

6/22/95
8 PM
6-23-95
Am c/o

PERMIT

SEWAGE DISPOSAL SYSTEM

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

P 50734

A A32089

DISTRICT 4th

DATE 6-12-95

DATE SYSTEM APPROVED 6/23/95

INSPECTOR G. SAVAGE

INDEXED

04-350561

HOWARD COUNTY HEALTH DEPARTMENT

BUREAU OF ENVIRONMENTAL HEALTH

461-9933 313-2640

Barnard Brothers

IS PERMITTED TO INSTALL X ALTER

ADDRESS 1612 Brittle Branch Way, Woodbine, MD 21797

PHONE (410) 489-7621

SUBDIVISION Lisbon Estates LOT 7 ROAD 1636 Brittle Branch Way

PROPERTY OWNER Barnard Brothers Construction Co., Inc.

Wm & Jane Applegate

ADDRESS

SEPTIC TANK CAPACITY 1500 GALLONS

NUMBER OF BEDROOMS 5

210
1050
35
31050
9/15

Addition - Shed
BLDG. PERMIT SIGNED
AND RETURNED 12-13-95
Serial # 62919

210 SQUARE FEET PER BEDROOM

LINEAR FEET OF TRENCH REQUIRED 350

TRENCHES - Trench to be 3 feet wide. Inlet 4 feet below original grade. Bottom maximum depth 6 feet below original grade. Effective area begins at 4 feet below original grade. 2 feet of stone below distribution pipe.

LOCATION - Place the distribution box 80 feet from the 228.57 feet lot line and 120 feet from the 687.02 feet lot line. Run trenches on contour in both directions.

NOTES - No trench to exceed 100 feet in length. Provide 6" - 8" diameter cleanout and cap to grade or above on septic tank OK 6/8/95 NCS

PLANS APPROVED BY Amy McMillen/Mark Rifkin

REVISED DATE 5/16/95

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

BLDG. PERMIT SIGNED

AND RETURNED

2/7/97
Serial # B00103926

PERMIT VOID AFTER TWO YEARS

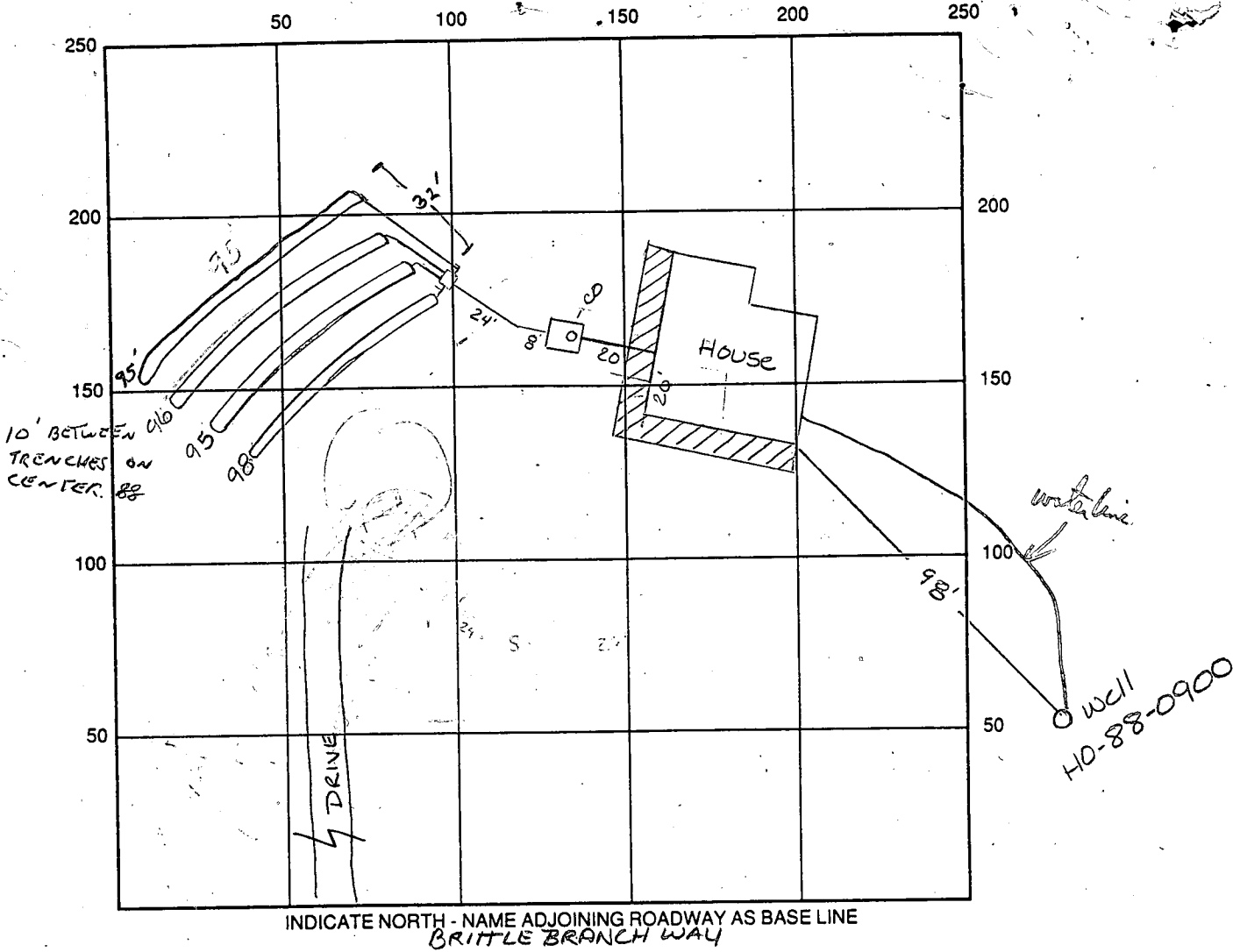
NOTE: INSTALL STAND PIPE ON SEPTIC TANK AND DRY WELL STAND PIPES MUST BE 6 INCHES IN DIAMETER CAST IRON. CONCRETE OR TERRA COTTA OR PVA OR ABS ACCEPTED. IF TOP OF SEPTIC TANK IS DEEPER THAN 3 FEET. MANHOLE TO GRADE REQUIRED.

NOTE: DISTRIBUTION BOXES MUST HAVE BAFFLES

Subsequent improvement
Swimming pool
(BP Revision approved 3/17/97)

*INSTALLER IS RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT

A-32089



SEPTIC TANK LEVEL 1500 gal CLEANOUTS CO OK

DISTRIBUTION BOX LEVEL OK baffle is in

DRAIN FIELD/TITLE DEPTH 6' FT. TRENCH WIDTH 3' FT. INLET DEPTH 4' FT.

EFFECTIVE GRAVEL DEPTH 2' FT. TOTAL LENGTH 98 @ 96 @ 95 @ 95 FT. 334'

NUMBER OF TRENCHES 4 ~~ONE SIDEWALL~~/BOTTOM AREA 1152 SQ. FT.

DRYWALL INSIDE DIAMETER FT. EFFECTIVE DEPTH BELOW INLET 2 FT.

ABSORBENT AREA SQ. FT.

REMARKS: 4-22-95 OK to cover trenches 1, 2 & 3 and from house to tank
Aug 6-23-95 Trench 4 in - OK, OK to cover system

WPI - Pitless Adapter OK @ 4 Ft - casing (plastic casing was cracked & replaced @ 4 Ft. OK Now
But No well tag on casing
 DATE SYSTEM APPROVED 6/23/95 INSPECTOR Blk Jay

Pre

APPLICATION

A 32089
P _____

SEWAGE DISPOSAL TESTING

STATE OF MARYLAND - DEPARTMENT OF HEALTH AND MENTAL HYGIENE

HOWARD COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH SERVICES

P. O. BOX 473 ELLICOTT CITY, MARYLAND 21043
TELEPHONE 992-2330

DISTRICT _____

DATE 7-16-82

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 Lawrence Blumberg/Charles Snouffer *Bakand Bros. Construction*
ADDRESS 2909 Old Court Road, Baltimore 21209 PHONE 574-9300 *489-7621*

PROPERTY LOCATION: _____
SUBDIVISION BLUMBERG Lots 1 through 15 LOT NO. *NGW 7/9*

ROAD AND DESCRIPTION East of S.R. 94, .5 miles south of Rt. 144 intersection
(1636 Brittle Branch Way) with S.R. 94

SIZE OF LOT 7.66 Acres TYPE BLDG. (S.F. Detached) 4 BR
(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. *Reimer-Tracy & Assoc. by Arthur E. Muegg*
(SIGNATURE OF APPLICANT)

APPROVED BY *J. Abel* FOR *TRENCH* DATE *2-14-85*

REJECTED BY _____ FOR _____ DATE _____

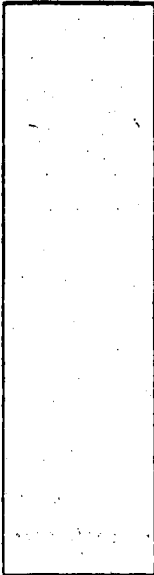
HOLD PENDING FURTHER TESTS _____ DATE _____

REASONS FOR REJECTION OR HOLDING _____

BLDG. PERMIT SIGNED
AND RETURNED *5/31/85*
Serial # 597 28
SFD - 5 Bema

THIS IS NOT A PERMIT

SOIL PROFILE



INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE.

DATE	TEST NO.	DEPTH	PRE-WET		TEST - 1" DROP		TIME
			START	STOP	START	STOP	
12/16/86	8 v	13' - CLAY TO 3.5' IN POCKETS AT 7-9'	1.0'	1.0'	SOME STRUCTURED	shale	
	9 v	12.5' - Better profile than # 8 (CONTENT NO-50% AT 1')			NO STRUCTURE - Frag		

REMARKS _____

TYPE OF SOIL _____

TESTED BY _____ ALSO PRESENT _____

8-11-1113

APPLICATION

SEWAGE DISPOSAL TESTING

STATE OF MARYLAND - DEPARTMENT OF HEALTH AND MENTAL HYGIENE

A 32089

P _____

HOWARD COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH SERVICES
P O BOX 473 ELLICOTT CITY, MARYLAND 21043
TELEPHONE 992-2330

DISTRICT _____

DATE 7-16-82

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 Lawrence Blumberg/Charles Snouffer
ADDRESS 2909 Old Court Road, Baltimore 21209 PHONE 574-9300

PROPERTY LOCATION:

SUBDIVISION BLUMBERG Lots 1 through 15 LOT NO. 9
ROAD AND DESCRIPTION East of S.R. 94, .5 miles south of Rt. 144 intersection
with S.R. 94

SIZE OF LOT 7.66 Acres TYPE BLDG. (S.F. Detached) 4 BR
(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.

