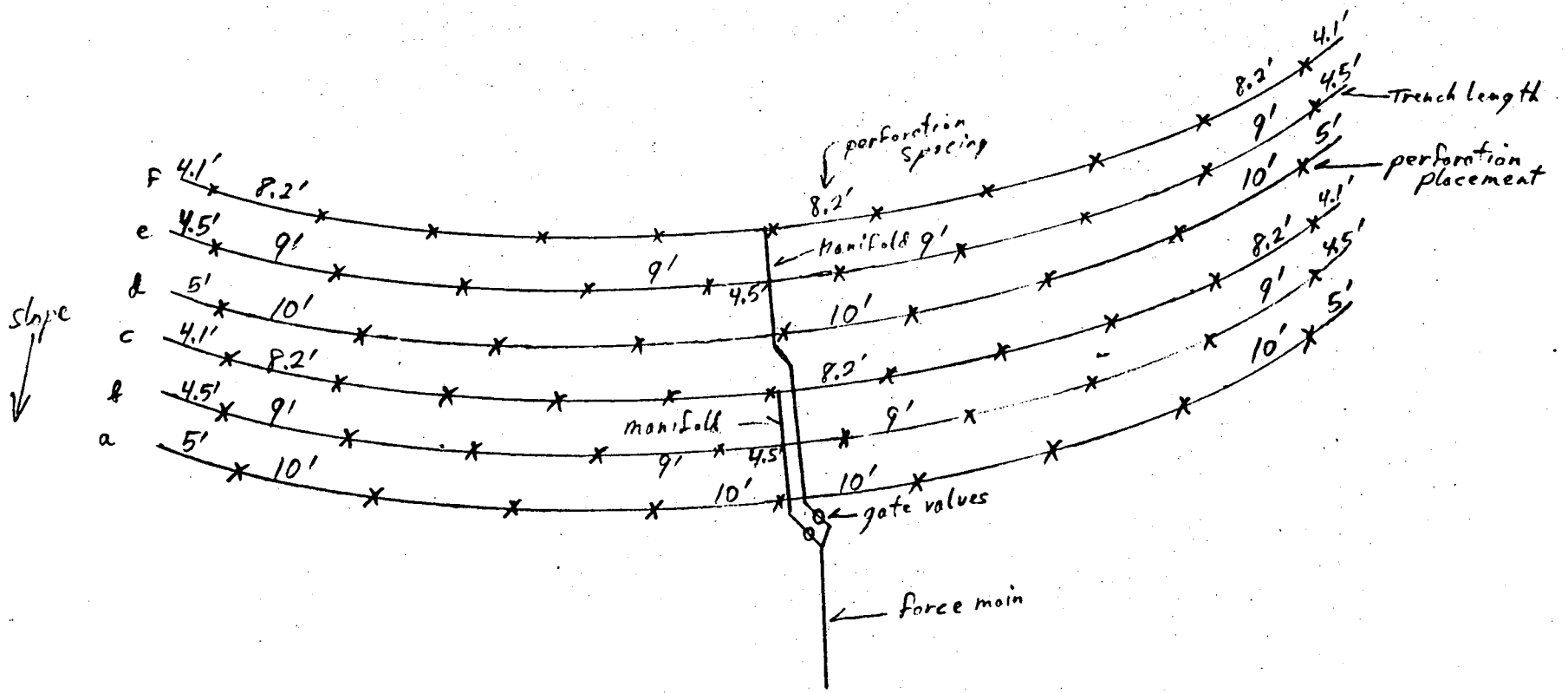
EXISTING GRADE	703.0
PROPOSED GRADE	701.0
INVERT IN	698.75
INVERT OUT	698.50

NOTE: SEE DETAIL FOR LOW PRESSURE DISTRIBUTION SYSTEM AT HOWARD COUNTY HEALTH DEPARTMENT.

BLDG. PERMIT SIGNED AND RETURNED 8-16-89
BP 28122

PLOT PLAN
PARCEL 10
MIDDLE TRAIL
TAX MAP 7 PARCEL 407
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE JULY 07, 1989
SCALE 1"=100'

NTT ASSOCIATES, INC.
16205 Old Frederick Rd.
Mt. Airy, MD 21771
(301) 442-2031

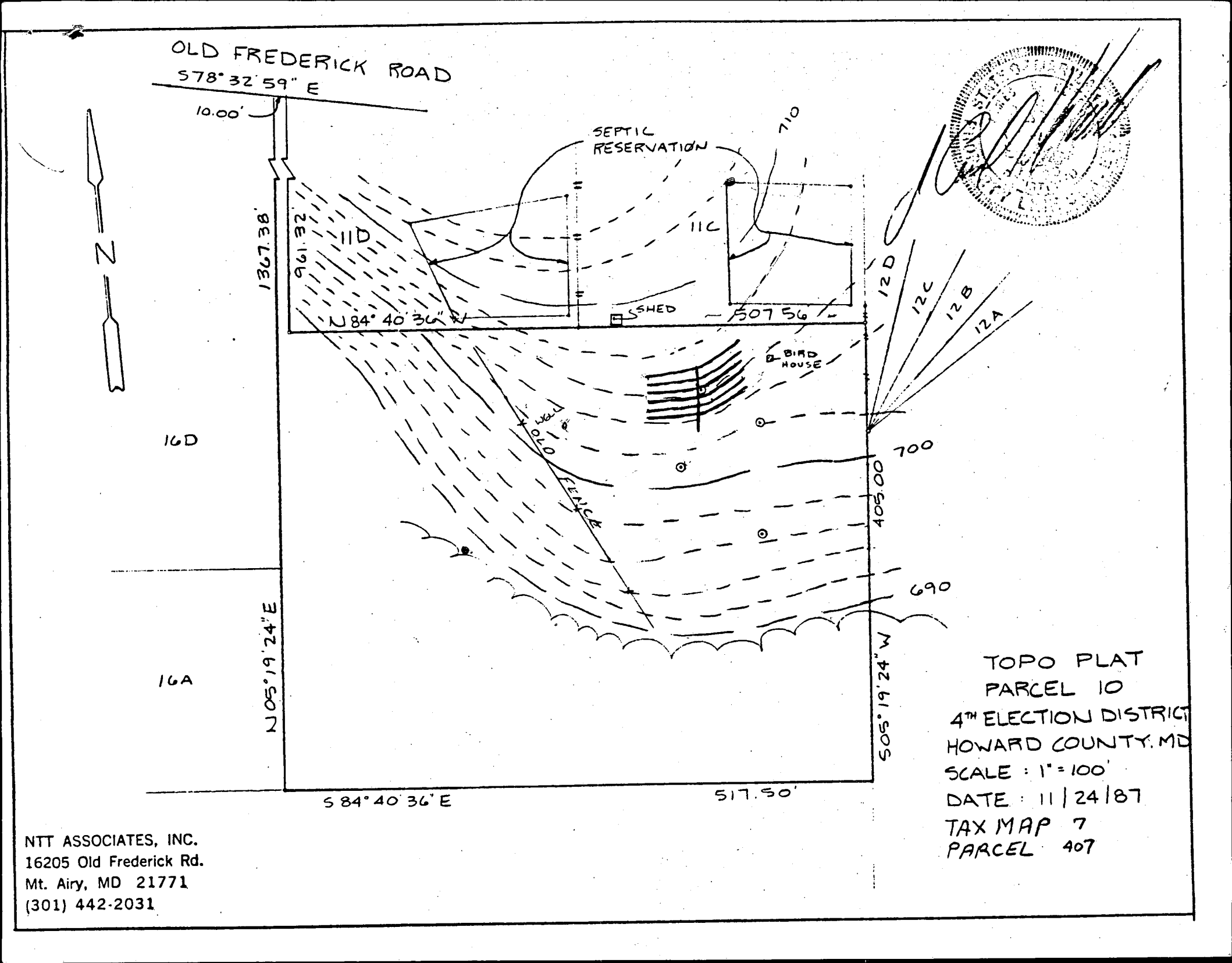


Schematic Diagram of perforation placement within Low Pressure Distribution System

SCALE: None		DRAWN BY R. J. Pickle
DATE: 8-15-88		REVISED

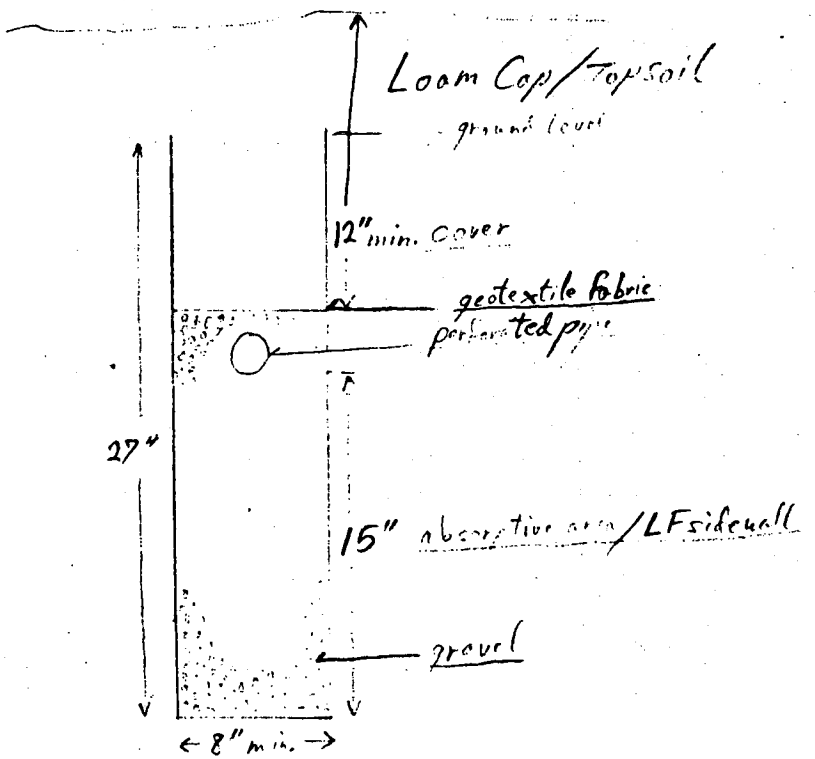
DEPARTMENT OF THE ENVIRONMENT
201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201

Middle Trails Subdiv. Lot 10 Howard County	DRAWING NUMBER



TOPO PLAT
PARCEL 10
4TH ELECTION DISTRICT
HOWARD COUNTY, MD
SCALE : 1" = 100'
DATE : 11/24/87
TAX MAP 7
PARCEL 407

NTT ASSOCIATES, INC.
16205 Old Frederick Rd.
Mt. Airy, MD 21771
(301) 442-2031



Cross sectional Detail of shallow pressure dosing distribution Trench

SCALE:		DRAWN BY
DATE:		REVISED

DEPARTMENT OF THE ENVIRONMENT
201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201

Middle Trails Lot 10

DRAWING NUMBER

State of Maryland

DEPARTMENT OF THE ENVIRONMENT
201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201
AREA CODE 301 • 225-

William Donald Schaefer
Governor

Martin W. Walsh, Jr.
Secretary

August 16, 1988

Mr. Frank Skinner
Environmental Health
Howard County Health Department
P.O. Box 476
Ellicott City, Maryland 21043

RE: Middletrails, Lot 10

Dear Mr. Skinner:

The results of our site evaluation at the referenced property indicate the site is suitable for installation of an innovative/ alternative shallow pressure dosing trench sewage disposal system. A copy of the site evaluation data is attached. The following sections summarize requirements necessary for proceeding with the project.

Plans and Specifications

A professional engineer or registered sanitarian should be retained to provide final plans and specifications using the attached design information. Monitoring requirements are outlined in the attachments. Plans must be submitted to the Division of Residential Sanitation and the local Approving Authority for review before approval to construct the system can be given.

Agreement

Attached is an Agreement and Easement that must be signed by the property owner and recorded in the land records before permits to construct can be issued. The Agreement and Easement establishes the regulatory conditions associated with the experimental project and provides monitoring access for State and County personnel.

Please forward of copy of this letter, as well as the attachments, to the property owner.

If you or the property owner have any questions, please call me at (301) 225-6351.

Sincerely,

Ron Pinkley/tg

Ron Pinkley, R.S.
Division of Residential Sanitation

RP:tmg

Attachments

cc: Ms. Merrylin Zaw-Mon
Mr. Jack R. Holthaus, R.S.

LOW PRESSURE DOSING
SEWAGE DISPOSAL SYSTEM
MiddleTrails Subdiv.Lot 10

DESIGN CRITERIA
The designer should check the proposed criteria, system location, layout and all calculations and incorporate the appropriate criteria into final plans and specifications. The attached site sketch, typical details, and memorandum should be used in the preparation of final plans and specifications.

1. DESIGN FLOW - 600 gpd. Water saving fixtures and low flow toilets are recommended to reduce wastewater flows to the system.

2.PRETREATMENT UNIT(S) - A double compartment septic tank or two tanks in series should be used. A total capacity of 1500 gal. should be provided in the septic tank(s). At a minimum, the first compartment should be sized for 2/3 of the required volume. If two tanks are used the first tank should be sized for 2/3 of the required volume. All tanks must be watertight and meet all horizontal separation distances specified in State and County regulatons. Tanks that are constructed with seams and joints above the high water table are required. A 24 hour leakage test may be conducted to demonstrate watertightness prior to final construction approval.

3. PUMPING SYSTEM AND CONTROLS - The pumping chamber must be protected against buoyant forces and be watertight. Tanks constucted with seams and seals above the high water table are required. A 24 hour leakage test may be conducted to demonstrate watertightness prior to final construction approval. The pump chamber must provide sufficient volume to allow for the dose and one day's storage between the high water alarm and the inlet of the first septic tank. It is also recommended that volume be provided so that the pump can be set on a block and remain submerged at all times. The use of a three float system to control pump on, pump off, and the high water alarm is recommended. The pump shall be capable of delivering 108 gpm at design head. The design head includes two feet (2ft.) head at the distal end of the uppermost laterals. A flow meter or event counter and elapsed time meter is required to determine gallons pumped to the system. The control box or panel should be located outside the pump chamber in a waterproof enclosure. The high water alarm must be wired on a separate electrical circuit. All pump chambers must meet minimum horizontal separation distances as specified in State and County regulations. A test of the pumping system and distribution network will be required prior to covering. The force main can be partially covered as long as all joints, elbows, tees, etc. are visable. The test will require sufficient water on-site to activate the pump through several pumping cycles. Provisions to protect the pumping system and distribution network from erosion and sedimentation during construction should be made by the contractor.

4. TRENCH DESIGN
A) Design flow = 600 gpd
B) Design infiltration rate = 0.45 gpd/sq.ft.
C) Required infiltration area = 1334 sq.ft.
D) Width = 8 in.
F) Sq. ft. infiltration per linear ft. of trench = 2.5
G) Total trench length = 533 ft. = 540 LF
H) Number of trenches = 6 (12 lbs)
I) Individual trench length = 90 ft.
J) Trench depth = 27 in.
K) Spacing =5 ft. edge to edge (1-2'
L) The bottom of each trench is to be level

5. DISTRIBUTION SYSTEM - Refer to design and layout of pressure distribution networks in excerpts from the EPA Design Manual: On-Site Wastewater Treatment and Disposal Systems (EPA 625/1-80-012), the University of North Carolina Sea Grant College Publication: Design and Installation of Low-Pressure Pipe Waste Treatment Systems (UNC-SG-82-03), and the distribution system equations attachment. If the above assumptions are used, the pressure distribution network should be designed as follows (trenches are labeled a-f, i.e. lowest to highest elevation, respectively):

A) Split manifold distribution system
B) Number of laterals = 12 (6 trenches)
C) Length of laterals - a,d = 40 ft.
b,e = 40 ft. 6 in.
c,f = 40 ft. 10 in.
D) Diameter of laterals = 1 1/2 in. *can be 1¼" dia pipe*
E) Diameter of perforations = 5/16 in.
F) Space between perforations - a,d = 10 ft
b,e = 9 ft
c,f = 8 ft 2 in.
G) Perforations per trench - a,d = 9 *pc bottom elev*
b,e = 10
c,f = 11
H) Perforation discharge for 5/16 in. dia. perforation at:
a,d) 3 ft. of head = 1.99 gpm
b,e) 2.5 ft. of head = 1.82 gpm
c,f) 2 ft. of head = 1.63 gpm

486 LF of lateral for 1¼" lateral × 7.8 gal/100 LF = 37.9 gal × 5 = 189.5 gal

I) Trench discharge rate - a,d = 17.91 gpm
b,e = 18.2 gpm
c,f = 17.93 gpm
} ×2 = 108.08 gpm
J) Total discharge rate = 108.1 gpm
K) A pump must be selected that can deliver 108 gpm at the design head.
L) Dose = (5 x volume of laterals) + volume of manifold + volume of supply line, or; design flow divided by 6. Choose the equation that gives the larger dose. *= 240 gal min dose* *(189.5 gal; 26.5 gal (60 LF); 23.0 gal (60 LF))*
M) Diameter of supply line = 3 in. ✓
N) Diameter of manifold = 3 in ✓
O) All laterals are to be installed level. At the lowest elevation of each trench the invert of the lateral is to be installed ~~12~~ inches beneath the surface of the ground. Fill must be provided such that there is a minimum of 12 inches cover over the crown of all lateral pipes. *can be 6" preferred*

7. MONITORING REQUIREMENTS - The following are required:
A) Observation ports - ~~6~~ 9
B) Suction lysimeters - NO
C) Tensiometers - No
D) Surface water stations - No
E) Monitoring wells - No

Proposed locations and details are shown on the attached drawings.

8. ARTIFICIAL DRAINAGE - None *Think*

SOIL TEST DATA

NAME Middle Trails Subdiv Lot 10 FILE NO.

LOCATION off S/Old Frederic Rd (Near Lisbon MD) COUNTY Howard

about 1 Mi w/ Rt 94 intersection DATE 7/17/87

GRID

INSPECTOR R Pinkley, B. Glotfelty

HOLE NO.	TEST NO.	DEPTH	CLOCK TIME	ELAPSED TIME	WATER LEVEL	REMARKS
	I_1	@ 24" driven 6" filled 7"	11:21 11:37 11:47 12:07 12:21 12:36 1255 2:12 2:20	approx = 1" in 120 min	11 15/16 12 3/16 12 4/16 12 9/16 12 13/16 12 13/16 13 8/16 13 10/16 13 11/16	
	I_2	@ 24" driven 6" filled 7"	11:25 11:37 11:45 11:58 12:07 12:19 12:33 Refilled to 7" 12:36 1:56 2:13	32 min/in 1½" in 80 min ≈ 54 min/in	10 14/16 11 1/2 11 14/16 12 3/16 12 8/16 12 14/16 13 3/16 10 14/16 12 9/16 12 13/16	
	P10		11:23 11:36 12:04 Refill 12:33 1:56	28 min/inch 2+ inch @ 1:56		
	P11		12:32 12:38	only 1st inch in 6 min		

In Filtrometer Tests

SOIL TEST DATA

NAME Middle Trails Subdiv Lot 10 (American Properties % Hank Reich) FILE NO.

LOCATION off s/o old Frederick Rd near Lisbon Md COUNTY Howard

about 1 mile w/o Rt 94 intersection DATE 7/10/87

GRID

INSPECTOR R. Pinkley (with Hank Reich)

HOLE NO.	TEST NO.	DEPTH	CLOCK TIME	ELAPSED TIME	WATER LEVEL	REMARKS
OT1	P5	35"	2:09 2:43 3:11 3:28	79 min 90 min/in rate	Top Nail approx ¼" down " ½" down @ 7/8" from Top Nail	7½ ft Fractured (Red Silts) Rock Did Not Clear bot (presoak) incl Test in Red Silt
OT2	P7	32"	3:40 3:52 4:19 4:42 5:05	pre wet 46 min/in.	Top Nail ¼" full 2nd Nail also ¼" full 3rd Nail	

SOIL TEST DATA

NAME Middle Trails Subdiv Lot 10 (American Properties - owner Don Reuwer/Mark Reich ← onsite) FILE NO. ____

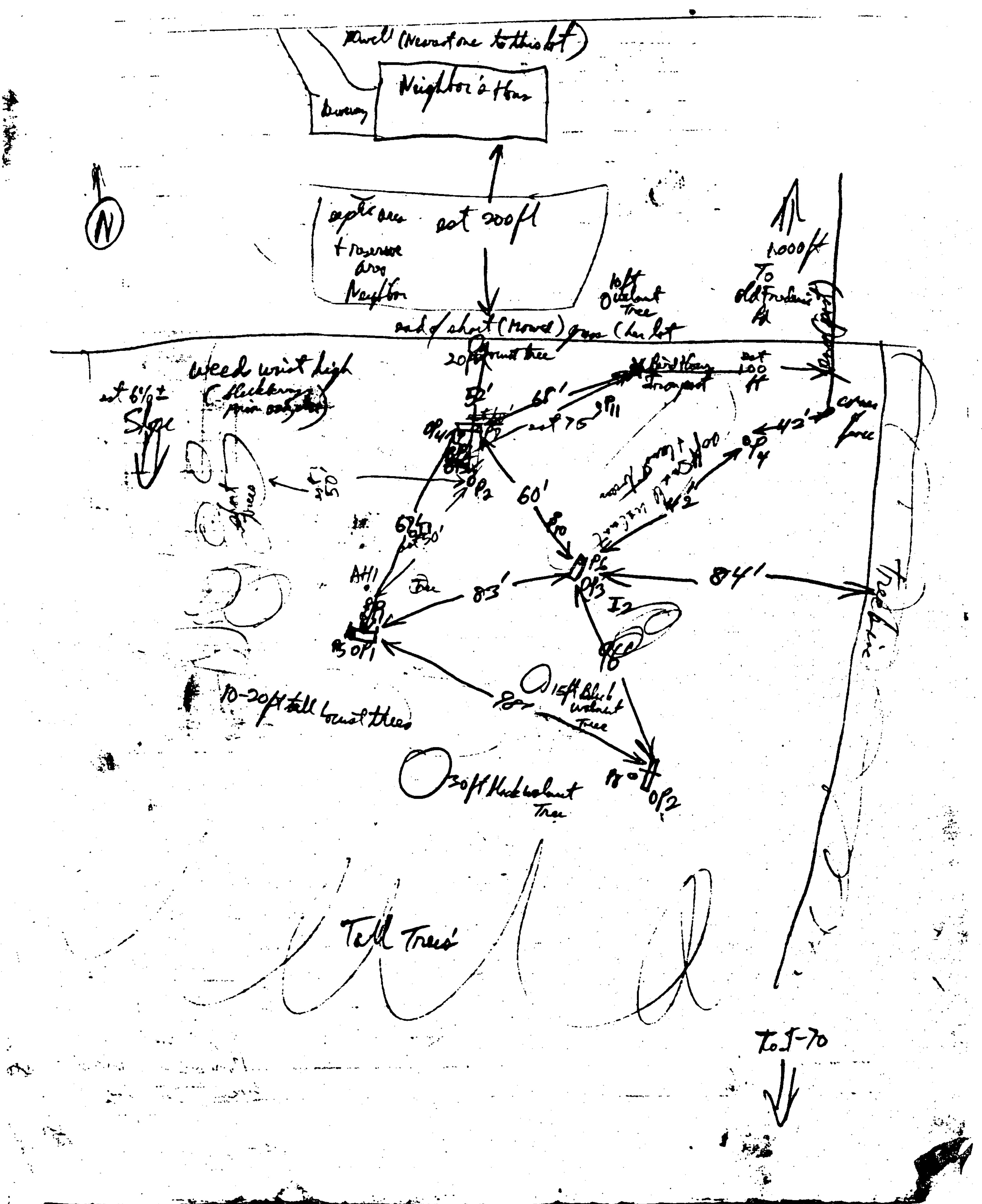
LOCATION off S/old Frederic Rd (Near Lisbon, Md) COUNTY Howard

about 1 mi W/ Rt 94 intersection DATE 7/7/87

GRID ____

INSPECTOR R.J. Pinkley
(D. Kerr Dr site eval)

HOLE NO.	TEST NO.	DEPTH	CLOCK TIME	ELAPSED TIME	WATER LEVEL	REMARKS
Perk Standard	P1	23" Top Nail 2nd Nail 3rd Nail Refilled Top Nail 2nd Nail	12:52 1:06 1:32 2:00 2:49	> 26 min slowed to > 49 min	NA	Beside AH1 — lot described by applicant as shaly rock & saprolite at 7 ft on previous tests. trace schisty cherts below 20". 5% schisty cherts
	P2	—	—	—	NA	Too difficult to dig with shovel past one ft (schisty cherts 6-10" long)
	P3	22" Top Nail 2nd 3rd empty hole by	1:21 1:31 1:49 2:46	> 18 min perk	NA	15-25% schisty cherts in red SiCL below 10"
	P4	23" Top Nail still @ Top Nail est 1/4" 2nd Nail	1:45 1:55 2:05 2:46	61 min for 1st inch	NA	Red SiCL denser, higher clay content only trace of schisty cherts compared to other test holes


Neighbor's House
N
est 200 ft
1000 ft
To
end of short (Mowed) grass
Weed waist high
Slope
52'
68'
60'
83'
84'
42'
AH!
10-20 ft tall locust trees
15 ft Black walnut Tree
30 ft Black walnut Tree
Tree line
Tall Trees
To I-70

7/10/87 Middle Trails lot 10 ē Mark Reich + Affinity

OT 1 encountered loose fractured rock at 7½ ft (poured H2O pours down in 20 seconds)

Reich 0-10 brown SiL
10-17 (brownish) SiCL (Transition
17-30 Redder SiCL-SiC dense
ē 20-30% rock fragment
30 SiC filled in similar to OT 2
7½ ft fractured red schist rock

(P5) @ 66" filled 7"
start Top Nail @ 2:09
est ¼ drop by 2:43
est ⅛" by 3:11
Too slow at 4½ ft
Did not clear post. dropped ⅞" @ 3:28
(⅞ lost 1")
(>90 min)
pulled - Needed post stole for another Hole

OT 2 0-9" Br SiL
9-30" Red (Brownish) SiCL-SiC - weak structure (mostly impervious 1/1 rock frags) - dense
30-43" Red SiCL-SiC 30-50% rock frags - dense
43"-60" yellow/orange SiL - red SiC mixture (70%-30% rock frags) - Micaceous soil in 1/0
Fractured red schist @ 72"
60-72" saprolite >70% rock to soil

(P7) dug 32" filled 7"
(10" diam hole)
start Top Nail 3:40
est ½" @ 3:52
2nd Nail @ 4:19
est ⅓" more @ 4:42
3rd Nail @ 5:05
(46 min)

OT3 0-10 Br SiL-
10-19 Brownish Red SiCL
19-36" Red SiCL-SC (20-30% rock frags)
36-56" Red SiCL-SC ē increased rock frags
56"-72" orange/yellow mixed ē red clays & rock frags ← some saprolite mixed in this layer / but rocks still hard & brittle
72" begins fract rock material (50-70%) @ 36"

(P6) @ 258 Top Nail
filled 7" est 1" movement by 3:10
lost inch @ 3:34
@ 5:06 only ¼" drop from → H2O at time of 2nd Nail - @ 4:36 (est ¼" in this)
(approx 120 min rate)
Dirt caved in @ 4:36 H2O up to head of 1st Nail

OT4 0-10 Brown
basin P3 10-3ft Red SiCL-SiC
densest Material begins at 18"-36" & lower 3-5 ft Mixed Or/yel/red.
5-8½ft yellow
@ 8½ ft fractured rock (50-70%)

(P8) dug 36" filled 7" (only 7" diam hole)
Top Nail @ 3:09
est ½" @ 3:36
2nd Nail @ 4:02
est ½" more by 5:02
pulled @ 5:15

SOIL DESCRIPTION

File No. ______

Name American Properties Survey — Don Reuwer / Mark Reich

Location Middle Trails Subdiv (off Old Frederick Rd) — Map Unit

County Howard | Grid No. | E N | Geologic Material Ijamsville Schist

Date 7/7/88 | Elevation | By R. Pinkley (D. Kerr left after a time) + Mike Reich for Company

Remarks owner remarked history (since '78) of tests – problem is apparently trouble at 7 ft depth at this site – rest of lot too steep or rock at 2-4 ft or at stream and over at 1-1½ acres for septic system (on 5 acre lot)

Profile No. AH1 beside pit 1

Reddish colors & schisty at this site

Percent Slope approx 6-8% | Drainage Class WD

Position

Horizon	Depth inches	Color	Mottles	Texture	Structure	Consistence	Coarse Fragments %	Remarks
Ap	0-10	7.5YR 4/6	—	SiL				small trace schisty shist frags
B1	10-30	5YR 5/6	—	hSiL-SiCL			2-3"	at 20" >50% schisty "slabs"
	Refusal 30"		—					

Soil dry to slight damp powdery

refilled at 2:00 to top Nail
2:49 to 2nd Nail → 49 min perk

Additional Notes P1 filled 7" Start Top Nail 12:52
dug 23"
2nd Nail at 1:06 → 26 min perk rate → at P3 + P2
3rd Nail @ 1:32
B1 horizon has 15-25% chert schist frags

P2 stopped at 19" deep Nail 3" @ 1:59 — took 1/2 day (schist slabs 5-10" long) with shovel only

P3 dug 22" filled 7"
Top Nail @ 1:21
2nd Nail @ 1:31
3rd Nail @ 1:49 → 18 min perk
empty @ 2:46

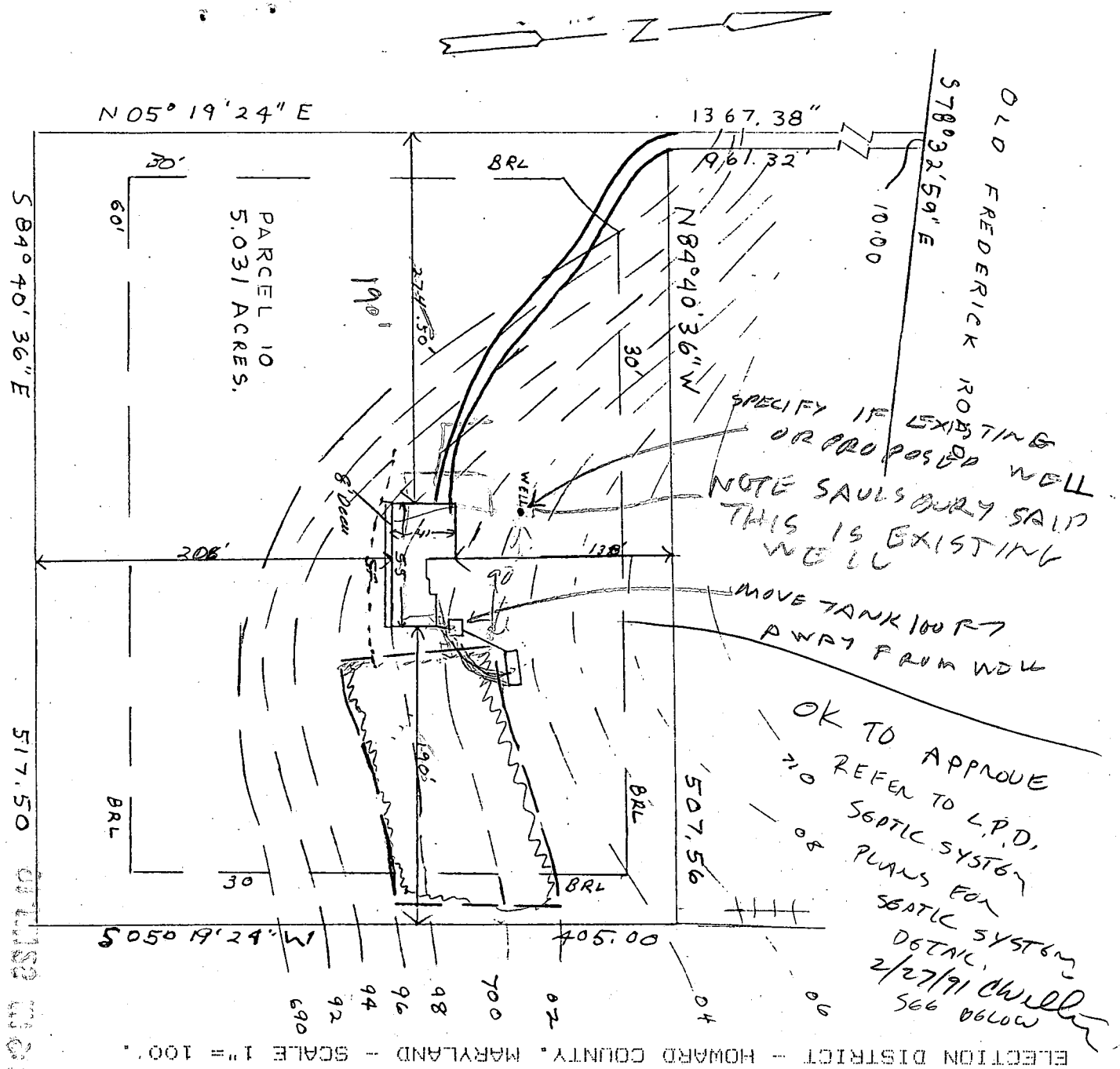
Profile No. ______

Percent Slope | Drainage Class

Position

Horizon	Depth inches	Color	Mottles	Texture	Structure	Consistence	Coarse Fragments %	Remarks
	0-10"	Brown	—	SiL				
	10-23"	Reddish	—	SiCL	When wet appear drier than later & is denser	More than P3	only trace of schist slabs

Additional Notes P4 Start at Nail @ 1:45
dug 23"
filled 7"
still at Top Nail 1:55
at top @ 2:05
Top of 2nd Nail 2:46
→ lot is out of drain
Dead mouse & mouse hole in side wall on D/200 unable to retest hole



PLOT PLAN - PARCEL 10 - MIDDLE TRAIL - TAX MAP 7 PARCEL 407 - 4TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND - SCALE 1"= 100'.

NOTE: SEE DETAIL FOR LOW PRESSURE DISTRIBUTION SYSTEM AT HOWARD CO. HEALTH DEPARTMENT.

HOUSE: FIRST FLOOR	710.00	SEPTIC TANK: EXISTING GRADE	703.00
BASEMENT	701.00	PROPOSED GRADE	701.00
INVERT	699.00	INVERT IN	698.75
		INVERT OUT	698.50

PHONE CALL TO APPLICANT; ADVISED OF NEED FOR PRECISION IN HOUSE LOCATION. SEPTIC SYSTEM TO BE MOVED FARTHER FROM WELL THAN APPROVED PLANS. HE AGREED TO STAKE SEPTIC EASEMENT TO MAKE SURE HOUSE REMAINS AT LEAST 20' AWAY. WILL MAKE APPOINTMENT TO DISCUSS SEPTIC SYSTEM PARTICULARS AT LATER DATE.

2/27/91 CWW

APPLICATION

Preliminary 4-13' holes on 10,000 sf

A 23190

P

SEWAGE DISPOSAL TESTING

STATE OF MARYLAND : DEPARTMENT OF HEALTH AND MENTAL HYGIENE

HOWARD COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH SERVICES
P. O. BOX 476, ELLICOTT CITY, MARYLAND 21043
TELEPHONE: 465-5000, EXT. 356

DISTRICT 4

DATE 5/3/76

5/4/76
9:30

TO: THE COUNTY HEALTH OFFICER
ELLICOTT CITY, MARYLAND

I, HEREBY, APPLY FOR THE NECESSARY TEST IN ORDER TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM.

PROPERTY OWNER ~~Howard Associates~~ Grantland C. Saulsbury - 747-4099

ADDRESS _____ PHONE Any questions call: Joel Abramson 730-7733

PROPERTY LOCATION:

SUBDIVISION _____ LOT NO. 10 B

ROAD AND DESCRIPTION 16249 Old Frederick Road

SIZE OF LOT 1.282 acres TYPE BLDG. 3 or 4 NUMBER OF BEDROOMS

IF NOT SINGLE RESIDENCE DESCRIBE (Single Fmly. Dwllg.)

THE SYSTEM INSTALLED UNDER THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC FACILITIES BECOME AVAILABLE.