Piemer-Tracy & Assoc. by Arthur E. Muegg
(SIGNATURE OF APPLICANT)

APPROVED BY _____ FOR _____ DATE _____

REJECTED BY _____ FOR _____ DATE _____

HOLD PENDING FURTHER TESTS _____ DATE _____

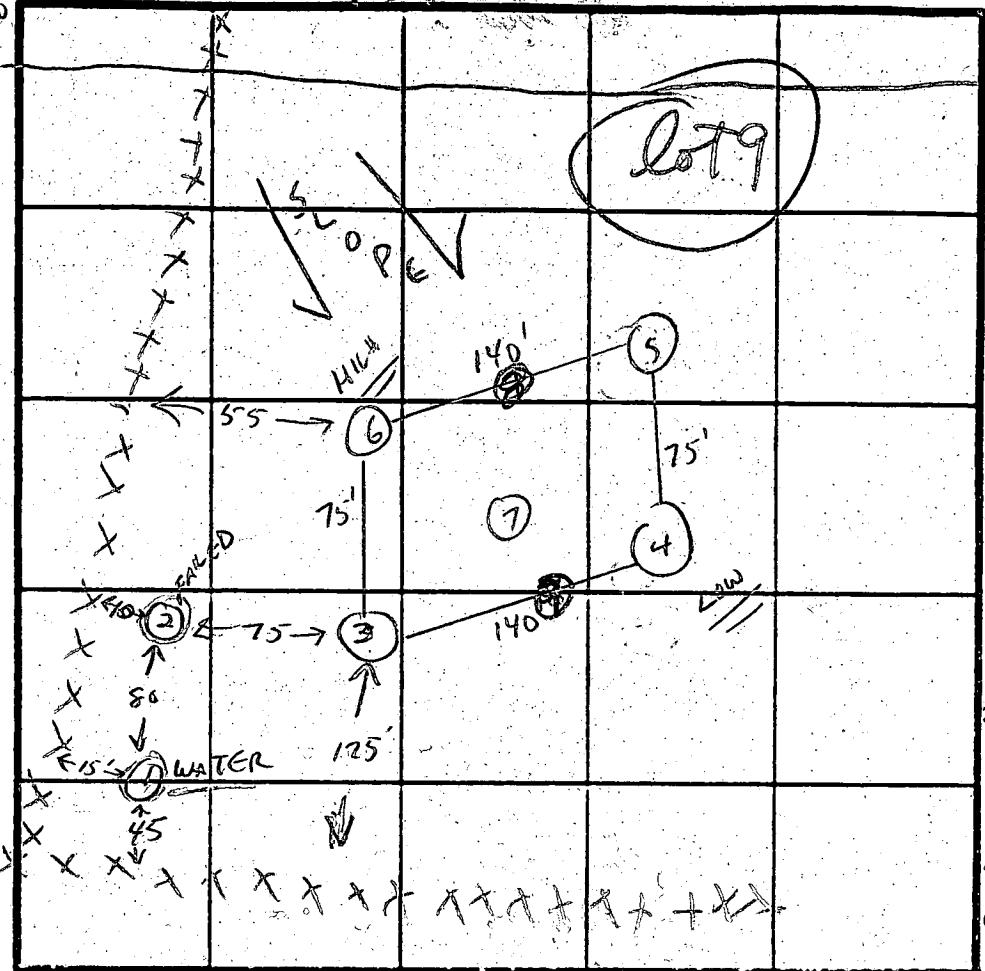
REASONS FOR REJECTION OR HOLDING _____

THIS IS NOT A PERMIT

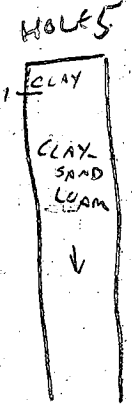
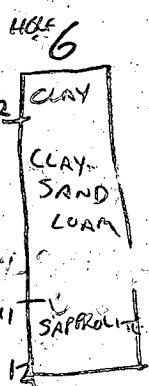
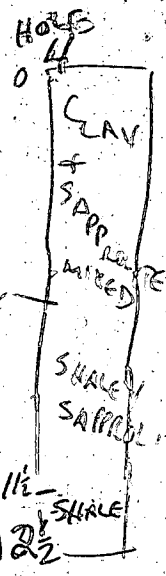
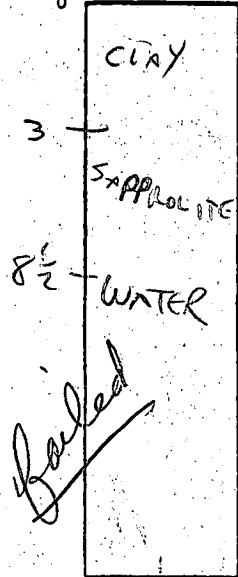
LOT 9

Lot 8

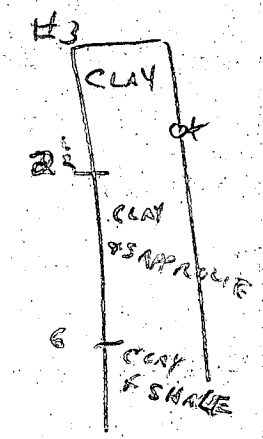
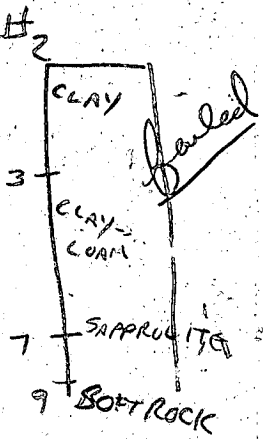
450 TO PROP ROAD



SOIL PROFILE



INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE.



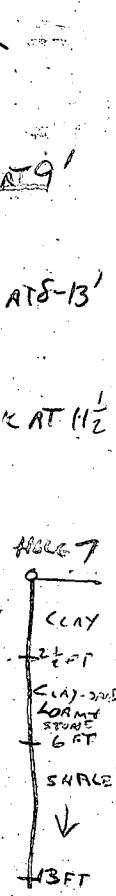
DATE	TEST NO	DEPTH	PRE-WET		TEST - 1' DROP		TIME
			START	STOP	START	STOP	
8-27-82	①	9'	CLAY/SAPPROLITE		WATER AT 8 1/2'		X
8-27-82	② S	10' 4"	10:38	11:55	11:55	12:28	FAILED
	② M	9'	10:34	12:00	12:00		FAILED
	V	V	CLAY TO 3' CLAY LOAM TO 7';		SAPPROLITE TO SOFT		ROCK AT 9'
8-27-82	3 S	3'	1:36:45	1:42	1:42	1:52	10 MIN
	3 M	8 1/2'	1:32	1:39	1:39	1:53	14 MIN
	V	13'	CLAY TO 2' THEN		CLAY LOAM CHANGING TO SHALE, SAPPROLITE AT 8-13'		OK
8-27-82	4 S		2:07	2:10	2:10	2:15	5 MIN
	4 M		2:05:15	2:10	2:10	2:18	8 MIN
	V	12 1/2'	CLAY WITH VEINS OF SAPPROLITE		SHALE		ALL ROCK AT 11 1/2'
	5 S	3'	10:18	10:22	10:22	10:30	8 MIN
	5 M	8 1/2'	10:10	10:22	10:22	10:30	8 MIN
	V	13'	CLAY TO 1 FT, THEN		CLAY-SAND LOAM - SHALE		12-13 FT
	6 S	3'	2:36	2:38	2:38	2:41	3 MIN
	M	8'	2:33	2:41	2:41	2:49	8 MIN
	V	12'	CLAY TO 2' THEN CLAY, SAND, LOAM		SAPPROLITE		11-12'
	7 V	13'	CLAY TO 2 1/2 FT THEN CLAY SAND LOAM MIXED		ROCK TO 6'		
			THEN SHALE TO 13' - PERC TESTED AT 8 FT -		14 MIN (VERTICAL PLANES OF SHALE)		

REMARKS ADVISE MAX SIZE SYSTEM AT 4-8 FT

TYPE OF SOIL CLAY & SHALEY SAPPROLITE // WATER IN LOW AREA

TESTED BY C WILLIAMS R HODGES

ALSO PRESENT UBBO VANDERWALK CARRY DERHOFF



B 1 **2255** SEQUENCE NO. (DP USE ONLY)

(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
40-98-0900
 fill in this form completely

Date Received (APA) **052289**

OWNER INFORMATION

Last Name **FRALL** Owner First Name **W. W. C. C. P. E. R. S.**

Street or RFD **ROCK/59**

Town **Mt Airy** State **MD** Zip **21771**

B 3 LOCATION OF WELL

COUNTY **HOWARD**

SUBDIVISION **LISBON ESTATES**

SECTION **44** LOT **7**

NEAREST TOWN **LISBON**

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

Trans to R. Mayne

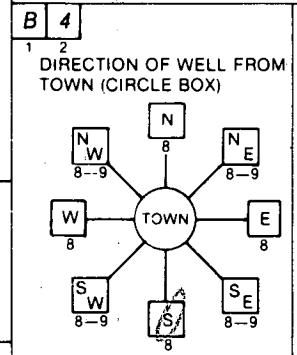
DRILLER INFORMATION

Driller's Name **Joseph L. Mayne** License No. **238**

Company Name **Joseph L. Mayne Well Drilling**

Address **5512 Ridge Rd. Mt. Airy, Md 21771**

Signature **Joseph L. Mayne** Date **5/22/89**



Brittle Branch Road

NEAR WHAT ROAD

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

WEST

DISTANCE FROM ROAD **520** 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)

HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)

FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)

INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)

PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)

TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

COUNTY NAME **Howard** COUNTY NO. **A 32089**

STATE SIGNATURE _____ DATE ISSUED **071989**

CO SIGNATURE **Craig Williams** EXP. DATE **7/17/90**

NORTH GRID **542000** EAST GRID **0777000**

APPROXIMATE DEPTH OF WELL **290** FEET

APPROXIMATE DIAMETER OF WELL **6** NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) JETTED Jetted & DRIVEN

AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary)

CABLE REVERSE-ROTary Drive-POINT

other _____

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER

1. WELL
- 2.
- 3.

WRITE THE BOX NUMBER FROM THE MAP HERE

7/10/90 9:30

50' CASING 7/10/90

40' OPEN HR

10 BAGS

2' CASING A.G.