SIGNATURE OF APPLICANT /s/ Joel Abramson

APPROVED BY Sidney Abel FOR Low Pressure Dosing (KIND OF SYSTEM) DATE 8-16-89

REJECTED BY Frank Shemine FOR any (KIND OF SYSTEM) DATE 5/6/76

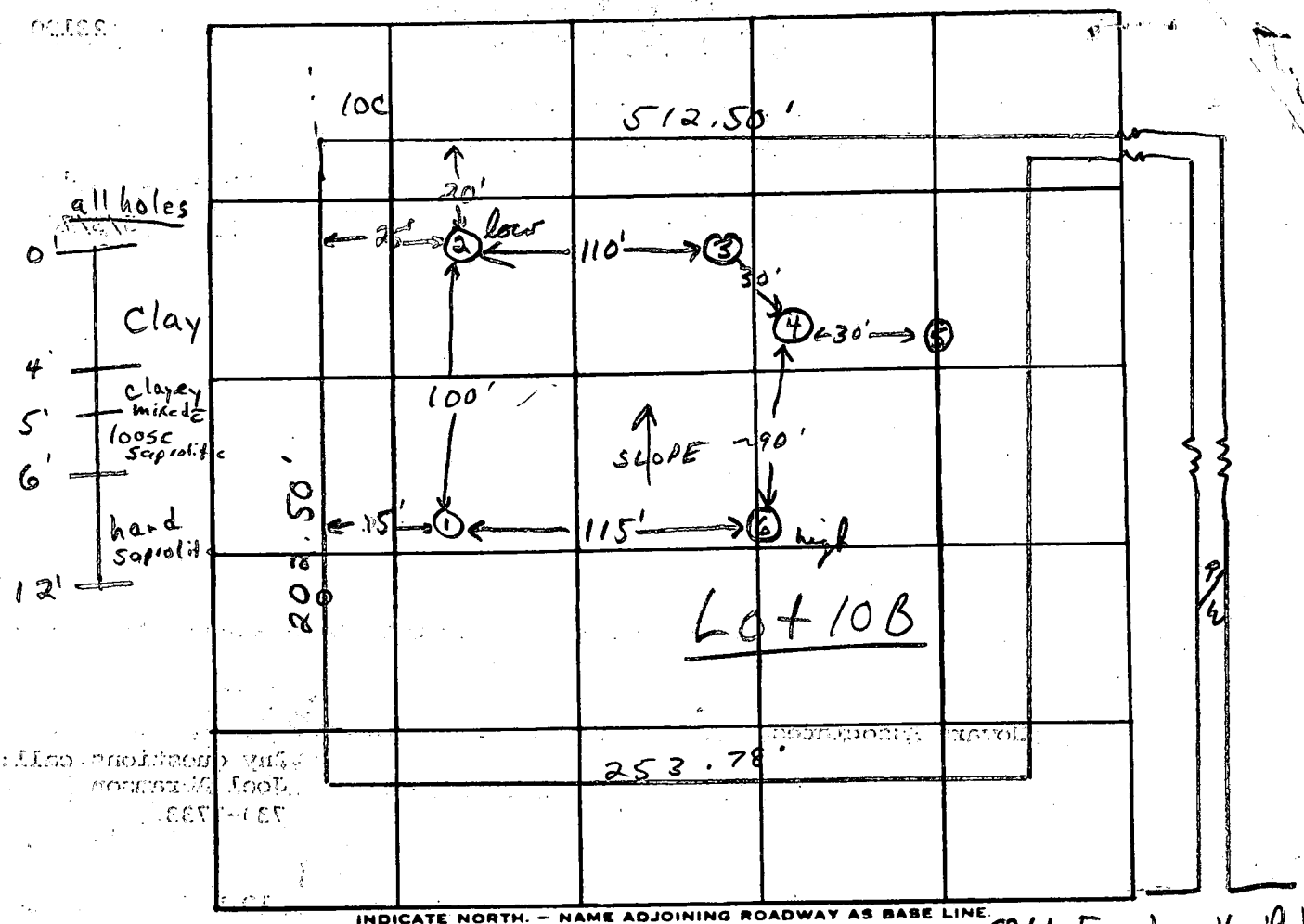
HOLD PENDING FURTHER TESTS _____ DATE _____

REASONS FOR REJECTION OR HOLDING unsuitable soil - hard saprolite

BLDG. PERMIT SIGNED AND RETURNED 2/22/91
Serial #36390-S1-D

BLDG. PERMIT SIGNED AND RETURNED 8-16-89
BP 28122

THIS IS NOT A PERMIT

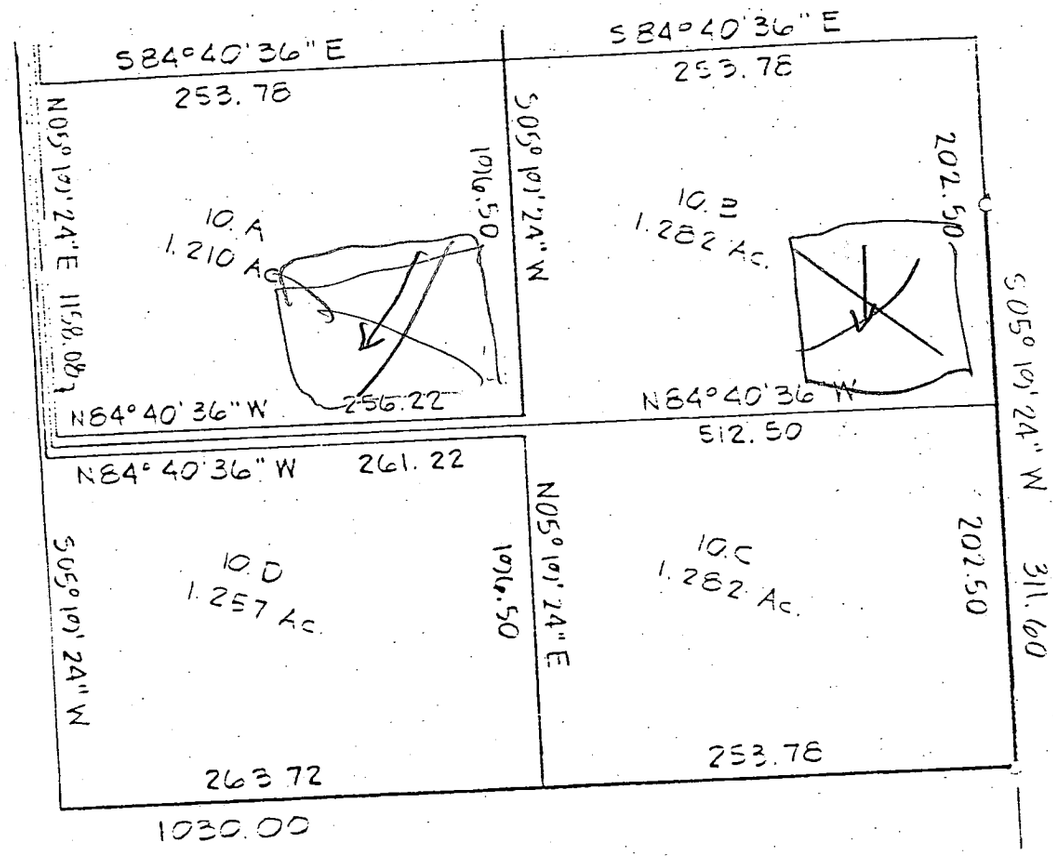


DATE	TEST NO.	DEPTH	PRE-WET START	PRE-WET STOP	TEST - 1" DROP START	TEST - 1" DROP STOP	TIME	
5/4/16	1	11½'	Clay to	4½'s	silty loam & weathered saprolite below			
	(2)	4½'	1:44	2:08	1st drop 24 min, pulled peg FAILED			
	(2A)	12'	1:44	Pulled peg 2:19	no movement still clay			
	(3)	8'	Clay to 4', loose Saprolite to ~6', harder saprolite below					
	(4)	9'	Hard saprolite at ~7'					
	(5)	8'	Hard saprolite at ~6'					
	(6)	8'	Harder saprolite at 7'					

REMARKS fails perc test

TYPE OF SOIL Clay to ~4-5', loose saprolite 5→7', harder saprolite below

TESTED BY F.S. ALSO PRESENT: Lewis Crew



RICHARD P. BROWNE

No.

REFERENCE MERIDIAN

RICHARD P. BROWNE ASSOCIATES

CONSULTING ENGINEERS, PLANNERS

WAYNE, N.J. COLUMBIA, MD.

MAP OF PROPERTY OF

HOWARD ASSOCIATES

SITUATED IN

4th Election Dist Howard Co. Md.

SCALE: 1" = 100' DATE: 4-1-76

PROJECT No. _____ W. O. No. _____

DRAWN C.T.M. CHECKED _____

BRUNING 40-105 11334

APPLICATION

A 23189

P

SEWAGE DISPOSAL TESTING

STATE OF MARYLAND - DEPARTMENT OF HEALTH AND MENTAL HYGIENE

HOWARD COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH SERVICES
P. O. BOX 476, ELLICOTT CITY, MARYLAND 21043
TELEPHONE: 465-5000, EXT. 356

DISTRICT 4

DATE 5/3/76

TO: THE COUNTY HEALTH OFFICER
ELLICOTT CITY, MARYLAND

I, HEREBY, APPLY FOR THE NECESSARY TEST IN ORDER TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM.

PROPERTY OWNER Howard Associates

ADDRESS _____ PHONE Any questions call: ~~Joel Abramson~~ 730-7733

PROPERTY LOCATION:

SUBDIVISION _____ LOT NO. 10 A

ROAD AND DESCRIPTION _____

SIZE OF LOT 1.210 acres TYPE BLDG. 3 or 4 NUMBER OF BEDROOMS

IF NOT SINGLE RESIDENCE DESCRIBE (Single Fmly. Dwllg.)

THE SYSTEM INSTALLED UNDER THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC FACILITIES BECOME AVAILABLE.

SIGNATURE OF APPLICANT /s/ Joel Abramson

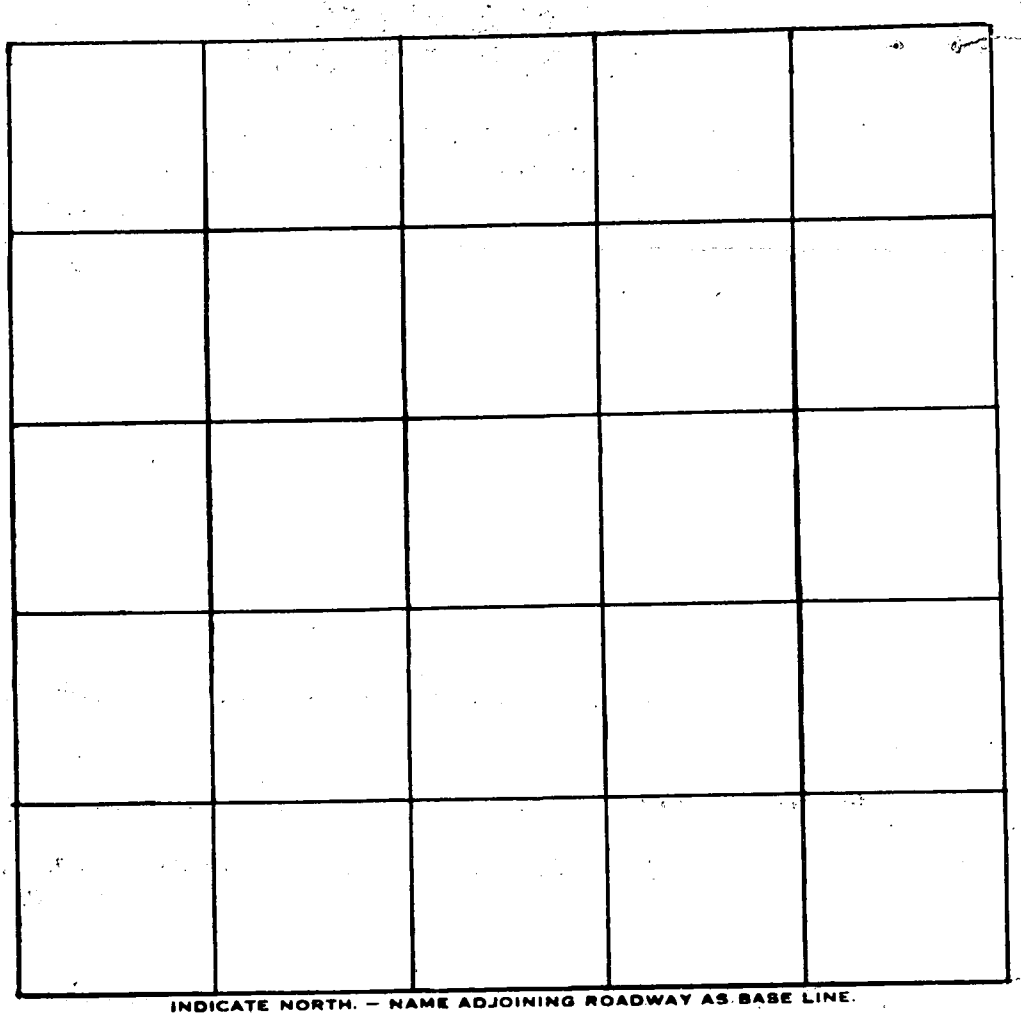
APPROVED BY _____ FOR _____ (KIND OF SYSTEM) DATE _____

REJECTED BY _____ FOR _____ (KIND OF SYSTEM) DATE _____

HOLD PENDING FURTHER TESTS _____ DATE _____

REASONS FOR REJECTION OR HOLDING _____

THIS IS NOT A PERMIT



INDICATE NORTH. — NAME ADJOINING ROADWAY AS BASE LINE.

DATE	TEST NO.	DEPTH	PRE-WET START	PRE-WET STOP	TEST - 1" DROP START	TEST - 1" DROP STOP	TIME

REMARKS _____

TYPE OF SOIL _____

TESTED BY _____ ALSO PRESENT: _____

APPLICATION

A _____

SEWAGE DISPOSAL TESTING

STATE OF MARYLAND - DEPARTMENT OF HEALTH AND MENTAL HYGIENE

P _____

HOWARD COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH SERVICES
P. O. BOX 476 ELLICOTT CITY, MARYLAND 21043
TELEPHONE: 992-2330

DISTRICT _____

DATE _____

TO: THE COUNTY HEALTH OFFICER
ELLICOTT CITY, MARYLAND

I, HEREBY, APPLY FOR THE NECESSARY TEST IN ORDER TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM.

PROPERTY OWNER _____

ADDRESS _____ PHONE _____

PROPERTY LOCATION:

SUBDIVISION _____ LOT NO. 10

ROAD AND DESCRIPTION _____

_____

SIZE OF LOT _____ TYPE BLDG. _____
(NUMBER OF BEDROOMS)

THE SYSTEM INSTALLED UNDER THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC FACILITIES BECOME AVAILABLE. I FULLY UNDERSTAND THE FEE CONNECTED WITH THE FILING OF THIS PERC TEST APPLICATION IS NON-REFUNDABLE UNDER ANY CIRCUMSTANCES. I ALSO AGREE TO COMPLY WITH ALL M.O.S.H.A. REQUIREMENTS IN TESTING THIS LOT. _____
(SIGNATURE OF APPLICANT)

APPROVED BY _____ FOR _____ DATE _____

REJECTED BY _____ FOR _____ DATE _____

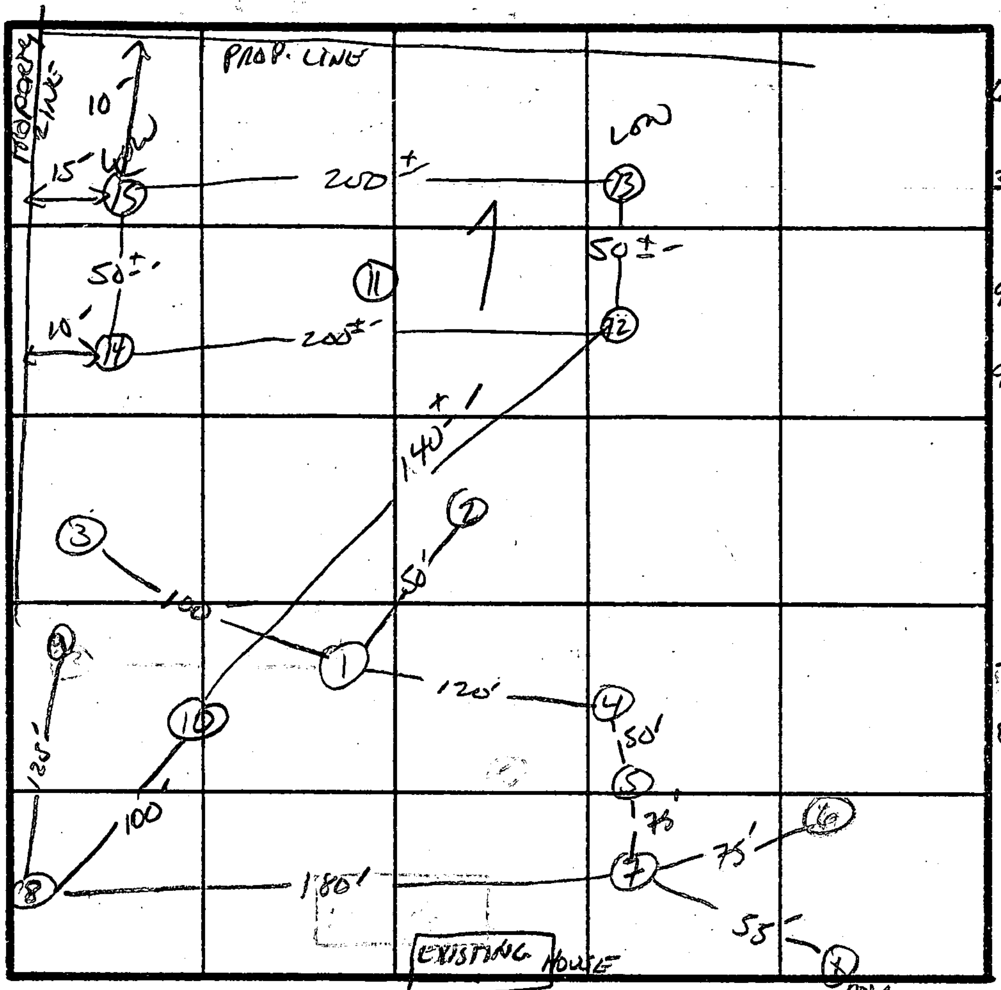
HOLD PENDING FURTHER TESTS _____ DATE _____

REASONS FOR REJECTION OR HOLDING 228-85 Perc. unsatisfactory holding for further testing and review - SHaul

6-6-86 Perc UNSATISFACTORY - NO FURTHER TESTING ON THIS LOT - INSUFFICIENT AREA REMAINING TO TEST. SHaul

THIS IS NOT A PERMIT

88
22
175



INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE. ROW

① ②
SOIL PROFILE

0
3" A0-3
BROWN CLAY >50% SAPROLITE
3.0-3.5' STRUCTURED SAPROLITE AT 4'
3.5-4' HARD ROCK

⑤
0
3" A0-3
BROWN CLAY >50% SAPROLITE
5' STRUCTURED SAPROLITE c̄ LARGE CLAY CONTENT
8'

⑥
0
3" A0-3
CLAY, BROWN SAPROLITE >50%
4.5 STRUCTURED SAPROLITE
6.5 SOLID ROCK

⑦
0
6" A0-3
BROWN CLAY LOAM >20% SAPROLITE
3.5 BROWN SAND LOAM >50% SAPROLITE
9' STRUCTURED SAPROLITE
9.5'

⑧
0
6" A0-3
CLAY BROWN 40-50% SAPROLITE
3' SAND + SAPROLITE >50%
7' STRUCTURED SAPROLITE
8.5 SOLID ROCK

DATE	TEST NO.	DEPTH	PRE-WET START	PRE-WET STOP	TEST - 1" DROP START	TEST - 1" DROP STOP	TIME
7/24/85	1	4' ⇒ STRUCTURED SAPROLITE ⇒ SOLID ROCK					
	2	3.5' ⇒ STRUCTURED SAPROLITE ⇒ SOLID ROCK					
	3	4' ⇒ STRUCTURED SAPROLITE → SOLID ROCK					
	4	3' ⇒ SOLID ROCK AT 3'					
	5	CLAY TO 5' THEN STRUCTURED SAPROLITE					
	6	SOLID ROCK AT 6.5'					
	7 S 7 V	3.5' 9.5'	3:15 See Profile	3:24	3:24	3:52	28MIN
	8 S 8 V	3' 8.5'	3:30 See Profile	3:35	3:35	3:45	10MIN
	9	ROCK-SOLID AT 4'					
	10	ROCK AT 5'					

REMARKS

TYPE OF SOIL Mt Airy

TESTED BY S. Mel ALSO PRESENT O. Kotterman + Co

EH-12-1079

APPLICATION

A 28946

SEWAGE DISPOSAL TESTING

STATE OF MARYLAND - DEPARTMENT OF HEALTH AND MENTAL HYGIENE

P

HOWARD COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH SERVICES
P.O. BOX 476 ELLICOTT, MARYLAND 21043
TELEPHONE: 992-2330

DISTRICT 4th

DATE 10/2/78

TO: THE COUNTY HEALTH OFFICER
ELLICOTT CITY, MARYLAND

I HEREBY APPLY FOR THE NECESSARY TEST IN ORDER TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM

PROPERTY OWNER Joseph Partyka (Contract Purchasers)

ADDRESS Great Oaks Apartments, PHONE

PROPERTY LOCATION

SUBDIVISION (Middle Trail) LOT NO. 10A, B, C & D

ROAD AND DESCRIPTION Old Frederick Road

SIZE OF LOT 1.210 acres TYPE BLDG. 3 or 4 bedrooms

THE SYSTEM INSTALLED UNDER THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC FACILITIES BECOME AVAILABLE.