GROUT NOT OBS'D

WELL TAG

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

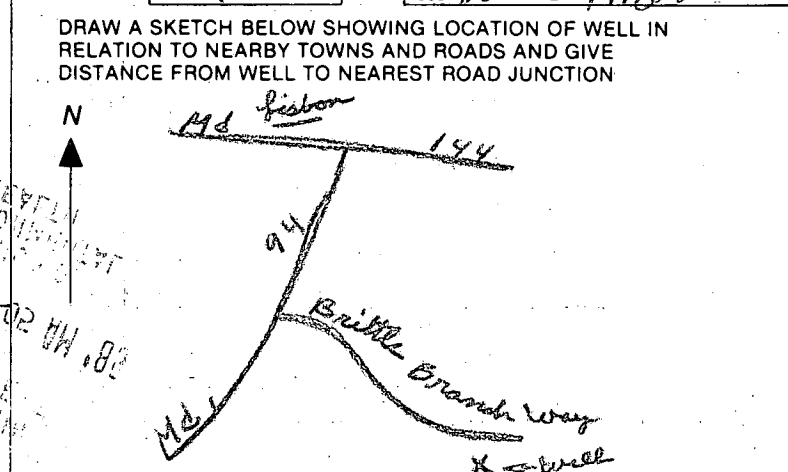
THIS WELL WILL NOT REPLACE AN EXISTING WELL

THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED

THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY

THIS WELL WILL DEEPEM AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) _____



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

APPROP. PERMIT NUMBER _____

FORCE **CW** WRITE INITIALS IN BOX PERMIT No. **40-98-0900**

SPECIAL CONDITIONS

C1 1041 SEQUENCE NO. (DENV USE ONLY)
 1 2 3 6
 (THIS NUMBER IS TO BE PUNCHED IN COLS 3-6 ON ALL CARDS)

STATE OF MARYLAND
 WELL COMPLETION REPORT
 FILL IN THIS FORM COMPLETELY
 PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.
 COUNTY NUMBER **A-320-089**

ST/CO USE ONLY DATE Received: **052299** DATE WELL COMPLETED: **072890** Depth of Well: **305** (TO NEAREST FOOT)
 PERMIT NO. FROM "PERMIT TO DRILL WELL": **HC-85-0900**

OWNER: **FCALL DEVELOPERS** last name **BRIDLE BRANCH** first name **WAY** TOWN: **LISBON**
 SUBDIVISION: **LISBON ESTATES** SECTION: _____ LOT: **7**

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		Check if water bearing
	FROM	TO	
Top Soil	0	2	
Brown Shale	2	40	✓
Brown Slak	40	45	
Blue Slak	45	60	
Brown Slak	60	65	✓
Blue Slak	65	305	

GROUTING RECORD
 WELL HAS BEEN GROUTED (Circle Appropriate Box) **Y** **N**
 TYPE OF GROUTING MATERIAL
 CEMENT **CM** BENTONITE CLAY **BC**
 NO. OF BAGS **10** NO. OF POUNDS **1000**
 GALLONS OF WATER **60**
 DEPTH OF GROUT SEAL (to nearest foot)
 from **0** ft. to **40** ft.
 (enter 0 if from surface)

CASING RECORD
 casing types insert appropriate code below
ST **CO** **PL** **OT**
 STEEL CONCRETE PLASTIC OTHER
 MAIN CASING TYPE **PL** **G** **SO**
 Nominal diameter top (main) casing (nearest inch) **60** **61** **63** **64** **66** **70**
 Total depth of main casing (nearest foot)

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

SCREEN RECORD
 screen type or open hole insert appropriate code below
ST **BR** **HO** **PL** **OT**
 STEEL BRASS BRONZE PLASTIC OPEN HOLE OTHER

C2

EACH CASING	DEPTH (nearest ft.)	
	from	to
1	HO 48	305
2		
3		

SLOT SIZE 1 _____ 2 _____ 3 _____
 DIAMETER OF SCREEN _____ (NEAREST INCH)
 from _____ to _____

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. **273**
 DRILLERS SIGNATURE *John Wayne*

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

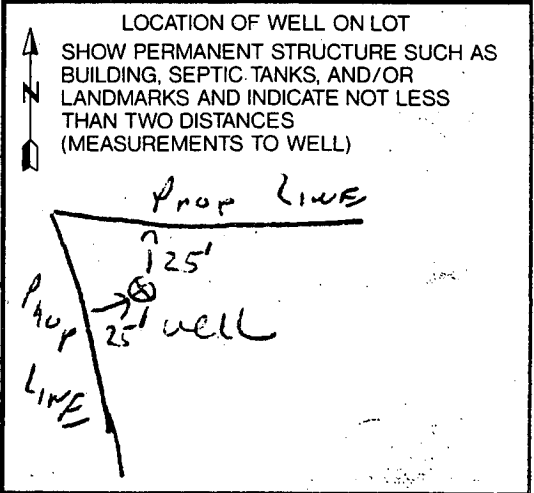
GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

OEP USE ONLY (NOT TO BE FILLED IN BY DRILLER)
 T _____ (E.R.O.S.) W Q _____
 70 _____ 72 _____ 74 _____ 75 _____ 76 _____
 TELESCOPE CASING LOG INDICATOR OTHER DATA

C3

PUMPING TEST
 HOURS PUMPED (nearest hour) **3**
 PUMPING RATE (gal. per min. to nearest gal.) **4**
 METHOD USED TO MEASURE PUMPING RATE **Be test**
 WATER LEVEL (distance from land surface)
 BEFORE PUMPING **27**
 WHEN PUMPING **85**
 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 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 } LAND SURFACE (nearest foot)
 below }



DRILLED County

7/3/95

7/3/95

HOWARD COUNTY HEALTH DEPARTMENT
Bureau of Environmental Health
3525-H Ellicott Mills Drive
Ellicott City, MD 21043
461-9933

well casing is
Missing Well Tag
May have been lost
when cracked casing replaced.
RJP 7/3/95

APPLICATION FOR PITLESS ADAPTER, WELL PUMP AND PRESSURE TANK INSTALLATION

New Installation Replacement
Name of Installer K.H. Plumbing Inc. Telephone 410-857-0255
License Number 8300
Certified Well Pump Installer Well Driller Registered Plumber
Name of Property Owner Barnard Construction Telephone 489-4621
Subdivision Lisbon Estates Lot # 7 Well Tag # 110-88-0900
Site Address 1636 Brittle branch Way

Pump
1. Type
a. Deep well jet
b. Shallow well jet
c. Submersible
2. Make _____
3. Model # _____
4. Capacity _____ GPM
5. Pump exceeds well capacity Yes _____ No
6. If Yes, is low pressure cutoff switch installed? Yes _____ No _____
7. What methods are used to protect the pump and electrical wiring from vibrations? Torque arrestors _____ Cable guards Other _____

Motor
1. Horsepower _____
2. RPM _____
3. Voltage _____
a. 110 _____
b. 220 _____

Pitless Adapter
1. Make _____
2. Model # _____
3. Depth _____

Tank
1. Capacity 48 gal.
2. Pressure relief valve? yes

Piping
1. Type 1/2" 160 psi
2. Size 1/2"
3. NSF and/or BOCA Code approved yes
4. Depth of supply line 285'

Well data
1. Depth 305 ft.
2. Yield 4 GPM
3. Static water level _____ ft.
4. Will water supply be disinfected by installer? no

Pitless adapter & water line OK @ 4 ft
No Tag on well casing. RJP 7/3/95
7/12/95 REPLACEMENT TAG DELIVERED TO DRILLER
MR

I understand that it is my responsibility to notify the Howard County Health Department when the installation is ready for inspection (otherwise this permit is null and void).

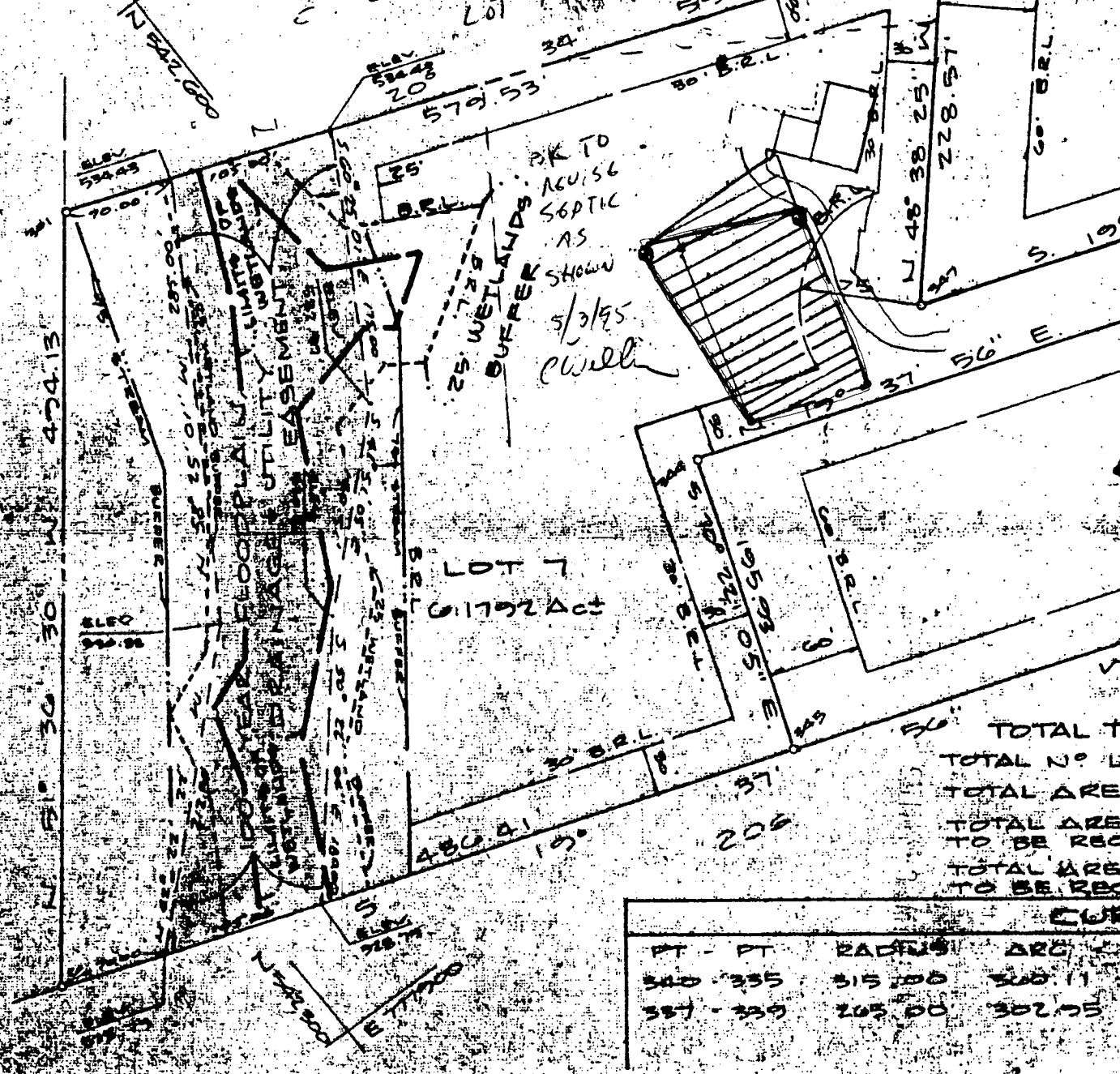
All information given above is true to the best of my knowledge
Signature of Applicant: [Signature]
Date: 6-10-95

Note: A sticker indicating approval/status of the installation will be placed on the well casing at the time of the inspection.

W117 BARN
 (411) 489-7621
 E 777.300
 N 922.000

SNOWFIFER
 LOT 7
 E 380.000 ESTABLS

SWITZER 255 F 126



PT - PT	RADIUS	ARC
340 - 335	315.00	300.11
337 - 339	205.00	302.75

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HONORED COUNTY HEALTH DEPARTMENT

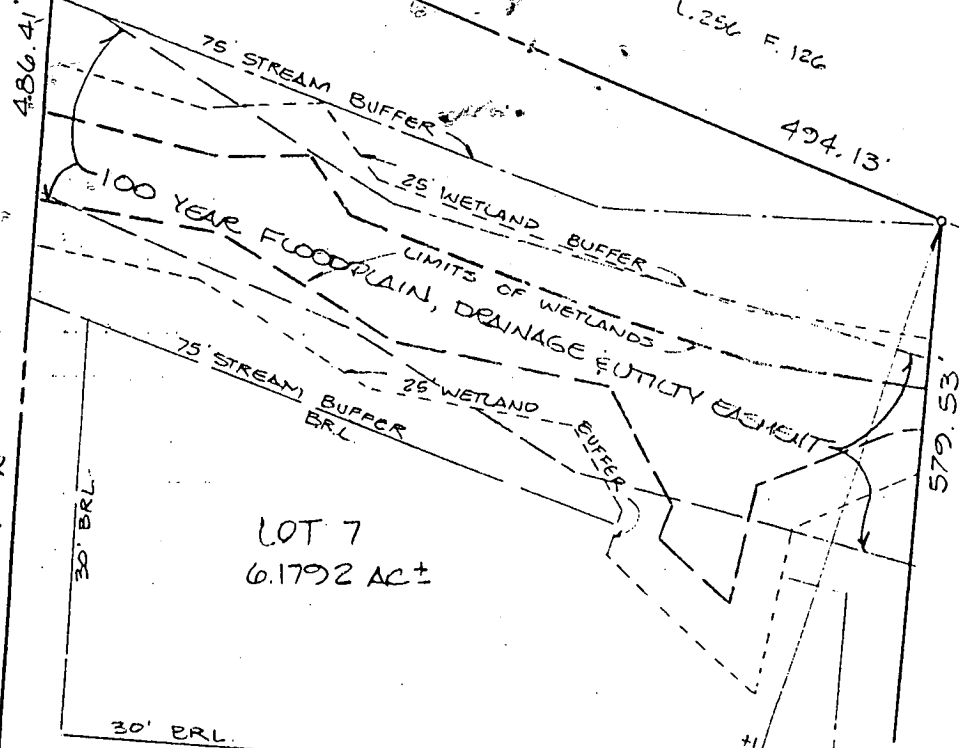
[Signature]

DEPARTMENT OF PLANNING

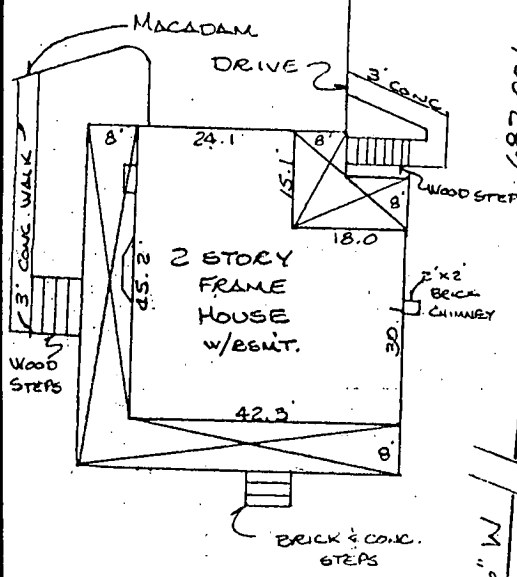
OWNERS

WE FRALL DEVELOPERS, INC. A MAJ
 PRESIDENT, HOLLY J. HARRISON, SEC
 AND DESCRIBED HEREON HEREBY ADOP
 TION OF THE APPROVAL OF THIS PLAT
 ESTABLISH THE MINIMUM BUILDING RE
 COUNTY, MARYLAND, ITS SUCCESSORS
 AND MAINTAIN SEWERS, DRAINAGE WATE
 SERVICES, IN AND UNDER ALL REAR
 EASEMENT AREAS SHOWN HEREBY (S
 USE THE BEDS OF THE STREETS AND
 OWNERS LOCUCABLE AND FOR THE
 GREAT THE RIGHT TO OPEN TOWNS
 THE BEDS OF THE STREETS AND FOR
 LONG AND OPEN SPACE
 OF THE STREETS AND FOR THE
 CONSTRUCTION, REPAIR AND MAINT
 AND RIGHTS OF THE
 THESE

NIF 206 JOINT VENTURE L. 1000 F. 539



LOT 7
6.1792 AC±



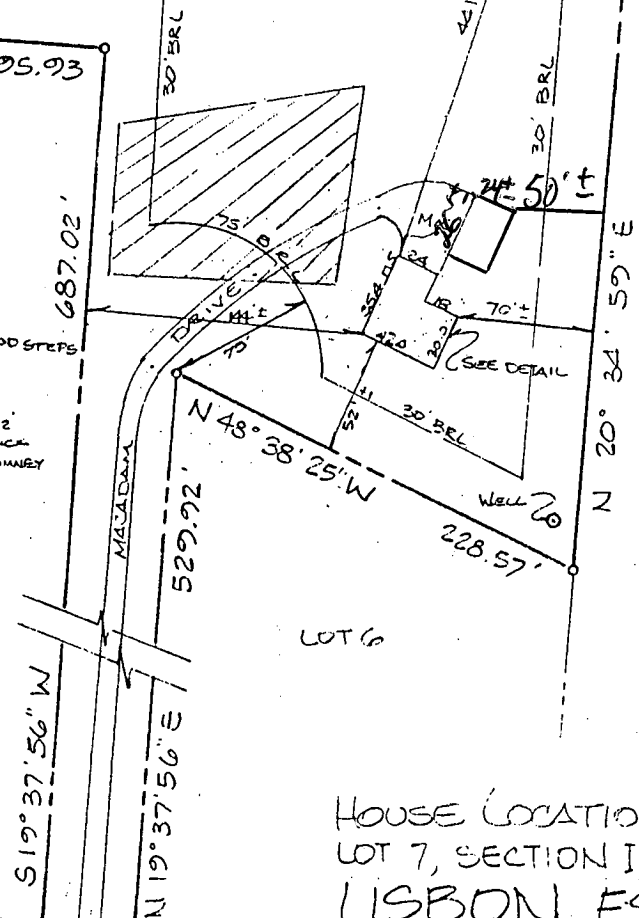
HOUSE DETAIL
SCALE: 1" = 30'

12-13-95 PROPOSED

SHEED, NO IMPACT TO WELL

OR SEPARATE SUBMITTAL

NIF
C. SNODGRASS
L. 275 F. 63



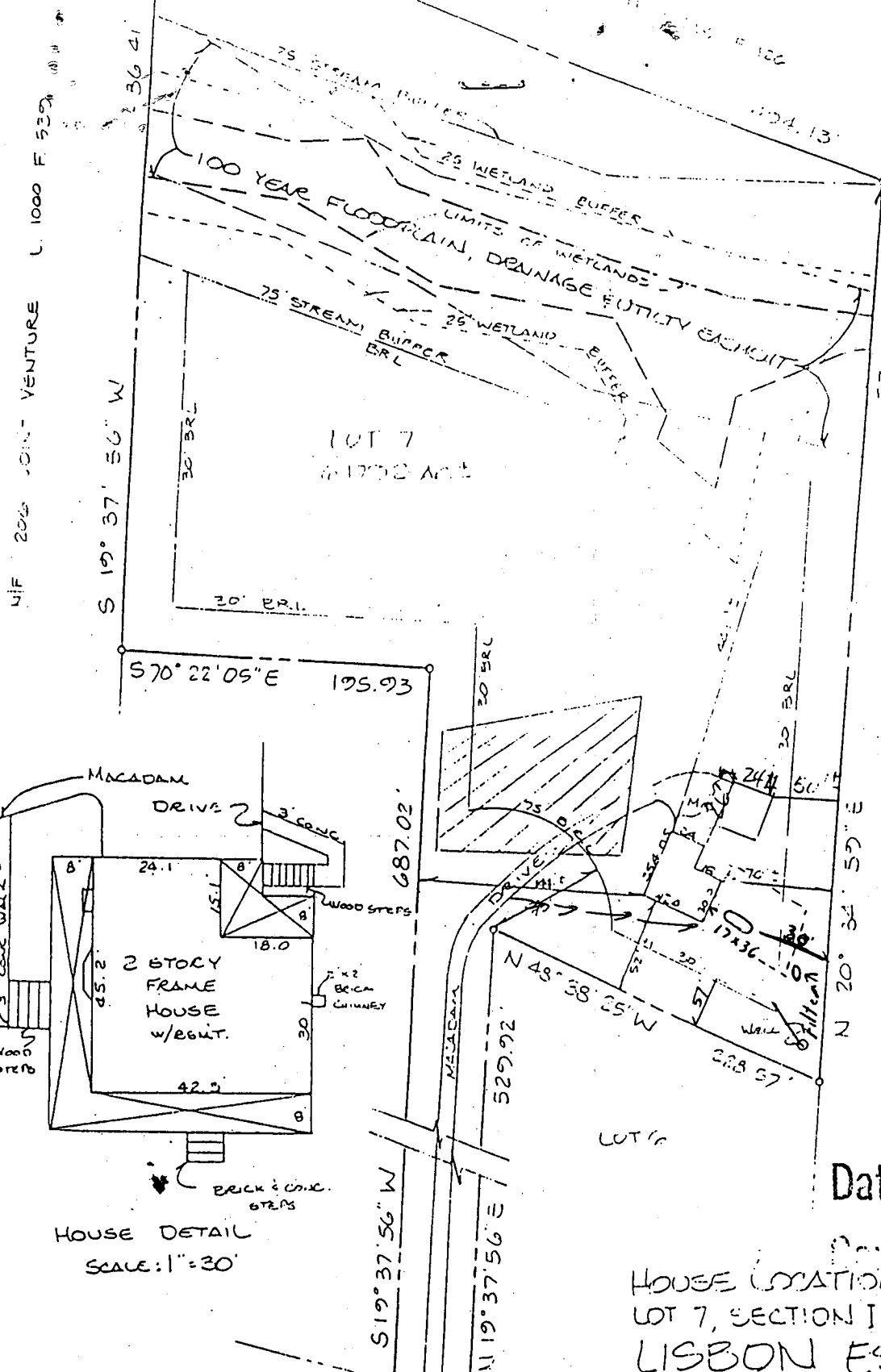
LOT 6

BRITTLE
S 58° 47' 42" E
BRANCH
(50' R/W) WAY

HOUSE LOCATION
LOT 7, SECTION I, SHEET 3 OF 3
LISBON ESTATES
1636 BRITTLE BRANCH WAY
FOURTH ELECTION DISTRICT
HOWARD COUNTY MARYLAND
SCALE: 1" = 100'
AUG. 1995

Note: Property is not located within a flood hazard area according to national flood insurance program, flood insurance rate map, community panel number: 240044 0007 B unless shown otherwise.
Note: This plat is of benefit to a consumer only insofar as it is required by a lender or a title insurance company or its agent in connection with contemplated transfer, financing or refinancing and is not to be relied upon for the establishment or location of fences.