I FULLY UNDERSTAND THE FEE CONNECTED WITH THE FILING OF THIS PERC TEST APPLICATION IS NON-REFUNDABLE UNDER ANY CIRCUMSTANCES.

SIGNATURE OF APPLICANT Edward J. Kaelmyer

APPROVED BY FOR DATE

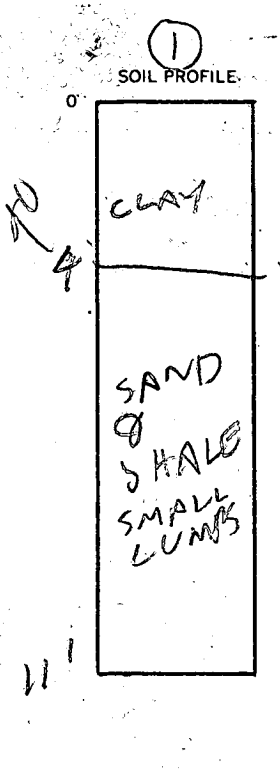
REJECTED BY FOR DATE

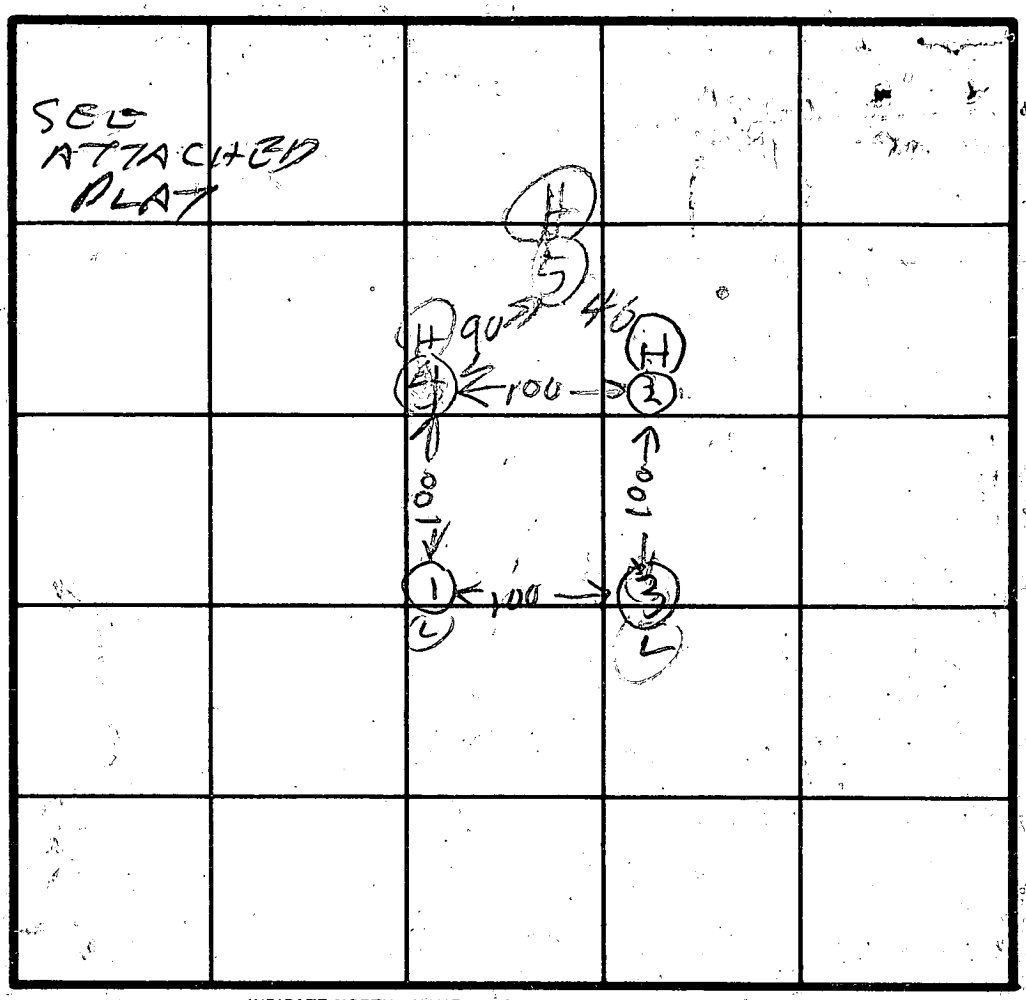
HOLD PENDING FURTHER TESTS, DATE

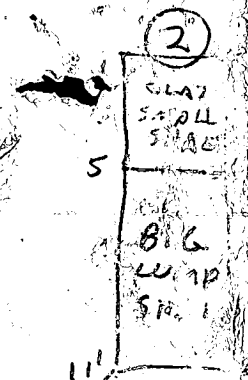
REASONS FOR REJECTION OR HOLDING 10/16/78 DIGMORE & HOLD FOR REVIEW
TOO FAST PERC. IN SHALE 10/20 R.H. & F.F. same comment.

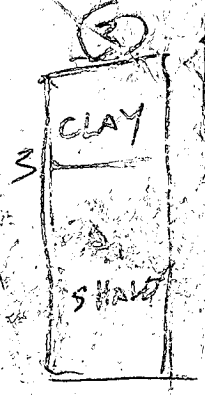
THIS IS NOT A PERMIT

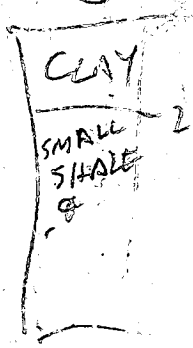
SEE ATTACHED PLAT











INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE.

DATE	TEST NO.	DEPTH	PRE-WET START	PRE-WET STOP	TEST - 1" DROP START	TEST - 1" DROP STOP	TIME	
10/16/78	1 D	11	159	202	202	210	8	
10/16/78	1 S	5½	2029	203½	203½	205½	2	
	(2 D)	11½	212	30 per		45/100	100	TOO FAST
	2 S	4	215	219	219	224	5	
	3 D	12	248	259	259	312	13	
	3 S	4	252	300	300	312	12	
	4 D	12	308	306	306	314	8	
	(4 S)	4	308	30 per	30 per			TOO FAST
	(5 D)	12	300	317 CLAY				
10/16/78	5 S		300	9FT	316 SHALE			

REMARKS RAIN DURING TEST 10/16/78

TYPE OF SOIL

TESTED BY RH ALSO PRESENT MULLINS ROGER ~~KASEMETER~~

APPLICATION

A 23190

P

SEWAGE DISPOSAL TESTING

STATE OF MARYLAND - DEPARTMENT OF HEALTH AND MENTAL HYGIENE

HOWARD COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH SERVICES
P. O. BOX 476, ELLICOTT CITY, MARYLAND 21043
TELEPHONE: 465-5000, EXT. 356

DISTRICT 4

DATE 5/3/76

TO: THE COUNTY HEALTH OFFICER
ELLICOTT CITY, MARYLAND

I, HEREBY, APPLY FOR THE NECESSARY TEST IN ORDER TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM.

PROPERTY OWNER Howard Associates

ADDRESS _____ PHONE Any questions call: Joel Abramson 730-7733

PROPERTY LOCATION:

SUBDIVISION _____ LOT NO. 10 B

ROAD AND DESCRIPTION _____

SIZE OF LOT 1.282 acres TYPE BLDG. 3 or 4 NUMBER OF BEDROOMS

IF NOT SINGLE RESIDENCE DESCRIBE (Single Fmly. Dwllg.)

THE SYSTEM INSTALLED UNDER THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC FACILITIES BECOME AVAILABLE.

SIGNATURE OF APPLICANT /s/ Joel Abramson

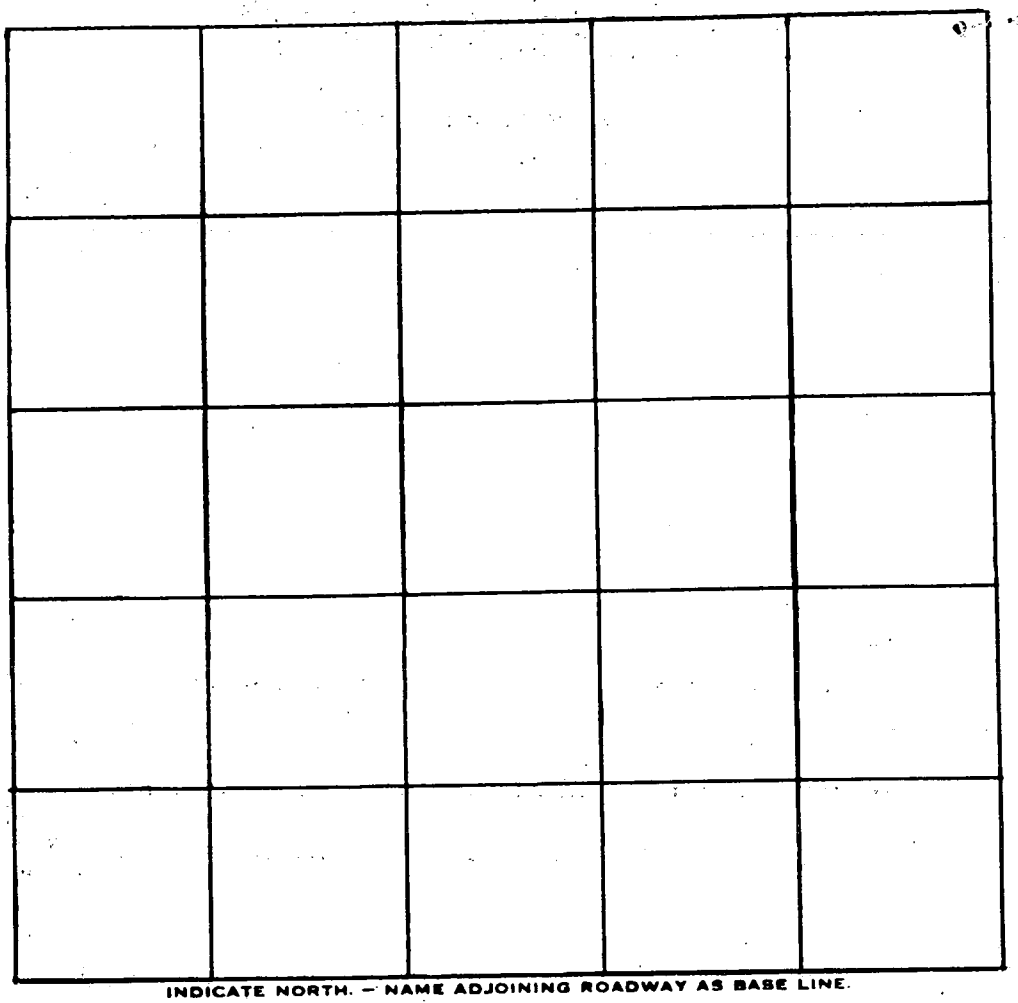
APPROVED BY _____ FOR _____ (KIND OF SYSTEM) DATE _____

REJECTED BY _____ FOR _____ (KIND OF SYSTEM) DATE _____

HOLD PENDING FURTHER TESTS _____ DATE _____

REASONS FOR REJECTION OR HOLDING _____

THIS IS NOT A PERMIT



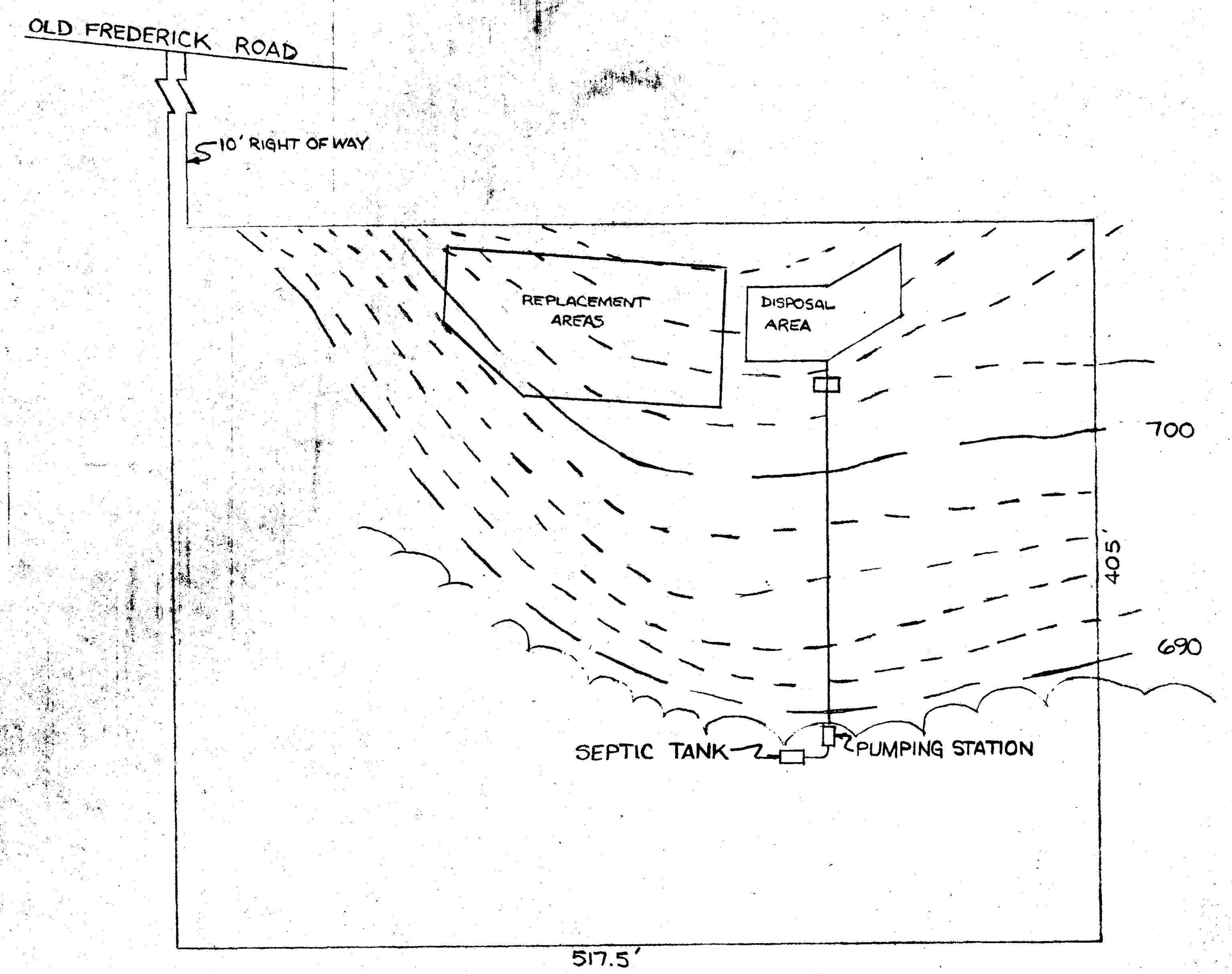
INDICATE NORTH. – NAME ADJOINING ROADWAY AS BASE LINE.

DATE	TEST NO.	DEPTH	PRE-WET START	PRE-WET STOP	TEST - 1" DROP START	TEST - 1" DROP STOP	TIME
6/6/86	11 ✓	STRUCTURED	SAPROLITE	AT 5'	CLAY TO 4'	HARD BOTTOM 8'	
	12 ✓	STRUCTURED	SAPROLITE	AT 6'	CLAY TO 5'	HARD BOTTOM 8'	
	13 ✓	STRUCTURED	SAPROLITE	AT 18"	CLAY OVER	BURDEN	HARD BOTTOM 3'
	14 ✓	MASSIVE	SAPROLITE	AT 7'	HARD BOTTOM	8.5'	CLAY TO 3'
	15 ✓	1' - CLAY TO 4'	SANDLOAM	4-11'	40% FRAGMENTS		