HOUSE DETAIL
SCALE: 1" = 30'

3/17/97
revised pool
location OK as
shown.
(DKS)

000103926

REVISED

Date: 3-12-97

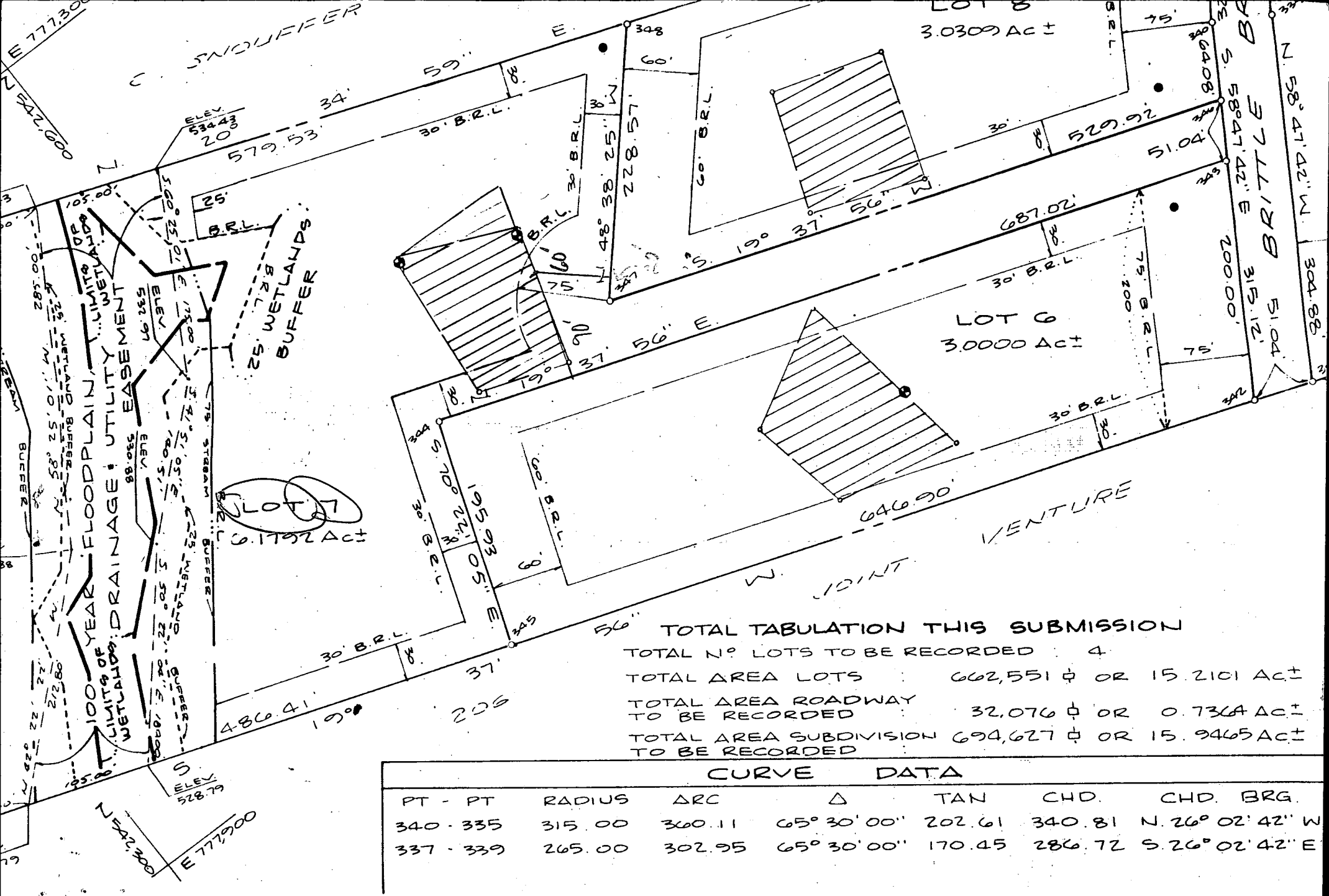
Comments: relocate pool

HOUSE LOCATION
LOT 7, SECTION I, SHEET 30 OF 3
LISBON ESTATES
10360 BEITCE BENCH WAY
FOURTH ELECTION DISTRICT
HOWARD COUNTY MARYLAND
SCALE: 1" = 100' AUG 1995



Note: Property is not located within a flood hazard area according to national flood insurance program, flood insurance rate map, community panel number: 240044 0007 B unless shown otherwise.
Note: This plat is of benefit to a consumer only insofar as it is required by a lender or a title insurance company or its agent in connection with contemplated transfer, financing or refinancing and is not to be used for the establishment or location of fences.

1997 MAR 13 PM 1:08



TOTAL TABULATION THIS SUBMISSION

TOTAL N° LOTS TO BE RECORDED : 4

TOTAL AREA LOTS : 662,551 ± OR 15.2101 Act

TOTAL AREA ROADWAY TO BE RECORDED : 32,076 ± OR 0.7364 Act

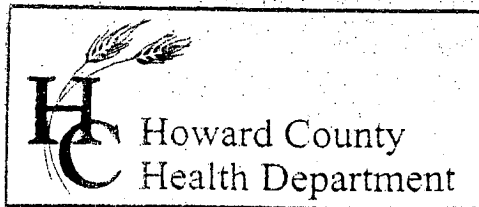
TOTAL AREA SUBDIVISION TO BE RECORDED : 694,627 ± OR 15.9465 Act

CURVE DATA							
PT - PT	RADIUS	ARC	Δ	TAN	CHD.	CHD. BRG.	
340 - 335	315.00	360.11	65° 30' 00"	202.61	340.81	N. 26° 02' 42" W	
337 - 339	265.00	302.95	65° 30' 00"	170.45	286.72	S. 26° 02' 42" E	

OWNERS DEDICATION

WE, FRALL DEVELOPERS, INC., A MARYLAND CORPORATION BY JAMES M. FREY, PRESIDENT, HOLLY J. HARRISON, SECRETARY OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON HEREBY ADOPT THIS PLAN OF SUBDIVISION, AND IN CONSIDERATION OF THE APPROVAL OF THIS PLAT BY THE DEPARTMENT OF PLANNING AND ZONING,

FOR PRIVATE WATER
PRIVATE SEWERAGE
HOWARD COUNTY



3525 H Ellicott Mills Drive, Ellicott City, MD 21043
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
website: www.hchealth.org

Penny E. Borenstein, M.D., M.P.H., Health Officer
July 2, 2003

Tim Feaga
Heritage Land Development
3060 Washington Road, Suite 220
Glenwood, MD 21738

RE: Percolation Test Results – A518631
Lisbon Estates, Lot 7, 1636 Brittle Branch Way
Two-lot Subdivision

Dear Mr. Feaga:

Percolation testing conducted June 17, 2003 on the referenced property indicated insufficient satisfactory soil conditions due to the primary limiting factors of fractured rock and shallow groundwater. Dense clay layers appear to preclude sand mound options. Copies of the test results are enclosed.

Further review is contingent upon submission by a registered engineer/surveyor of a percolation certification plan showing the following:

- 1) actual locations of all excavated test holes with field-verified topography;
- 2) any additional proposed test holes with proposed sewage reserve area(s)
- 2) the proposed house and well
- 3) a note must be included certifying that all existing wells and septic systems within 100 feet of property boundaries have been shown.

Based on observations from June 17, the only apparent option to establish adequate sewage reserve area to support subdivision of the referenced lot is testing of land at the rear portion of adjacent Lot 6 (to the rear of the swale). Since Lot 6 would become part of a subdivision, a confirmation test hole would also be required in the vicinity of the existing platted easement on Lot 6 (additional \$25 test fee required).

If you have any questions regarding this matter, please contact me at the above address or by calling (410) 313-1771.

Very truly yours,

Mark E. Rifkin, R.S.
Water and Sewerage Program

MR

Enclosures

cc: William and Jane Applegate
File

APPLICATION

PERCOLATION TESTING

A 518631

P. _____

HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH

3525-H ELLICOTT MILLS DRIVE/ELLICOTT CITY, MARYLAND 21043
TELEPHONE: 410-313-2640

DISTRICT _____

DATE 4/22/2003

TO: THE COUNTY HEALTH OFFICER
ELLICOTT CITY, MARYLAND

I HEREBY APPLY FOR THE NECESSARY TEST PRIOR TO APPLICATION FOR PERMIT TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM.

PROPERTY OWNER William and Jane Applegate

ADDRESS 1636 Brittle Branch Way, Woodbine, MD 21797 PHONE 301-854-6065

AGENT OR PROSPECTIVE BUYER Heritage Land Development

ADDRESS 3060 Washington Rd., Suite 220, Glenwood, MD 21738 PHONE 410-489-7900

PROPERTY LOCATION:

SUBDIVISION Lisbon Estates LOT NO. 7

ROAD AND DESCRIPTION _____

Brittle Branch Way

TAX MAP NO. 7 PARCEL # 2

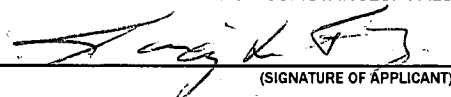
SIZE OF LOT 5 ac

TYPE OF BLDG. New Single Family Dwelling
(SINGLE FAMILY DWELLING OR COMMERCIAL)

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 _____

DISAPPROVED BY _____ FOR _____ DATE _____

HOLD PENDING FURTHER TESTS _____

REASONS FOR REJECTION OR HOLDING _____

PERCOLATION TEST PLAT/PRELIMINARY PLAT - TITLE OR I.D. # _____ DATE _____

SITE DEVELOPMENT PLAN/FINAL PLAT - TITLE OR I.D. # _____ DATE _____

THIS IS NOT A PERMIT

6/17/03
9:00

COUNTY #

SOIL PROFILE

5
0'

orge
brn
cl lm

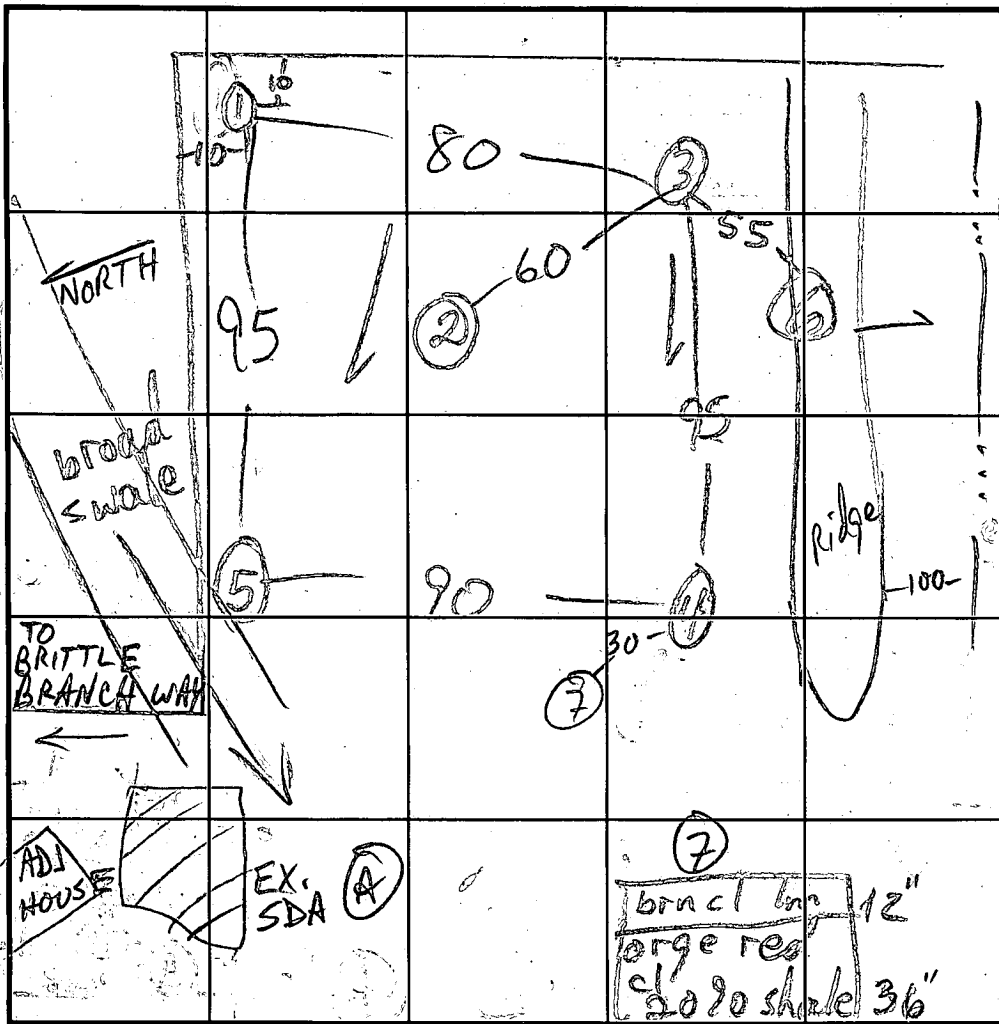
5
brn silm

20-25% frags

8
25-30% shale

11 1/2
30-40% shale

13
H₂O



SOIL PROFILE

3
0'

brn orge
cl lm

5
red brn
sa lm

8
30-40% shale

11 1/2
40-60% shale

12
yet
brn sa lm
40-50% shale

INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE.

3 1/2
4 1/2
0
11
14

orge brn
cl lm

tan yel
brn
sil lm

15-25% frags

40-50% shale

4

orge brn
cl lm
+ hvy lm

pink brn
yel
sil lm

10-20% frags

11
14

25% shale

SOUTH ⑥ NORTH

brn orge cl lm
and hvy lm

brn yel pink
sil lm

40-60% shale

30-60% shale

5±

11 1/2
12

DATE	TEST NO.	DEPTH	PRE-WET		TEST - 1" DROP		TIME
			START	STOP	START	STOP	
6/17/03	4 S M	3 1/2 5' 9" / 14	9:49 10:30:20	9:59 10:34	9:59 10:34	10:16 10:40	17 6
	5" S	3 1/2 4' 10"	9:45 10:21	9:53 10:29	< 1/8" 10:29	10:41	12
	5" M	7' 10"	10:51:00 10:55:10	10:52:00 10:56:40	10:52 10:56:40	10:53:50 10:59:00	150 230
	1 S	3' 3" / 5	9:57 11:07	10:09 11:11	10:09 11:11	10:49 11:18	40 7
	2 V	14 1/2 5-6' cl lm	sim to ①		w/o lower Rock		
TESTED AT NORTH SIDE	3 S M	4' 9" / 8 1/2 / 11 1/2 - 12	11:24 11:59:50	11:27 12:01:00	11:27 12:01	11:33 12:03	6 2
	3 V	8 1/2 11 1/2 - 12	12:04:00	12:06:15	12:06	12:09	3
	6 V	11 1/2 - 12	NO TEST				F
	7 V	3	SAND MOUND EVAL: CL TOO DENSE				⑥
	A V		H ₂ O @ 4 1/2				

REMARKS HOLE ⑤, SOUTH P/O HOLE ③ NOT OK; NO SOLUTION APPARENT

TYPE OF SOIL _____
 TESTED BY M. Ripkin ALSO PRESENT Owner, Tim Justin
 TRENCH DESIGN DATA: AVG. PERCOLATION TIME _____ TRENCH WIDTH _____
 INLET DEPTH _____ MAXIMUM BOTTOM DEPTH _____ SQ. FT./BEDROOM _____

APPLICATION

PERCOLATION TESTING

A 518631

P _____

HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
3525-H ELLICOTT MILLS DRIVE/ELLICOTT CITY, MARYLAND 21043
TELEPHONE: 410-313-2640

DISTRICT _____

DATE 4/22/2003

TO: THE COUNTY HEALTH OFFICER
ELLICOTT CITY, MARYLAND

I HEREBY APPLY FOR THE NECESSARY TEST PRIOR TO APPLICATION FOR PERMIT TO CONSTRUCT (OR RECONSTRUCT) A SEWAGE DISPOSAL SYSTEM.

PROPERTY OWNER William and Jane Applegate

ADDRESS 1636 Brittle Branch Way, Woodbine, MD 21797 PHONE 301-854-6065

AGENT OR PROSPECTIVE BUYER Heritage Land Development

ADDRESS 3060 Washington Rd., Suite 220, Glenwood, MD 21738 PHONE 410-489-7900

PROPERTY LOCATION:

SUBDIVISION Lisbon Estates LOT NO. 7

ROAD AND DESCRIPTION _____

Brittle Branch Way

TAX MAP NO. 7 PARCEL # 2

SIZE OF LOT 1 ac TYPE OF BLDG. Existing Dwelling

(SINGLE FAMILY DWELLING OR COMMERCIAL)

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 _____

DISAPPROVED BY _____ FOR _____ DATE _____

HOLD PENDING FURTHER TESTS _____

REASONS FOR REJECTION OR HOLDING _____

PERCOLATION TEST PLAT/PRELIMINARY PLAT - TITLE OR I.D. # _____ DATE _____

SITE DEVELOPMENT PLAN/FINAL PLAT - TITLE OR I.D. # _____ DATE _____

THIS IS NOT A PERMIT

COUNTY #

SOIL PROFILE

0' **B**

brn orge
hvy lm
25%
frags

6' brn red
lm
15-20%
shale

11' 9"

SOIL PROFILE

0'

INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE.

DATE	TEST NO.	DEPTH	PRE-WET		TEST - 1" DROP		TIME
			START	STOP	START	STOP	
6/17/03	Bv	11' 9"					OK

REMARKS EX. ESMT VERIFIED OK

TYPE OF SOIL

TESTED BY M. Ripkin

ALSO PRESENT Owner, Tim, Justin

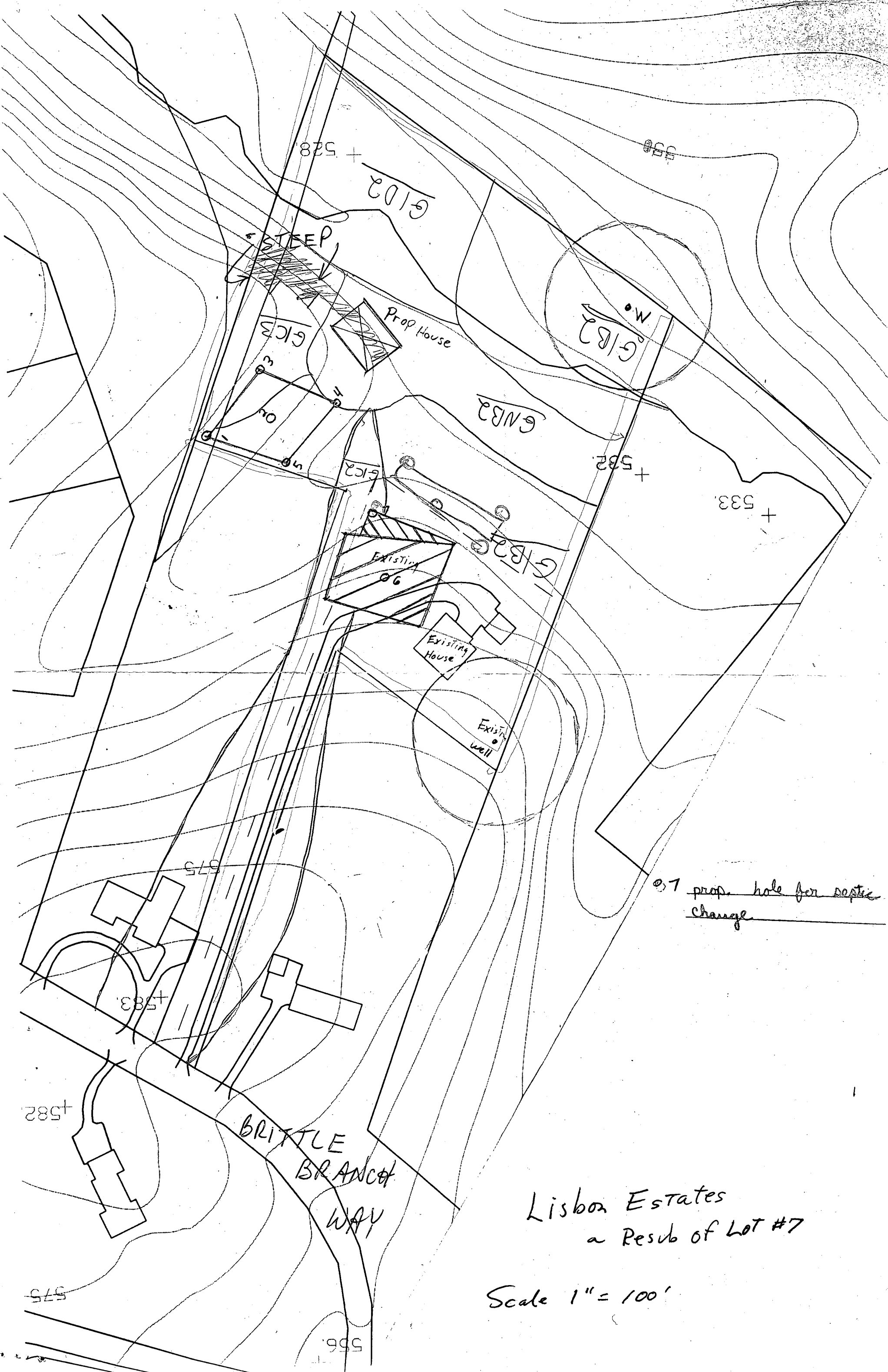
TRENCH DESIGN DATA: AVG. PERCOLATION TIME

TRENCH WIDTH

INLET DEPTH

MAXIMUM BOTTOM DEPTH

SQ. FT./BEDROOM



7 prop. hole for septic change

Lisbon Estates
a Resub of Lot #7

Scale 1" = 100'

BRITTLE

ADJ. SUBD.