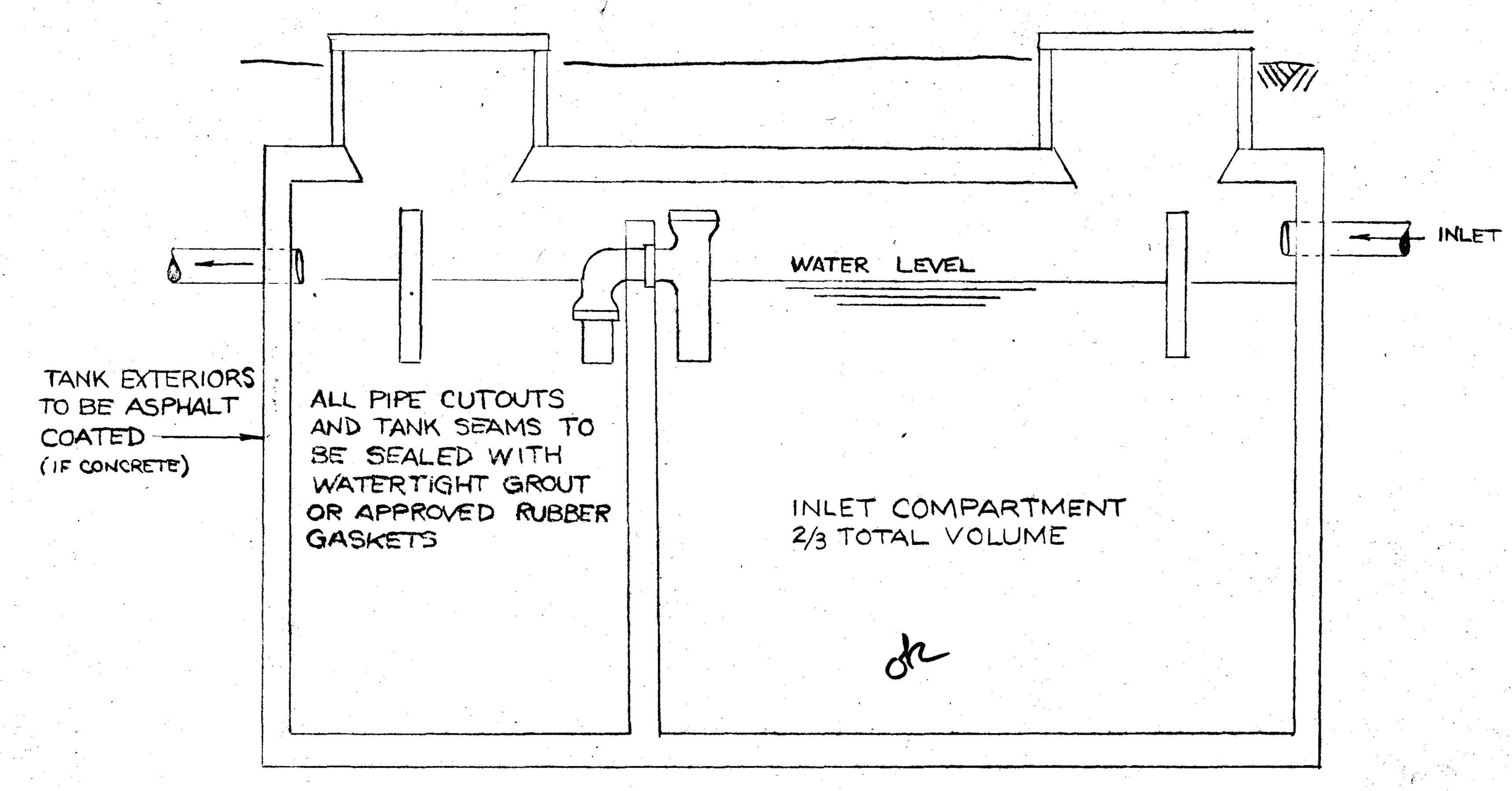
REMARKS _____

TYPE OF SOIL _____

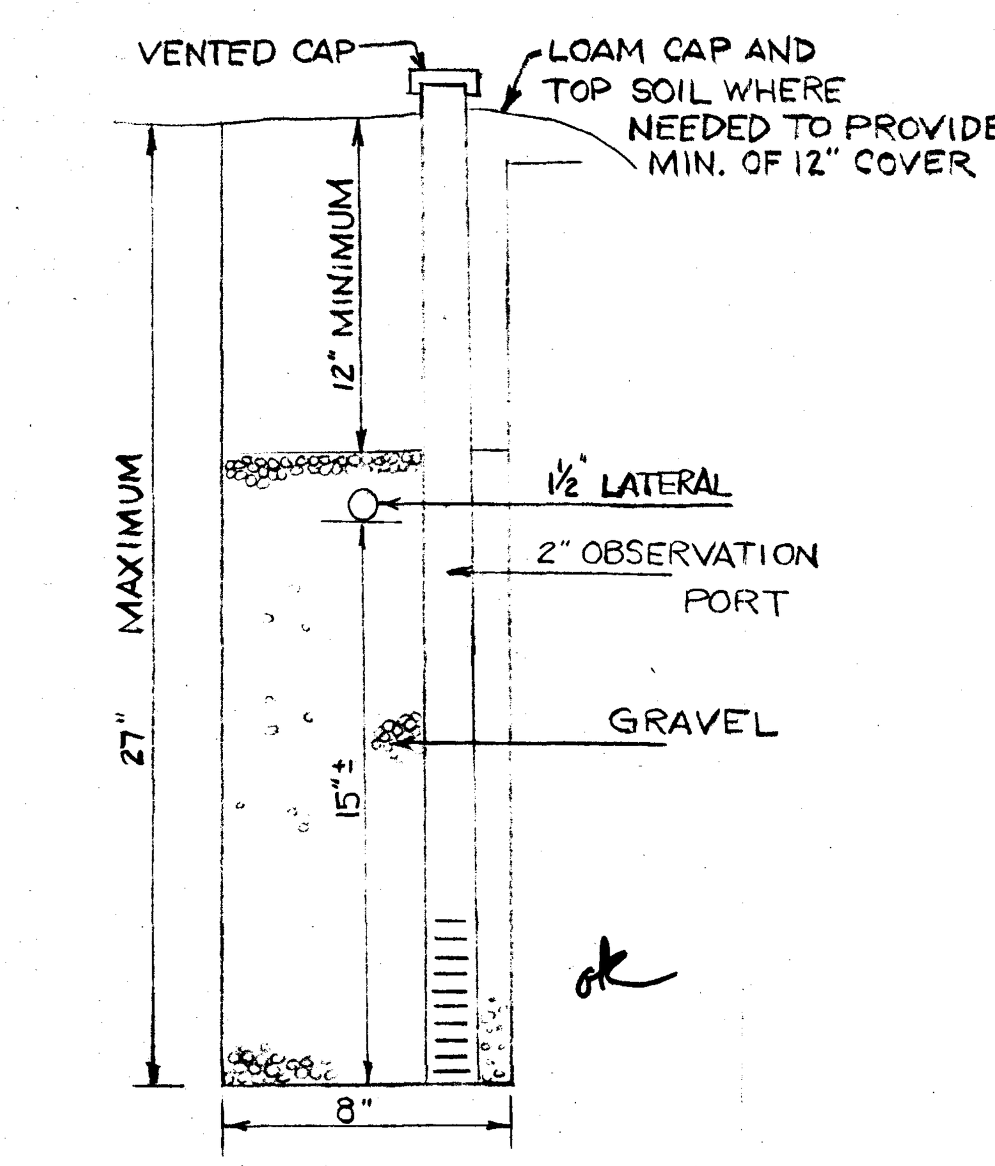
TESTED BY _____ ALSO PRESENT: _____



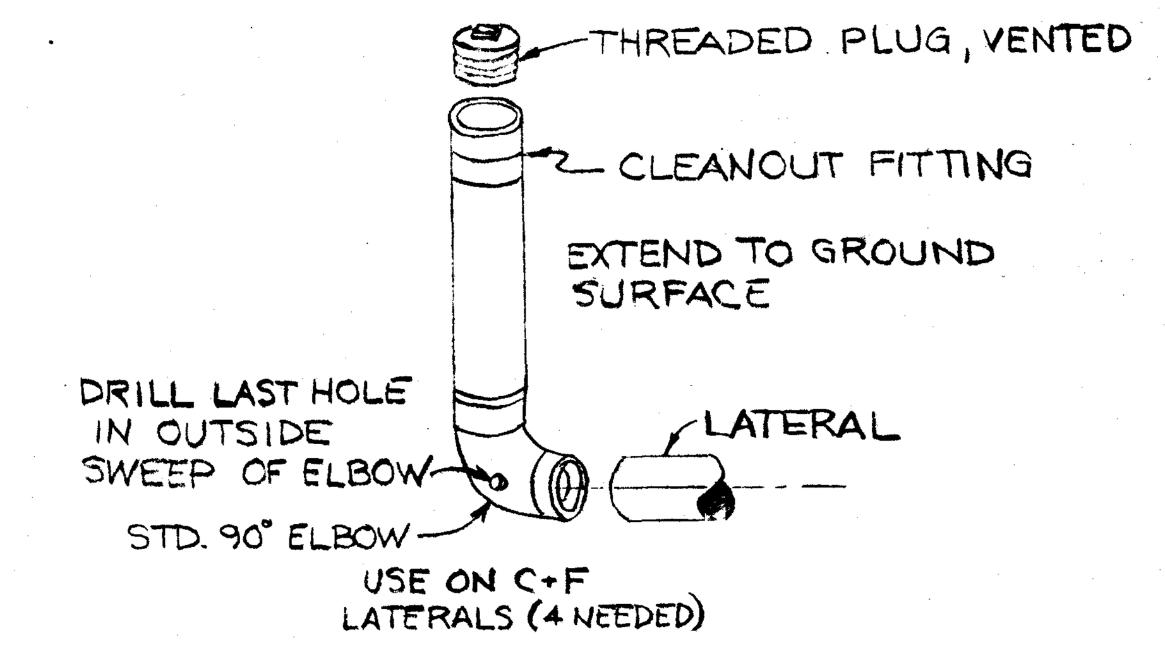
SITE PLAN
SCALE 1" = 70'



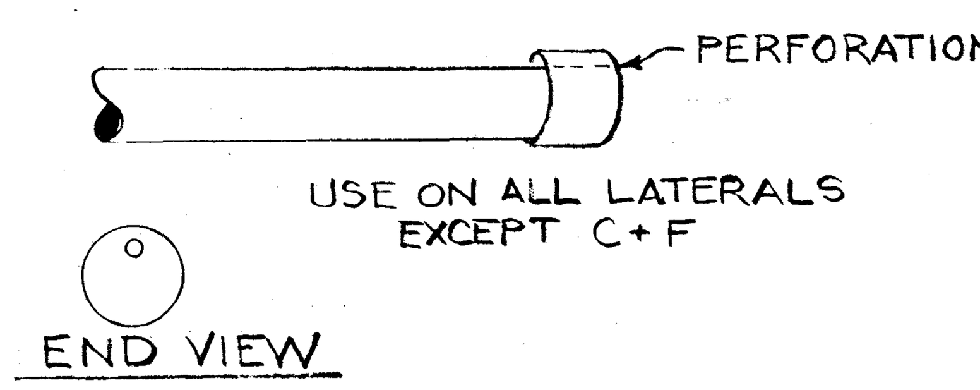
COMPARTMENTED 1500 GAL. SEPTIC TANK (TYPICAL)
SCALE: 3/4" = 1'-0"



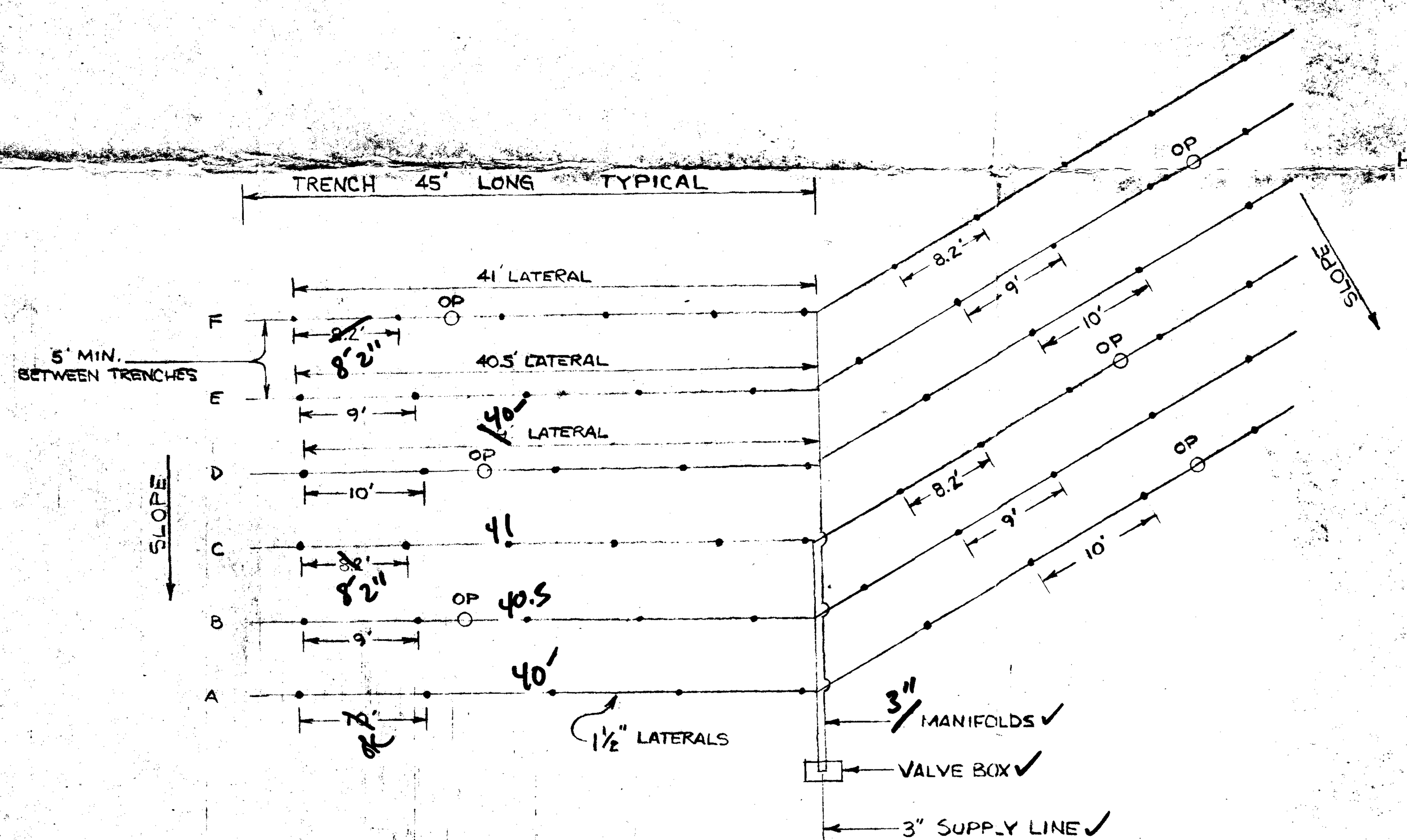
TRENCH AND OBSERVATION PORT DETAIL
NOT TO SCALE



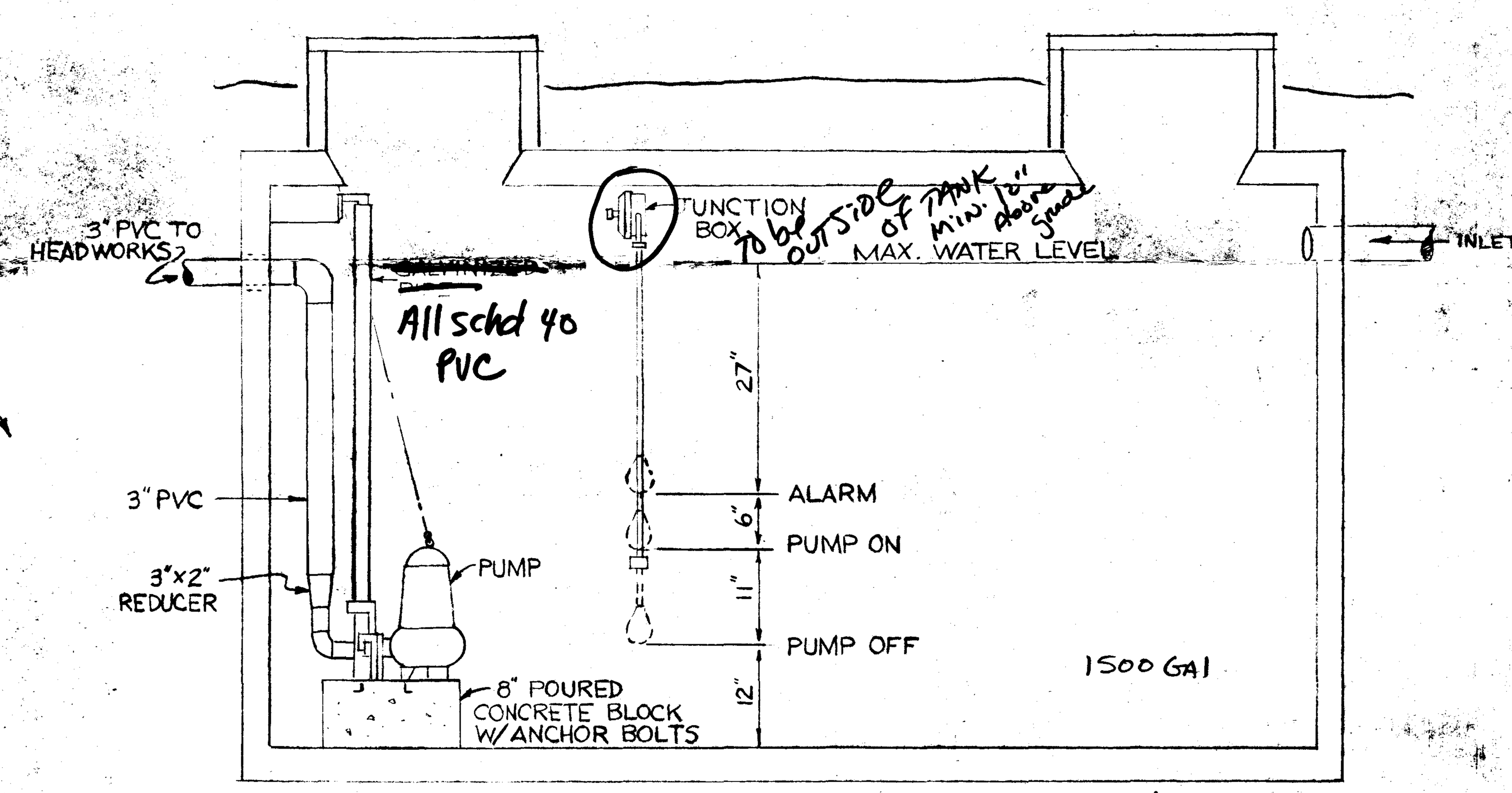
LATERAL END TURNUP DETAIL
NOT TO SCALE



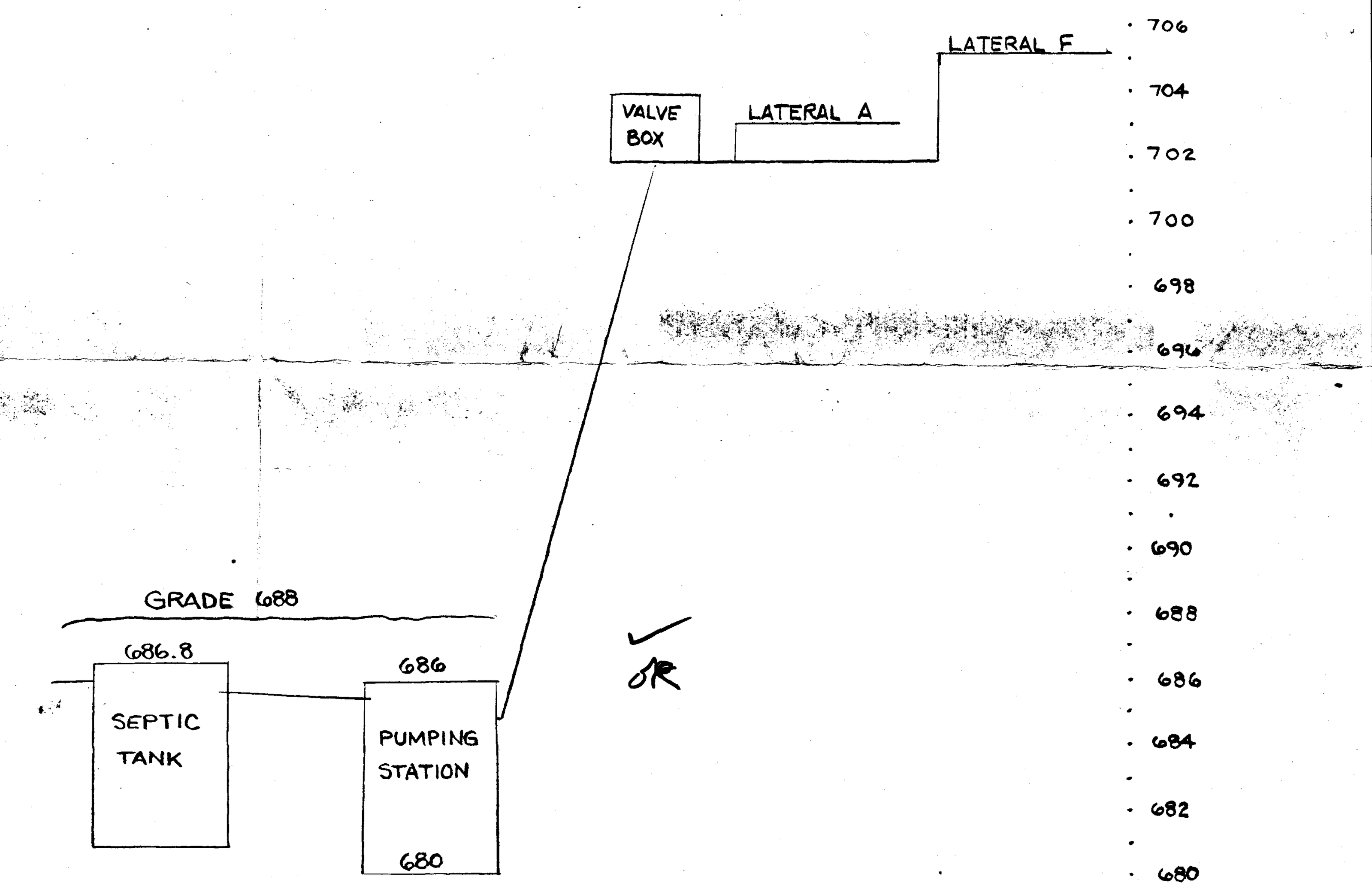
END CAP PLACEMENT DETAIL
NOT TO SCALE



DISPOSAL FIELD LAYOUT
SCALE: 1" = 10'