GIC2

HOUSE

HOUSE

HOUSE

HOUSE

HOUSE

HOUSE

HOUSE

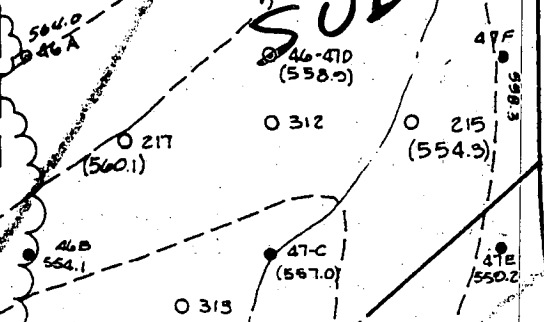
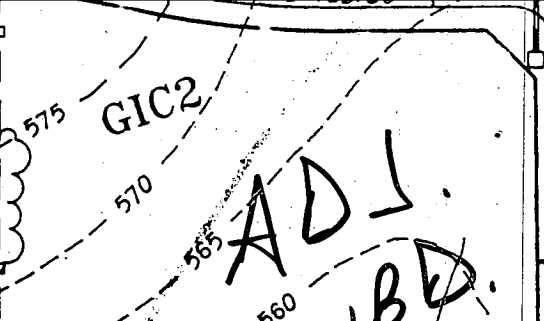
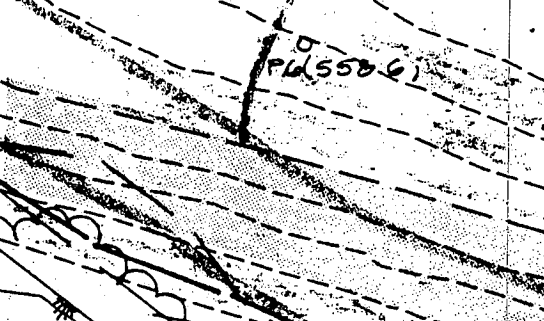
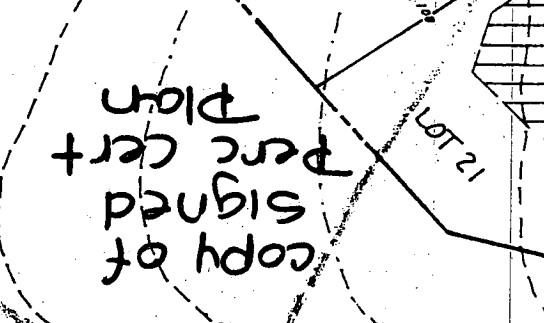
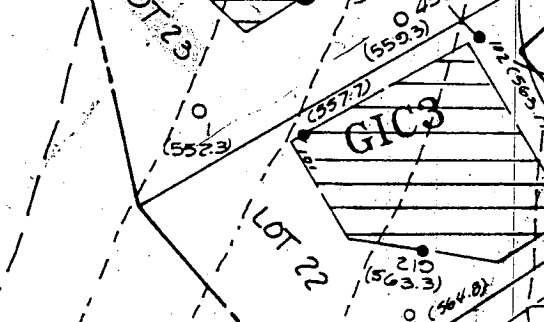
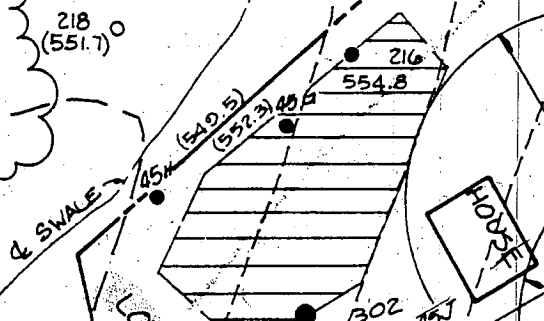
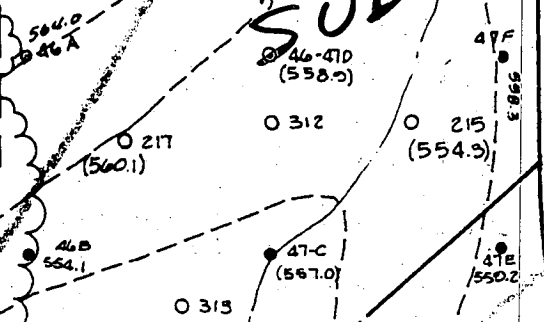
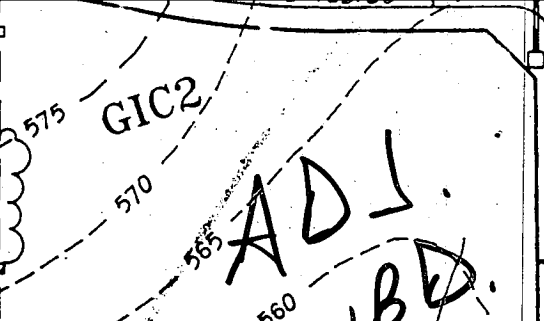
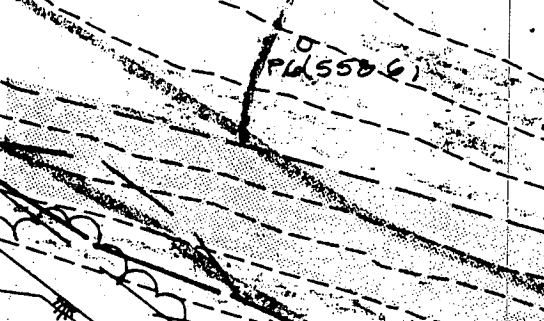
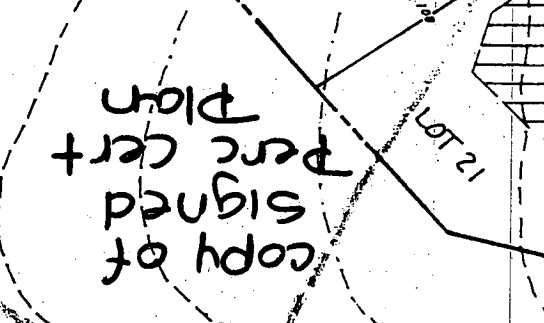
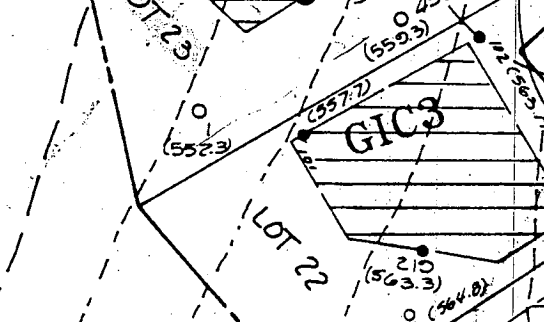
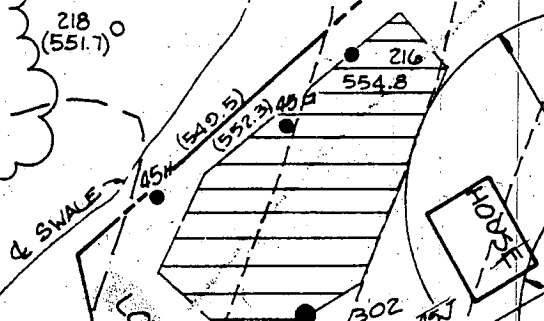
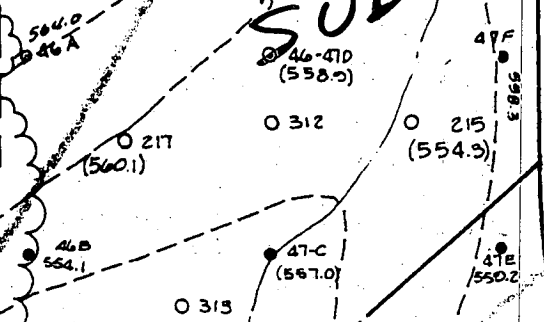
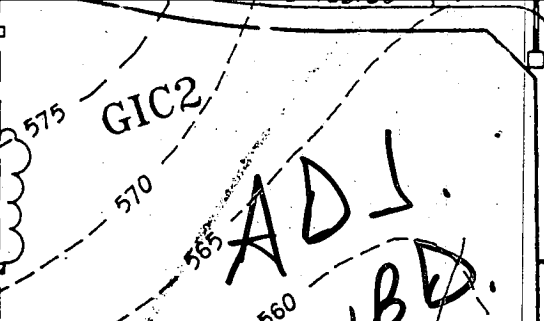
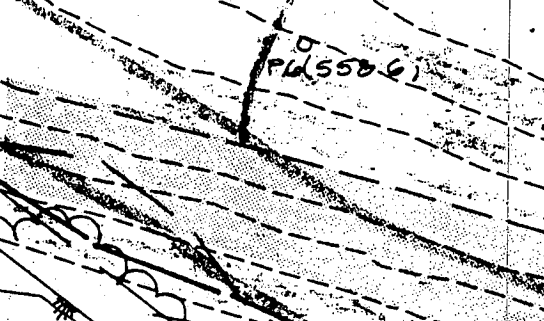
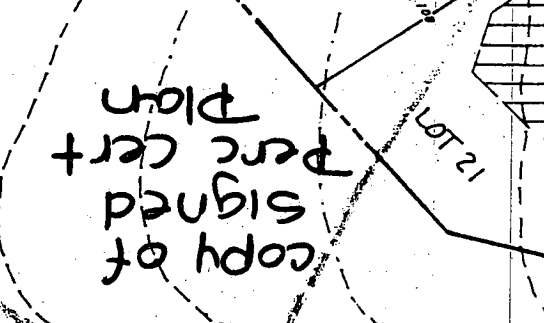
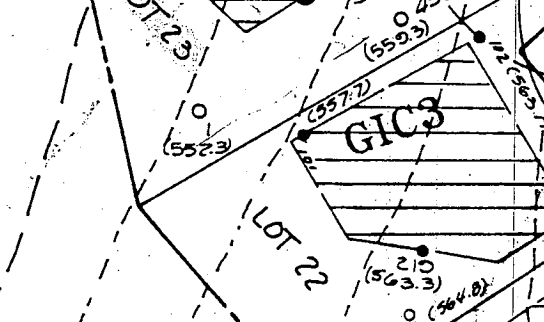
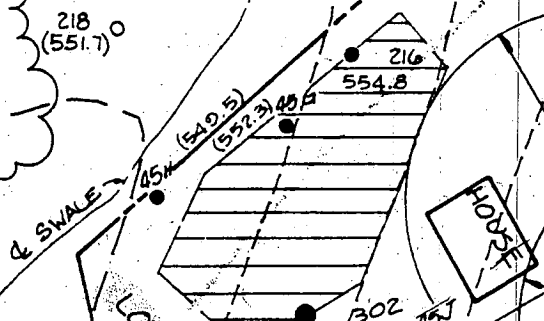