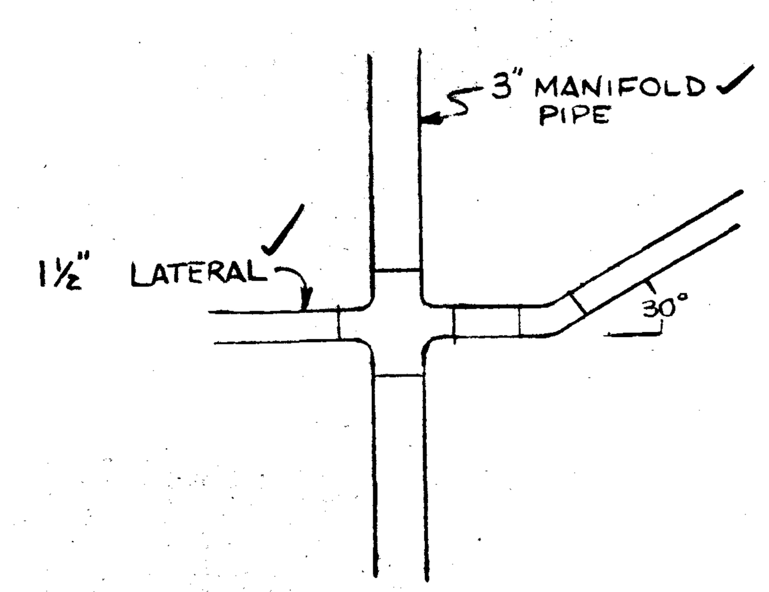


PUMPING STATION 1500 GAL (ADD)
SCALE: 3/4" = 1'

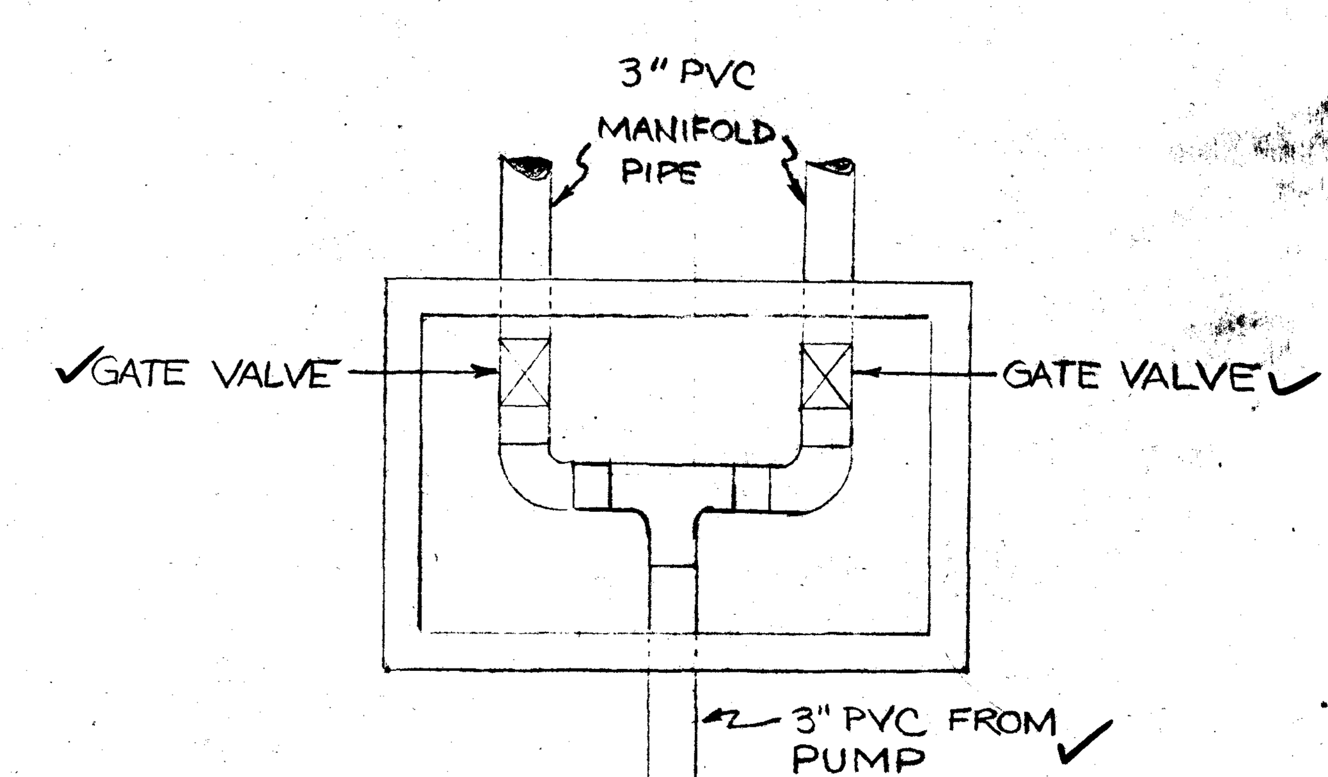


HYDRAULIC PROFILE
NOT TO SCALE

Trench				Laterals		
Segments	Length	Width	Depth	Length	Perforation Ø	Spacing
F	45'	8"	27"(Typ.)	41'	5/16"	8.2'
E	45'	8"	27"	40.5'	5/16"	9'
D	45'	8"	27"	~~39'~~ 40	5/16"	10'
C	45'	8"	27"	41'	5/16"	8.2'
B	45'	8"	27"	40.5'	5/16"	9'
A	45'	8"	27"	~~39~~ 40	5/16"	10'



LATERAL CONNECTING DETAIL (TYPICAL)



VALVE BOX / MANIFOLD PLAN
NOT TO SCALE

REVISIONS		
NO.	DATE	DESCRIPTION

SPELLMAN, LARSON & ASSOCIATES, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
SUITE 107, JEFFERSON BLDG., TOWSON, MD., 21204
PHONE: 823-3535

SHALLOW PRESSURE DOSING SYSTEM
LOT 10
MIDDLE TRAILS
MT. AIRY MARYLAND

SCALE: AS SHOWN	DES. BY: J.D.C.	SHT. 1 OF 1
DATE:	DRN. BY: A.E.S.	

88074

Preliminary 4-13' Lots on 10,000 ± sq.

APPLICATION

A 23189

P

SEWAGE DISPOSAL TESTING

STATE OF MARYLAND - DEPARTMENT OF HEALTH AND MENTAL HYGIENE

HOWARD COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH SERVICES
P. O. BOX 476, ELLICOTT CITY, MARYLAND 21043
TELEPHONE: 465-5000, EXT. 356

DISTRICT 4

DATE 5/3/76

5/4/76
9:30

TO: THE COUNTY HEALTH OFFICER
ELLICOTT CITY, MARYLAND

I, HEREBY, APPLY FOR THE NECESSARY TEST IN ORDER TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM.

PROPERTY OWNER Howard Associates

ADDRESS _____ PHONE Any questions call: Joel Abramson 730-7733

PROPERTY LOCATION:

SUBDIVISION _____ LOT NO. 10 A

ROAD AND DESCRIPTION _____

SIZE OF LOT 1.210 acres TYPE BLDG. 3 or 4 NUMBER OF BEDROOMS

IF NOT SINGLE RESIDENCE DESCRIBE (Single Fmly. Dwllg.)

THE SYSTEM INSTALLED UNDER THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC FACILITIES BECOME AVAILABLE.

SIGNATURE OF APPLICANT /s/ Joel Abramson

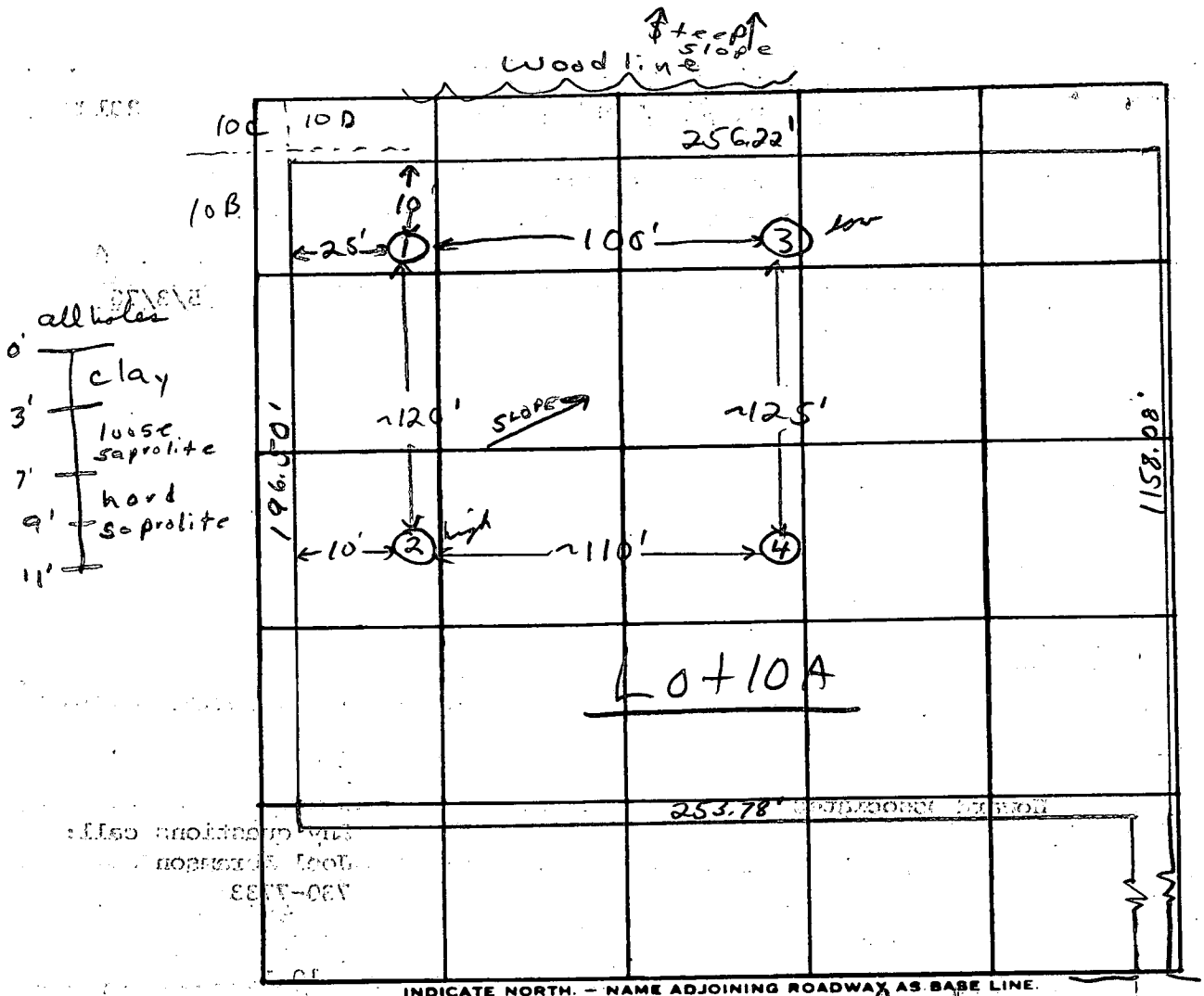
APPROVED BY _____ FOR _____ (KIND OF SYSTEM) DATE _____

REJECTED BY Frank Schemmer FOR any (KIND OF SYSTEM) DATE 5/6/76

HOLD PENDING FURTHER TESTS _____ DATE _____

REASONS FOR REJECTION OR HOLDING unsuitable soil - hard sapprolite

THIS IS NOT A PERMIT

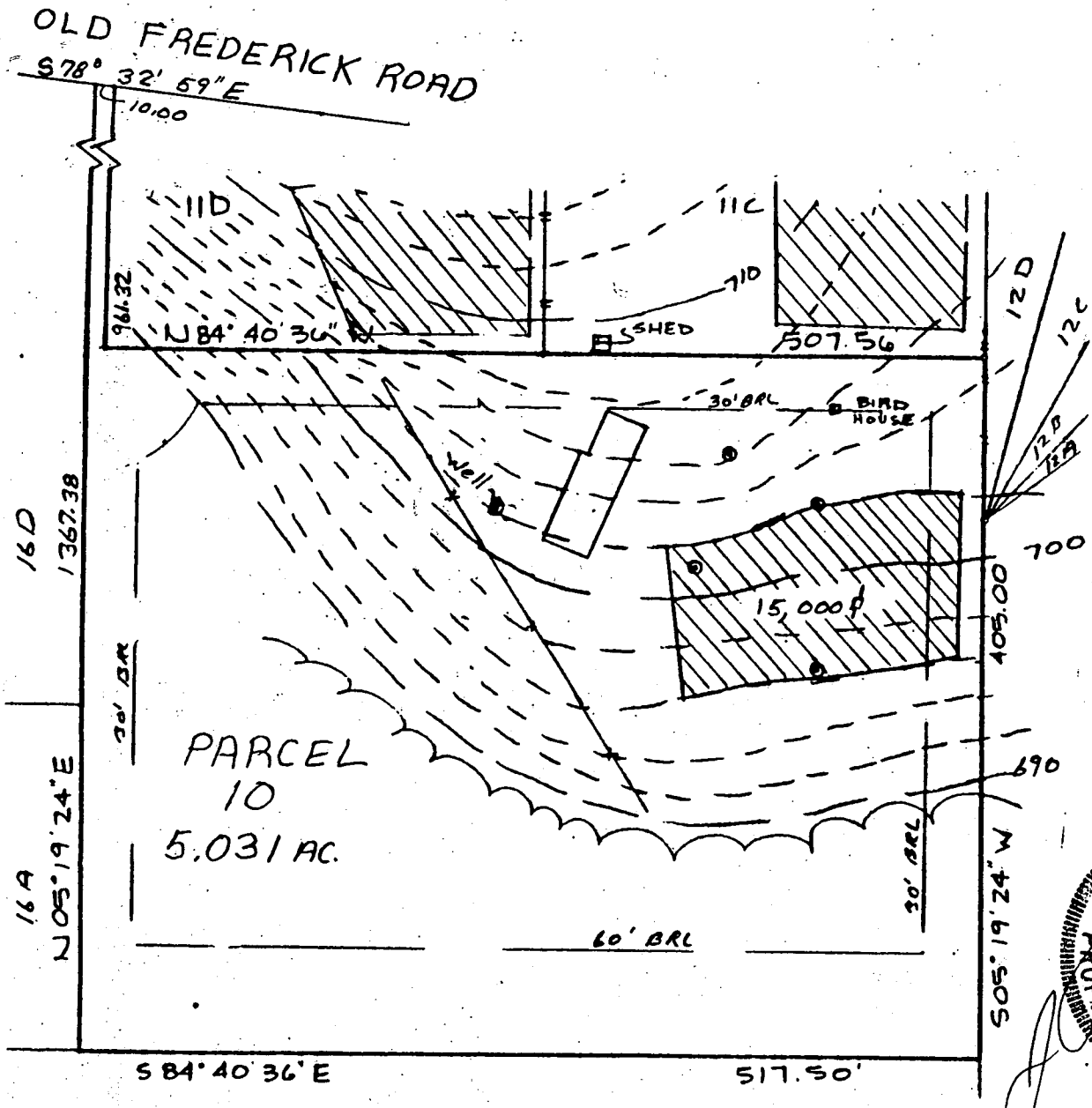


DATE	TEST NO.	DEPTH	PRE-WET START	PRE-WET STOP	TEST - 1" DROP START	TEST - 1" DROP STOP	TIME
5/4/76	1	7'	hard saprolite at 7'				
	2	8'	hard saprolite at 6-8'		clay to 3'		
	3	8'	hard saprolite 7-8'		clay to 3'		
	4	11'	hard saprolite 8-11'		clay to 3'		

REMARKS fails per test

TYPE OF SOIL clay to 3', loose saprolite 3 to 7', hard saprolite below

TESTED BY F.S. ALSO PRESENT: Lundrim & Crew



▨ This area designates a private sewage easement of 10,000 square feet as required by the Maryland State Department of Health and Mental Hygiene for individual sewage disposal. Improvements of any nature in this area are restricted until public sewage is available. These easements shall become null and void upon connection to a public sewage system. The County Health Officer shall have the authority to grant variances for encroachments into the private sewage easement. Recordation of a modified sewage easement shall not be necessary.

Percolation test holes shown hereon have been field located and shown as "⊕".

The lots shown hereon comply with the minimum ownership width and lot areas as required by the Maryland State Department of Health and Mental Hygiene.

Percolation areas and water wells for adjoining lots have been shown where pertinent.

APPROVED: For Private Water and Private Sewage Systems

OK/SR 6-6-89

County Health Officer Date

PERCOLATION TEST PLAT

PARCEL 10

MIDDLE TRAIL

TAX MAP 7 PARCEL 407

4TH Election District
Howard County, Maryland
Scale 1"=100'
Date 5-26-89

NTT Associates, Inc.
16205 Old Frederick Road
Mt. Airy, MD 21771
(301) 442-2031

EMERGENCY/TEMP NO. IF ANY

B	1	5940	SEQUENCE NO. (DP USE ONLY)	STATE OF MARYLAND PERMIT TO DRILL WELL	STATE PERMIT NUMBER

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND PERMIT TO DRILL WELL

please print or type

STATE PERMIT NUMBER: HO-88-0863

fill in this form completely

Date Received (APA): 061387

OWNER INFORMATION

Last Name / Owner / First Name: Romwer Donald

Street or RFD: 8307 MAIN ST

Town / State / Zip: Ellicott City MD 21043

DRILLER INFORMATION

Driller's Name: Frank Delph — License No.: 453

Firm Name: Frank Delph Well Drillers Inc.

Address: 18234 Penn Shop Rd. Mt Airy

Signature: Frank Delph — Date: 6,6,87

B 3 LOCATION OF WELL

COUNTY: Howard

SUBDIVISION: Middle Trail

SECTION ___ LOT 10 Parcel 407

NEAREST TOWN: Lisbon

MILES FROM TOWN (enter 0 if in town): 1 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N (circled)

NW, N, NE, W, TOWN, E, SW, S, SE

NEAR WHAT ROAD: Old Fredrick

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH, WEST, EAST, SOUTH — S (circled)

DISTANCE FROM ROAD: 200

ENTER FT or MI: FT

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 5

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 500

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- [D] (circled) HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- [F] FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- [I] INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- [P] PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- [T] TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Howard — COUNTY NO.: A-28946

STATE SIGNATURE ______ INSERT S

DATE ISSUED: 071089 — CO SIGNATURE: S. Abel — EXP. DATE: 01-09-90

NORTH GRID: 553000 — EAST GRID: 0773000

APPROXIMATE DEPTH OF WELL: 200 FEET

APPROXIMATE DIAMETER OF WELL: 6 NEAREST INCH

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

8-4-89
OK TO GROUT
S. Abel
9 AUG 89
ALREADY GROUTED
RH
21 FT PIPE
18 FT OPEN
6 BAGS

SOURCES OF DRILLING WATER
1. Well
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E: 7787

N: 552

000
000

METHOD OF DRILLING (circle one)

BORED (or Augered) — JETTED — Jetted & DRIVEN

AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary) (circled)

CABLE — REVerse-ROTary — DRive-POINT

other ______

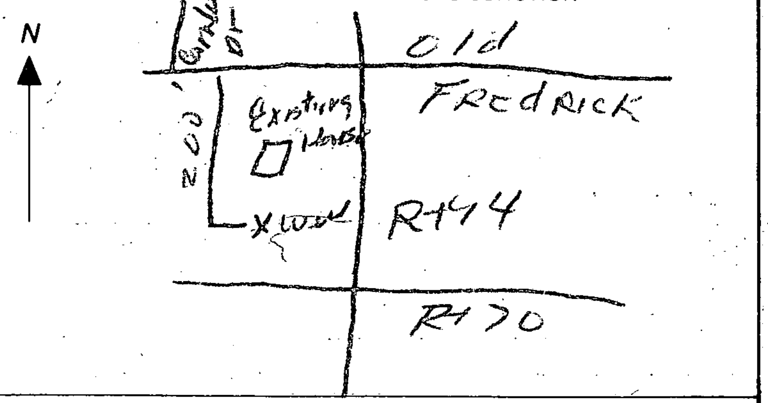
REPLACEMENT OR DEEPENED WELLS (CIRCLE APPROPRIATE BOX)

- [N] (circled) THIS WELL WILL NOT REPLACE AN EXISTING WELL
- [Y] THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- [S] THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY
- [D] THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE) ______

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION

Well OK



Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE: 5A — WRITE INITIALS IN BOX — PERMIT No.: HO-88-0863

SPECIAL CONDITIONS

STATE OF MARYLAND
WELL COMPLETION REPORT

C 1 | 1003 | SEQUENCE NO. (DENV USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER: A-28946

ST/CO USE ONLY DATE Received:

DATE WELL COMPLETED: 2 8 0 1 9 1

Depth of Well: 305 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL": 40-88-0865

OWNER: Krouse (last name) Donald (first name)

STREET OR RFD: Old Freedom Rd TOWN: Gilbert

SUBDIVISION: Middle Trail SECTION: ______ LOT: 10 ABC

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	Check if water bearing
Top Soil	0	2	
Brown Slate	2	10	
Blue slate	10	45	
Brown Slate	45	70	✓
Blue Slate	70	90	
Brown Slate	90	95	✓
Blue Slate	95	305	

GROUTING RECORD

WELL HAS BEEN GROUTED (Circle Appropriate Box): (Y) yes / N no

TYPE OF GROUTING MATERIAL: CEMENT (CM) / BENTONITE CLAY BC

NO. OF BAGS: 6 NO. OF POUNDS: 600

GALLONS OF WATER: 36

DEPTH OF GROUT SEAL (to nearest foot): from 0 ft. TOP to 15 ft. BOTTOM (enter 0 if from surface)

CASING RECORD

casing types insert appropriate code below: ST STEEL, CO CONCRETE, PL PLASTIC, OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)	Total depth of main casing (nearest foot)
PL	6	21

OTHER CASING (if used): diameter inch ______ depth (feet) from ______ to ______

SCREEN RECORD

screen type or open hole insert appropriate code below: ST STEEL, BR BRASS BRONZE, (HO) OPEN HOLE, PL PLASTIC, OT OTHER

C 2

EACH SCREEN	Type	DEPTH (nearest ft.) from	to
1	HO	21	284
2			
3			

SLOT SIZE 1____ 2____ 3____

DIAMETER OF SCREEN ______ (NEAREST INCH)

GRAVEL PACK from ______ to ______

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68:

C 3

PUMPING TEST

HOURS PUMPED (nearest hour): 6

PUMPING RATE (gal. per min. to nearest gal.): 3

METHOD USED TO MEASURE PUMPING RATE: Bucket

WATER LEVEL (distance from land surface):
BEFORE PUMPING: 40
WHEN PUMPING: 90

TYPE OF PUMP USED (for test): A air, P piston, T turbine, C centrifugal, R rotary, O other (describe below), J jet, (S) submersible

PUMP INSTALLED

DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO): YES (NO)

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS EXCEPT HOME USE

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX - SEE ABOVE:

CAPACITY: GALLONS PER MINUTE (to nearest gallon):

PUMP HORSE POWER:

PUMP COLUMN LENGTH (nearest ft.):

CASING HEIGHT (circle appropriate box and enter casing height): (+) above / − below LAND SURFACE: 1 (nearest foot)

CIRCLE APPROPRIATE LETTER

A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED

E ELECTRIC LOG OBTAINED

P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

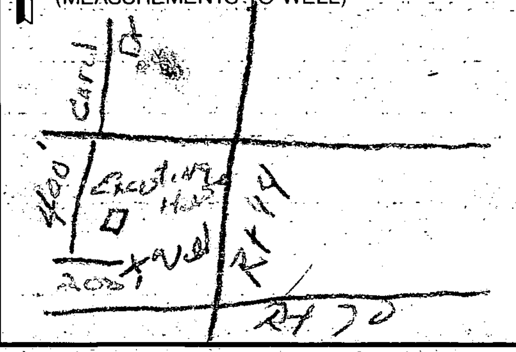
DRILLERS IDENT. NO.: 453

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION): [signature]

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee): [signature]

LOCATION OF WELL ON LOT

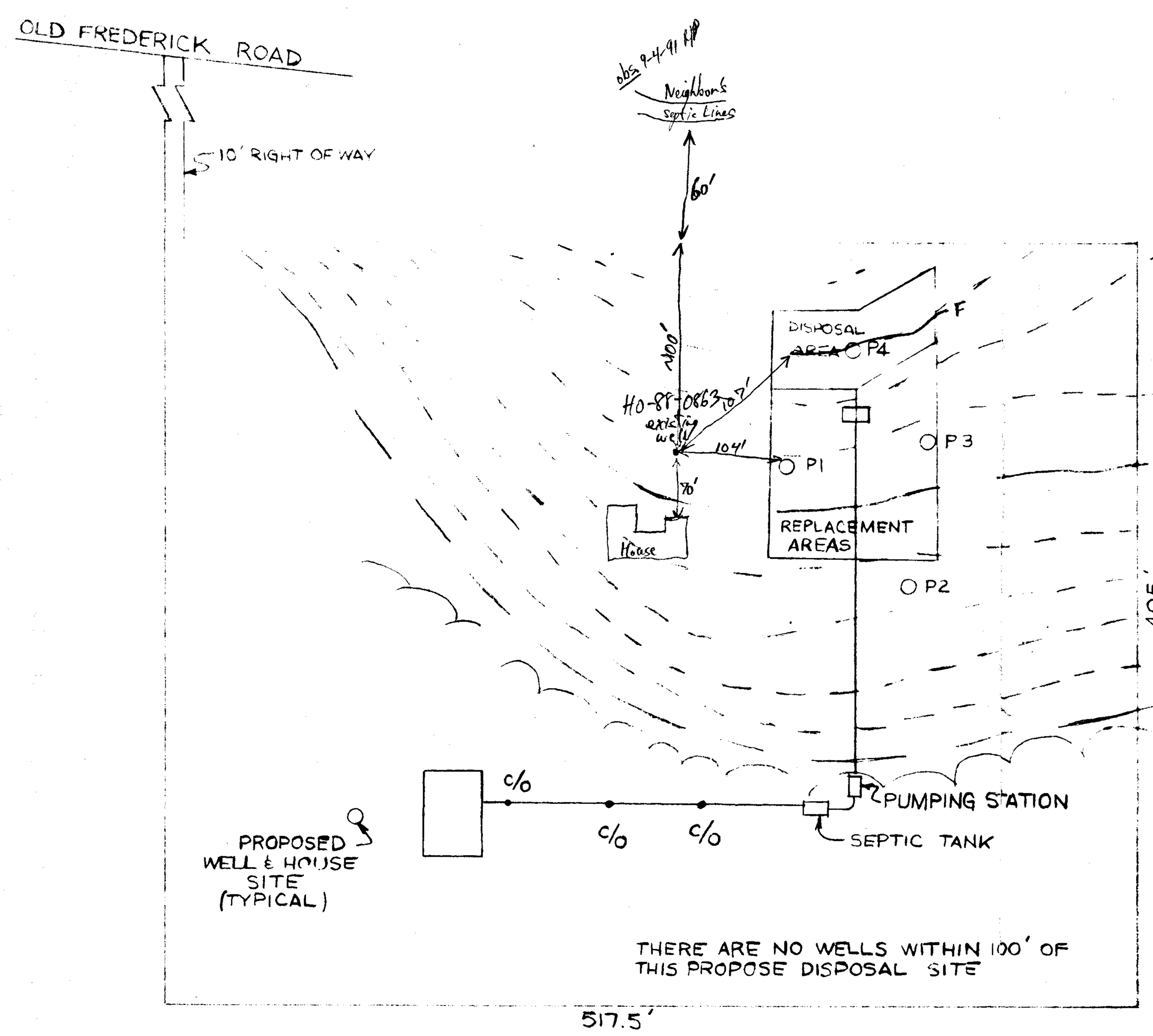
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



OEP USE ONLY (NOT TO BE FILLED IN BY DRILLER)

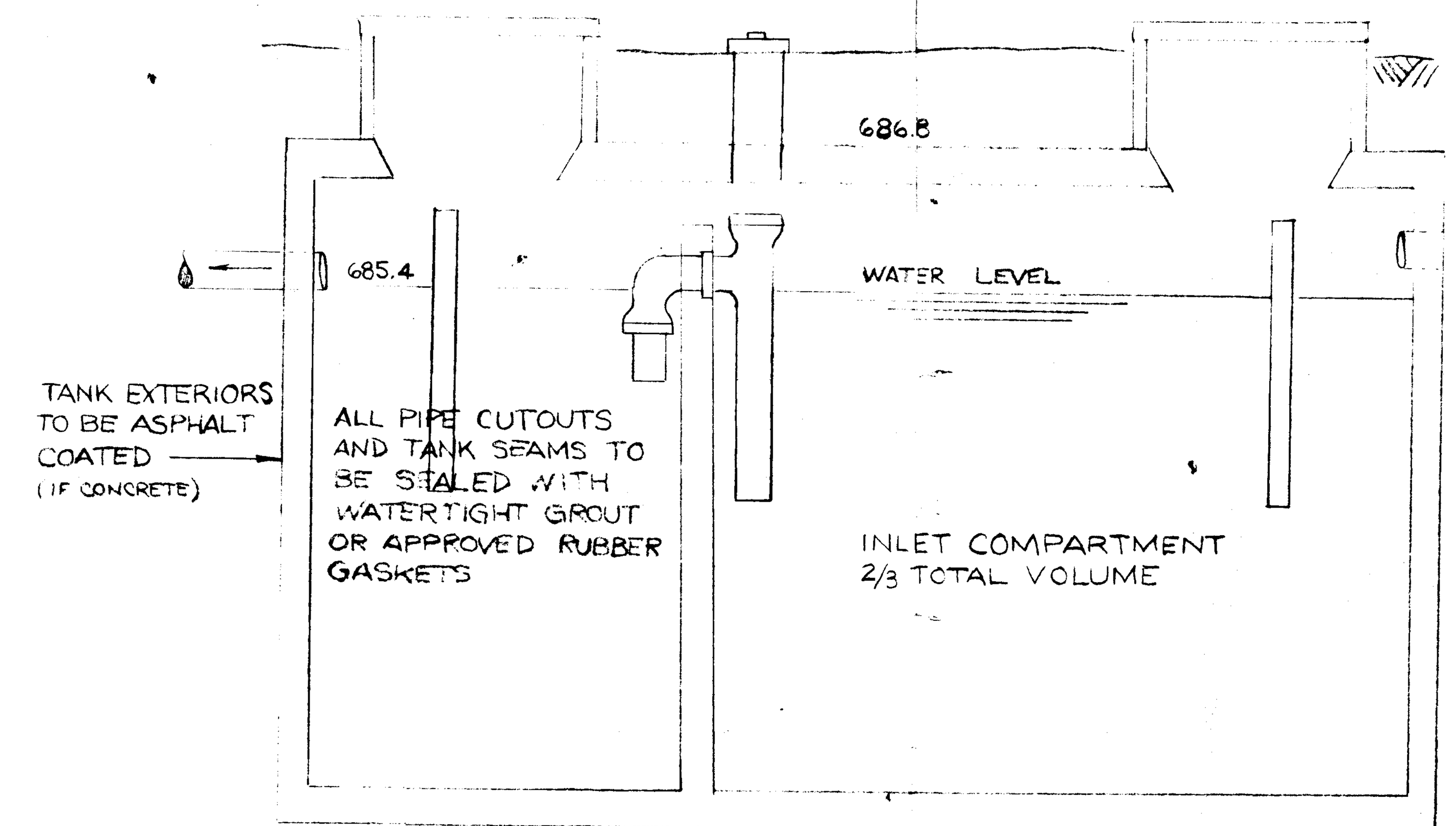
T. 70 TELESCOPE CASING | (E.R.O.S.) 72 LOG INDICATOR | W Q 74 75 76 OTHER DATA

COUNTY



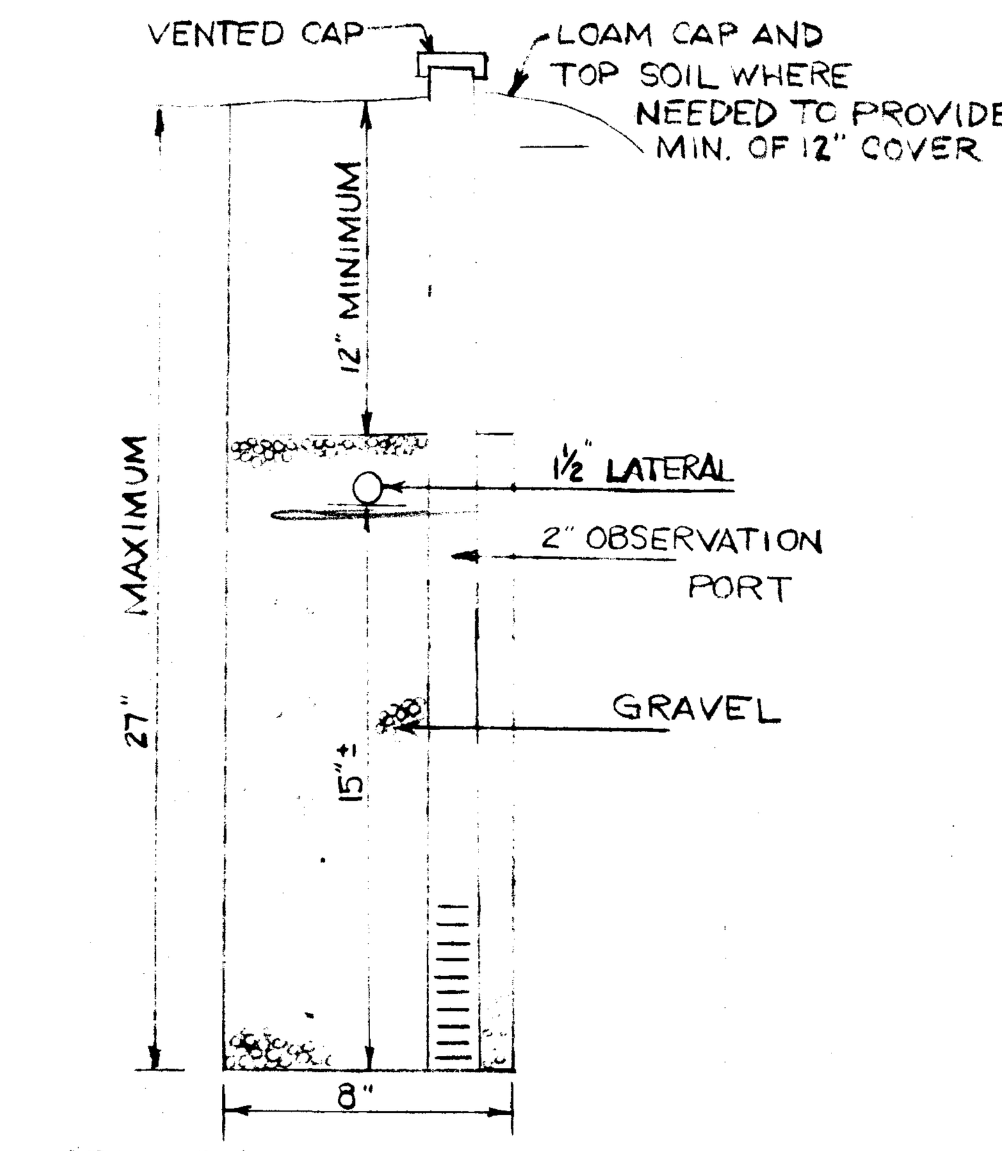
SITE PLAN

SCALE 1" = 70'



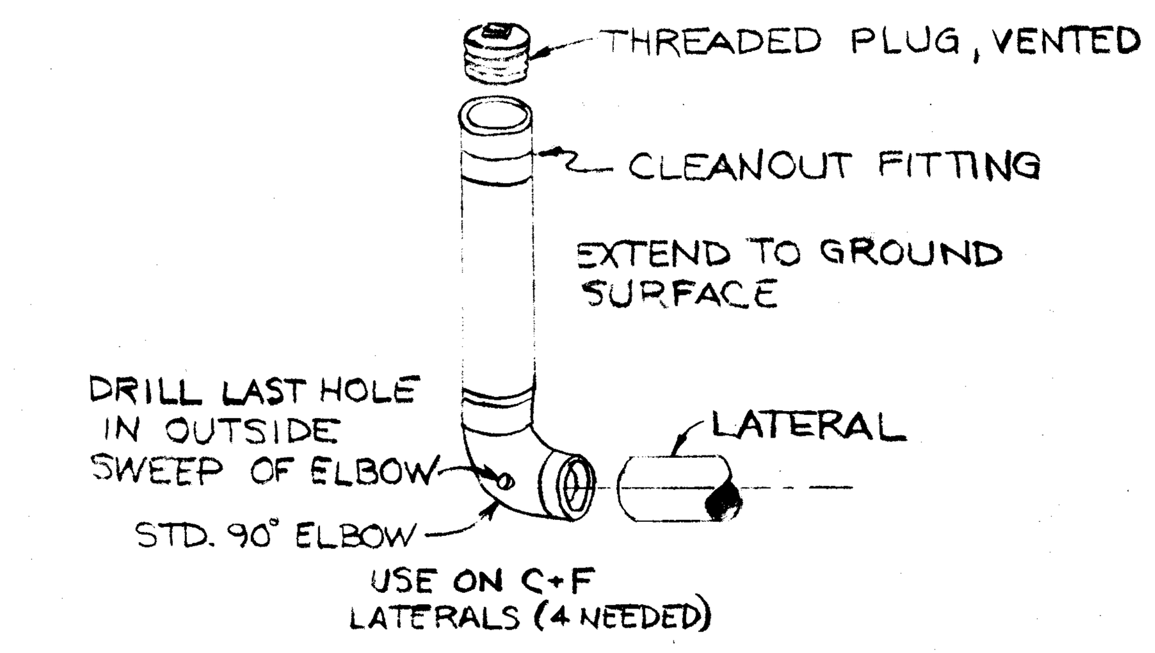
COMPARTMENTED 1500 GAL. SEPTIC TANK (TYPICAL)

SCALE 3/4" = 1'-0



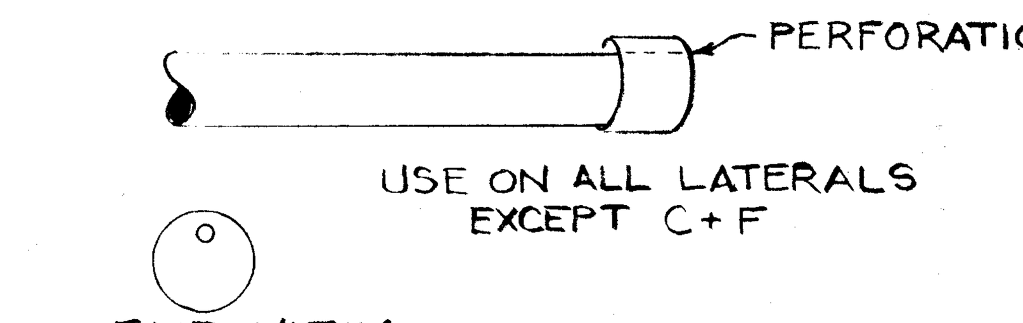
TRENCH AND OBSERVATION PORT DETAIL

NOT TO SCALE



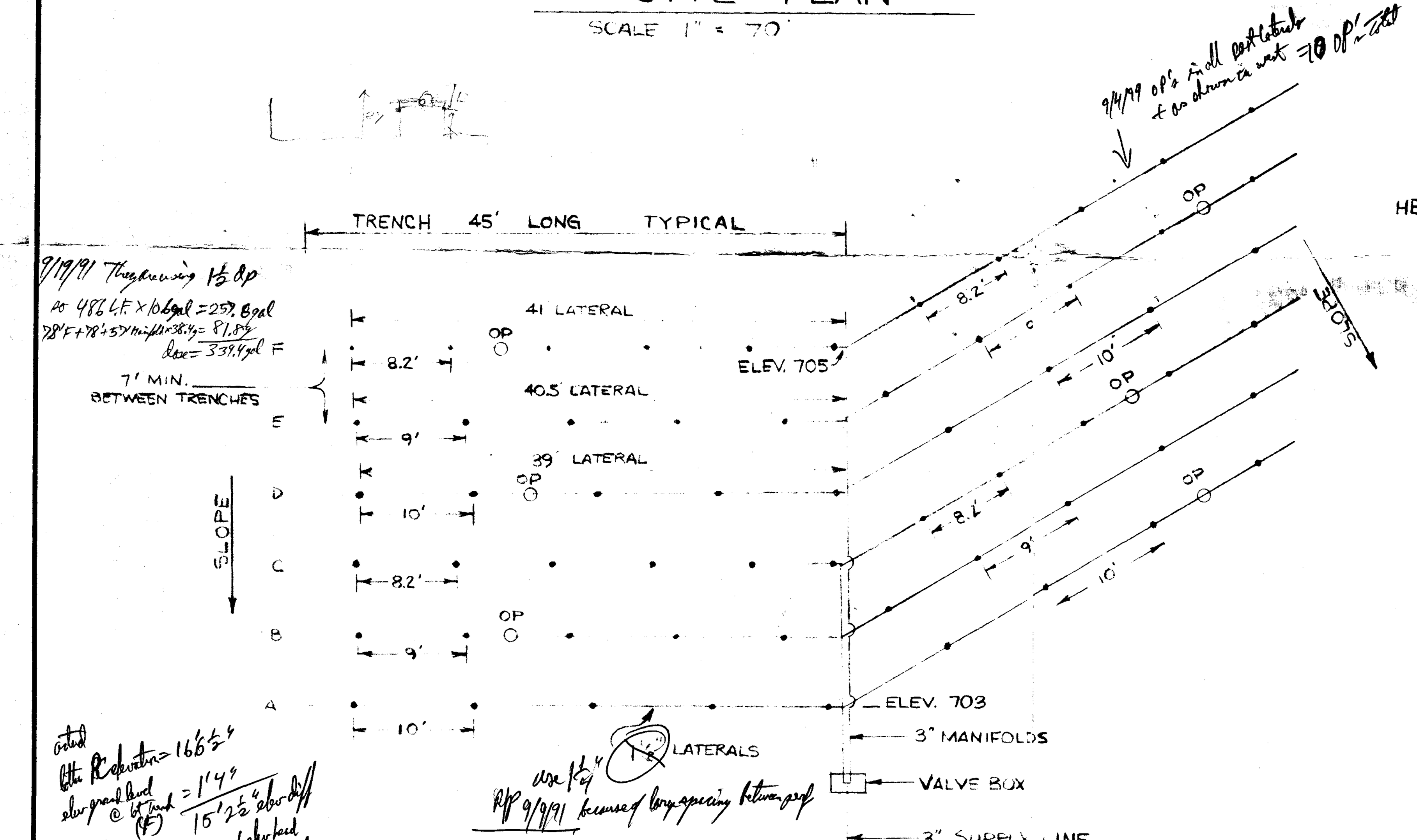
LATERAL END TURNUP DETAIL

NOT TO SCALE



END CAP PLACEMENT DETAIL

NOT TO SCALE



DISPOSAL FIELD LAYOUT

SCALE 1" = 10'

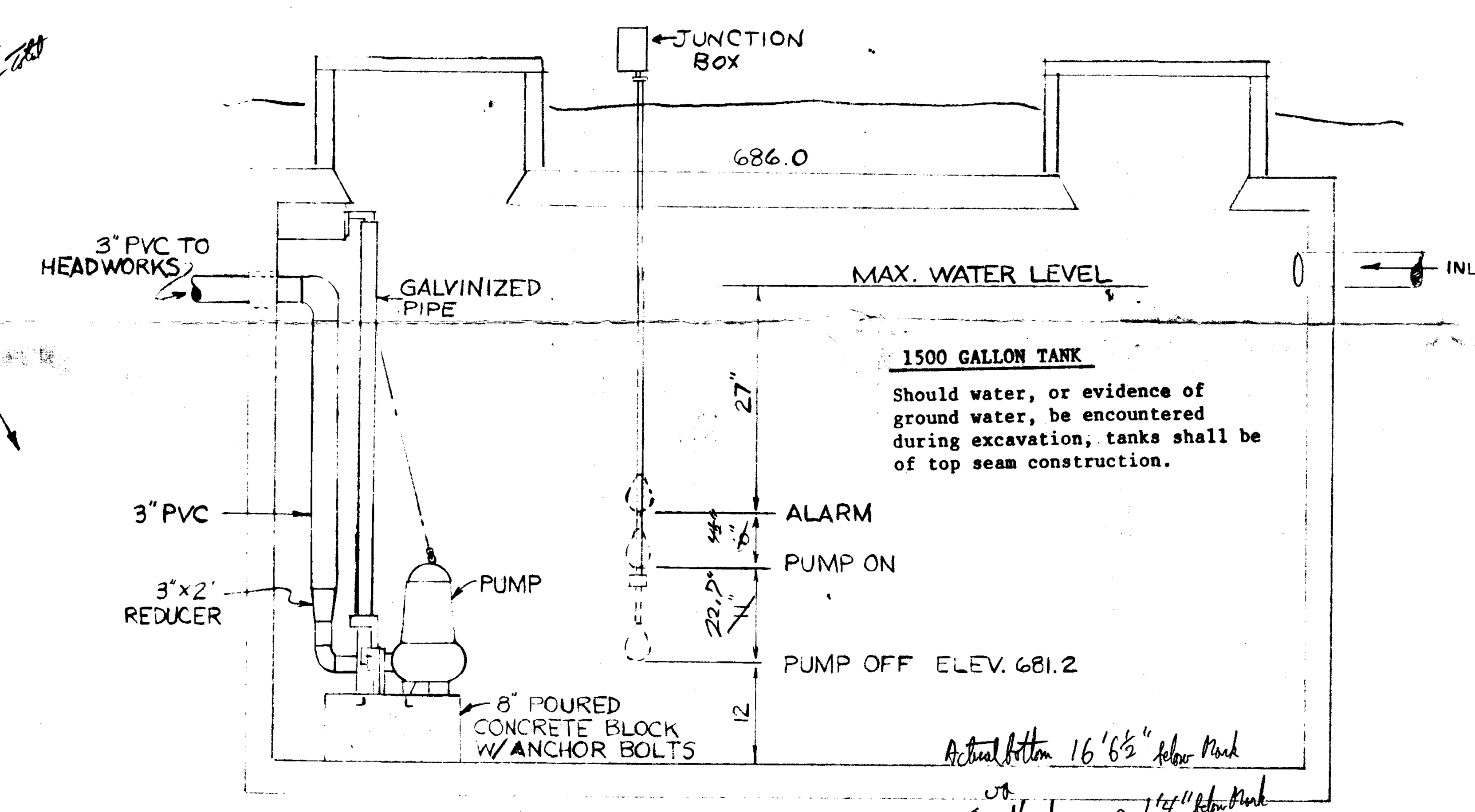
Segments	Trench Length	Trench Width	Trench Depth	# perf	Laterals Length	Laterals Perforation Ø	Laterals Spacing
F	45'	8"	27" (Typ.)	11	41'	5/16"	8.2'
E	45'	8"	27"	10	40.5'	5/16"	9'
D	45'	8"	27"	9	40'	5/16"	10'
C	45'	8"	27"	11	41'	5/16"	8.2'
B	45'	8"	27"	10	40.5'	5/16"	9'
A	45'	8"	27"	9	40'	5/16"	10'
	540' trench			Tot = 60 perf	486' of lat pipe		

For 1¼" diam Sch 40 pressure pipe × 486 LF = 189.8 gal actual dose

60' of 3" sch 40 - FM = 23.04
69' of 3" sch 40 - Manifold = 26.5
49.5 gal

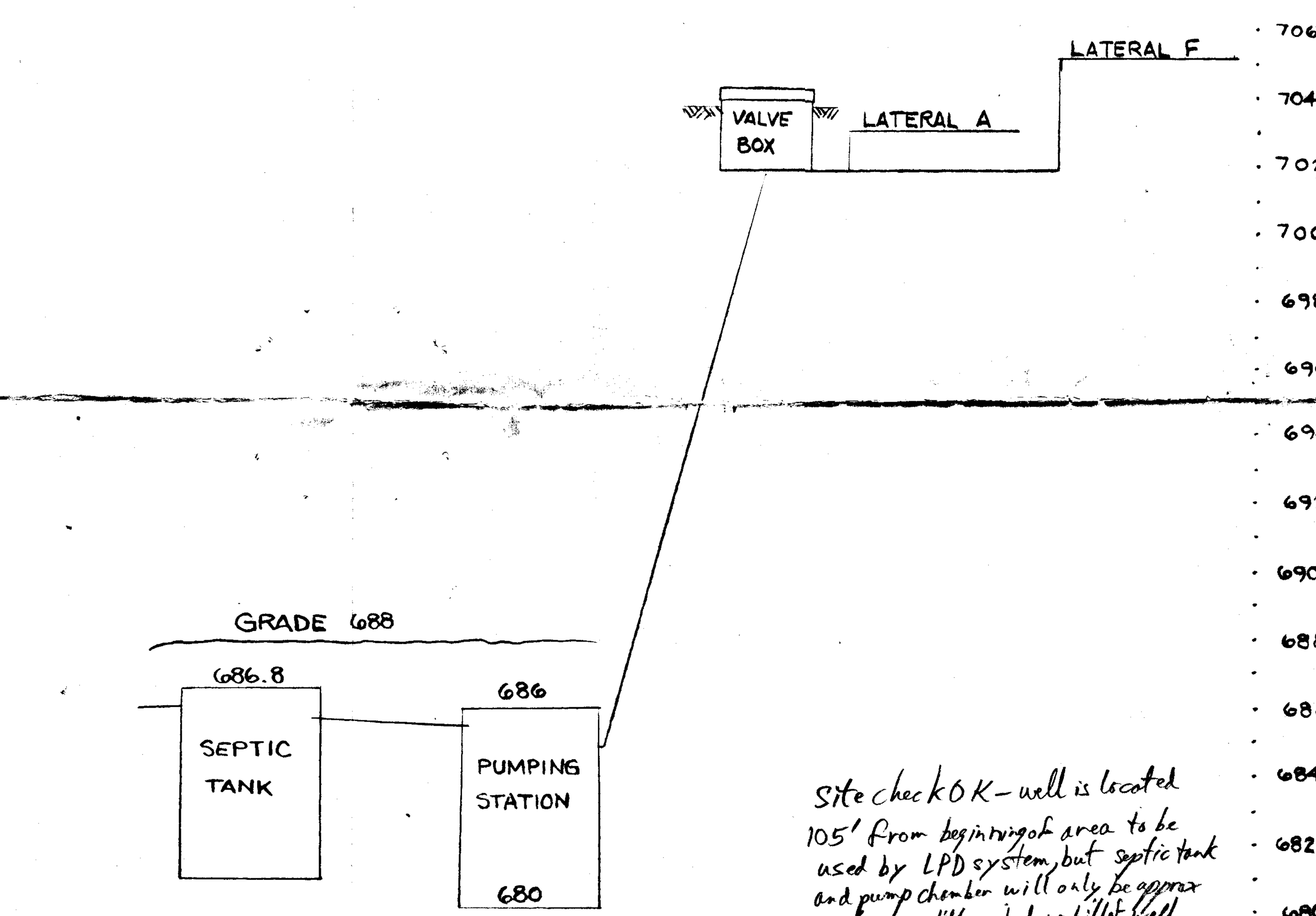
239 gal or 240 approx min dose

∴ Dose = ~~240 gal~~ revised to 340 since 1½" diam Lateral was used



PUMPING STATION

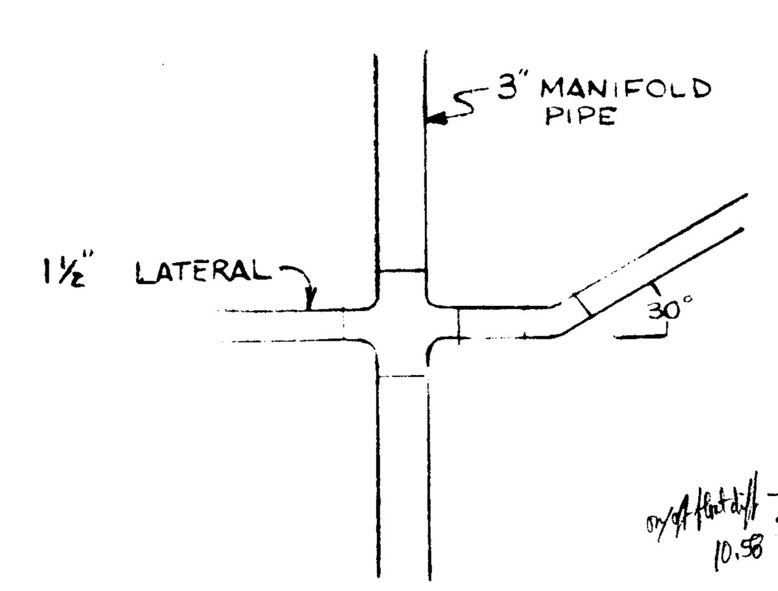
SCALE: 3/4 = 1'



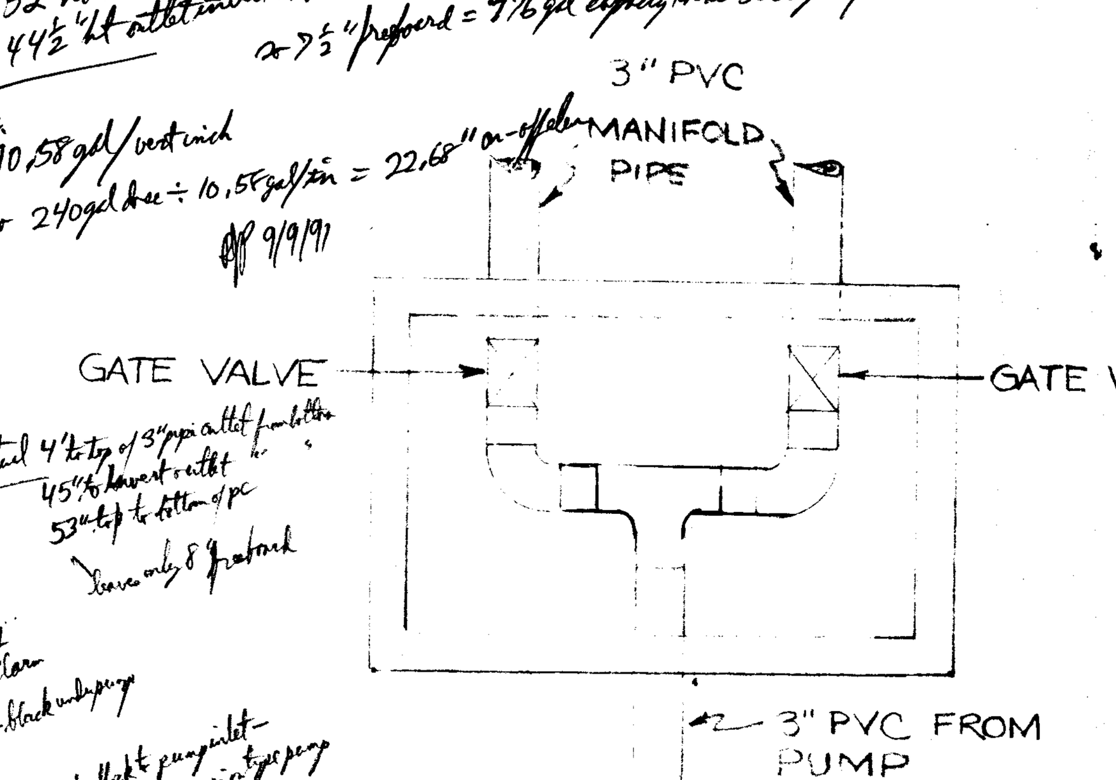
HYDRAULIC PROFILE

NOT TO SCALE

Site check OK - well is located 105' from beginning of area to be used by LPD system, but septic tank and pump chamber will only be approx 75' from, although downhill of well, well is 160' downslope of neighbor's existing SDS trenches. RP 9-4-91



LATERAL CONNECTING DETAIL (TYPICAL)



VALVE BOX / MANIFOLD PLAN

NOT TO SCALE

BLDG. PERMIT SIGNED AND RETURNED 8-16-89

MARYLAND DEPARTMENT OF THE ENVIRONMENT
DIVISION OF RESIDENTIAL SANITATION
Reviewed by: _____ Date: 5/4/89
Approved by: _____ Date: 6/16/89

NOTE
Approval of final field layout is required by the Division of Residential Sanitation at least 48 hours prior to system installation
Approved By _____
Date _____

REVISIONS		
NO.	DATE	DESCRIPTION

SPELLMAN, LARSON & ASSOCIATES, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
SUITE 107, JEFFERSON BLDG., TOWSON, MD., 21204
PHONE: 823-3535

SHALLOW PRESSURE DOSING SYSTEM

LOT 10
MIDDLE TRAILS
MT. AIRY MARYLAND

SCALE: AS SHOWN	DES. BY: J.D.C.	SHT. 1 OF 1
DATE: Feb, 1989	DRN. BY: A.E.S.	

TCA 301-565-3340

88074