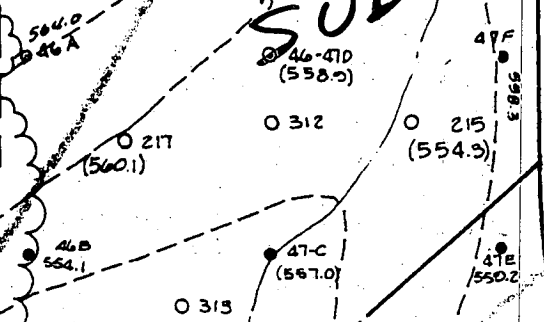
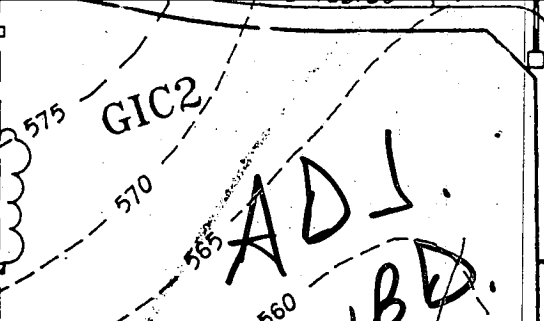
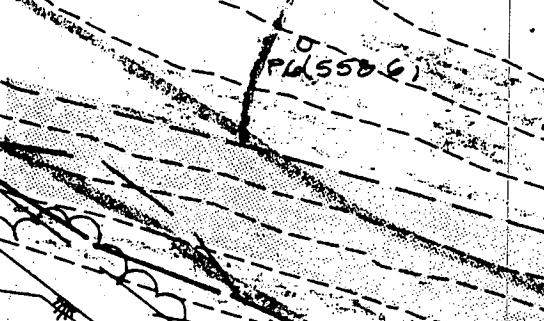
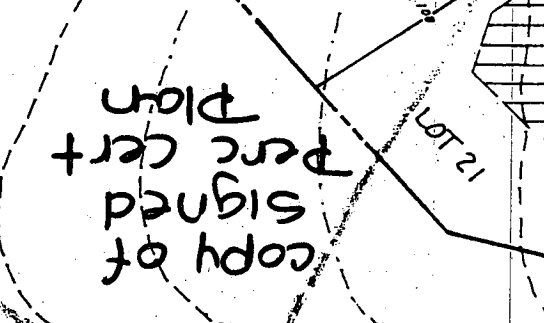
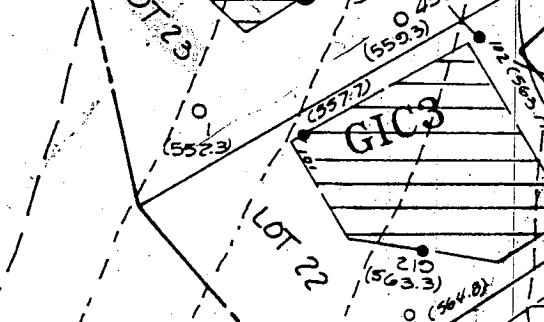
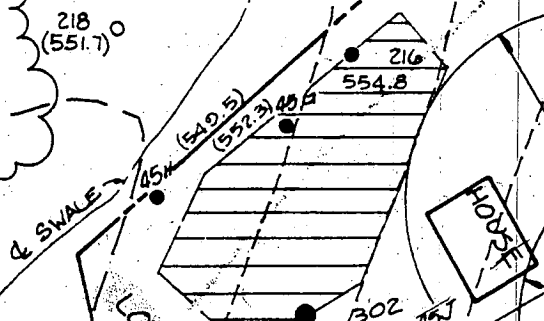
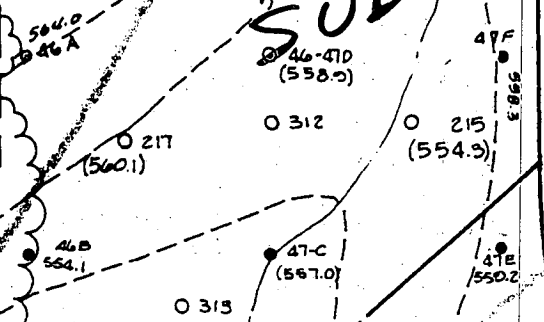
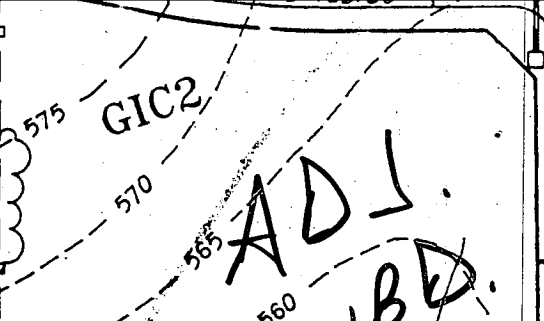
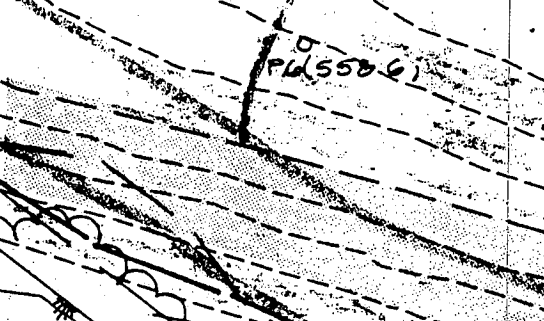
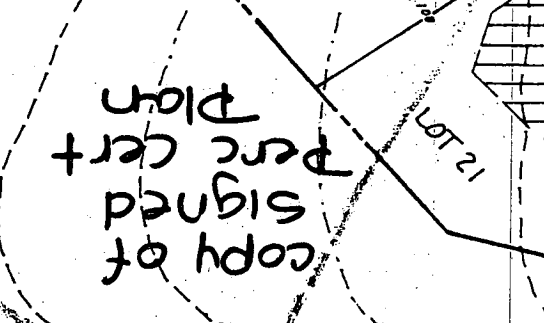
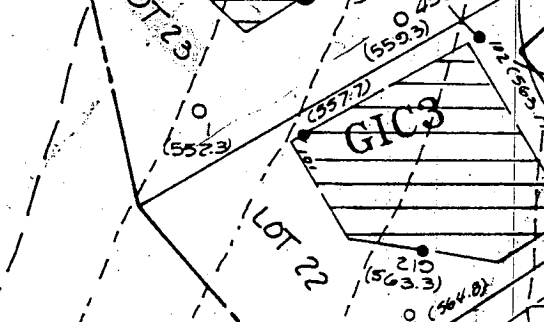
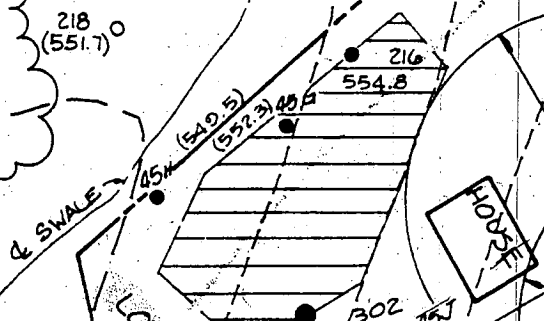
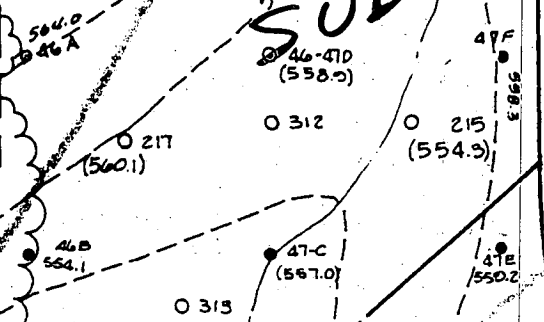
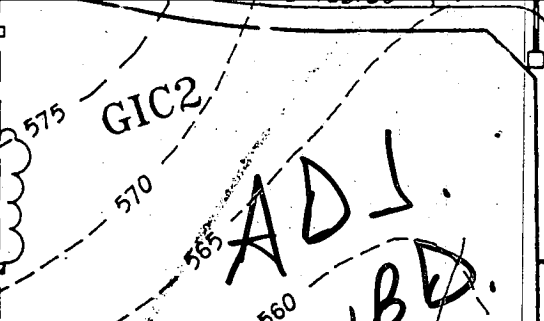
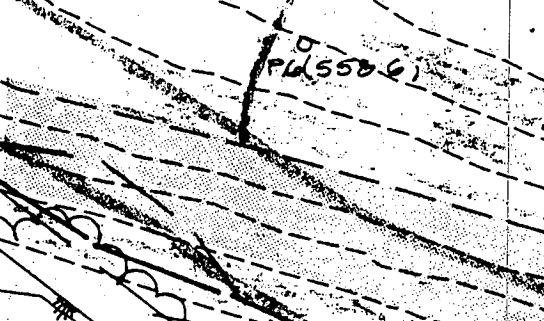
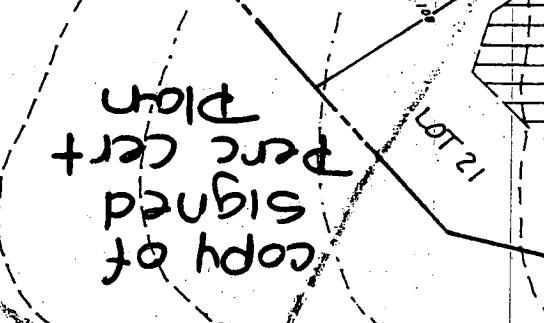
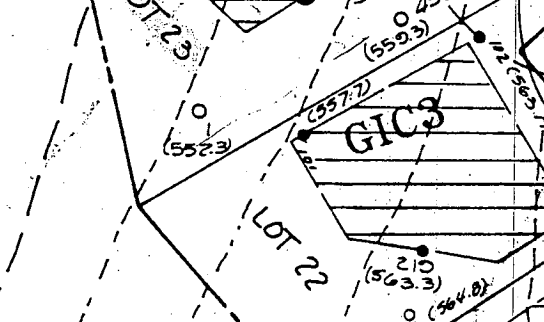
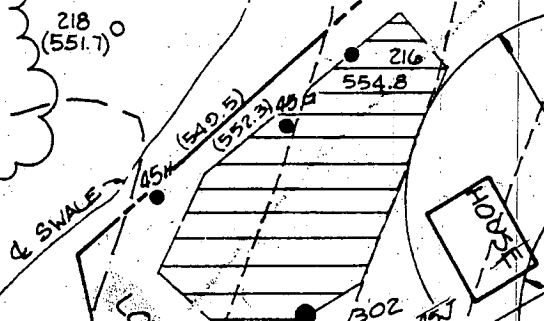
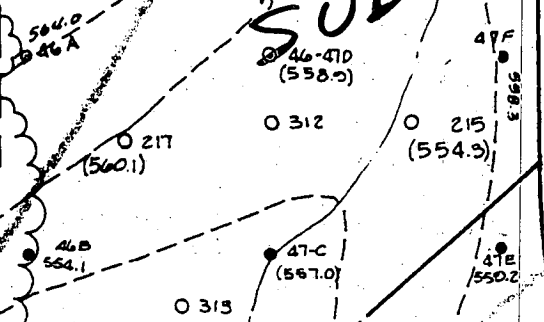
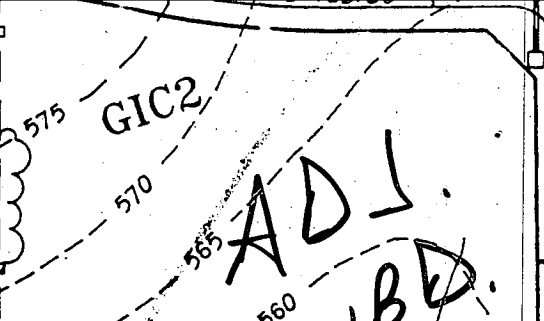
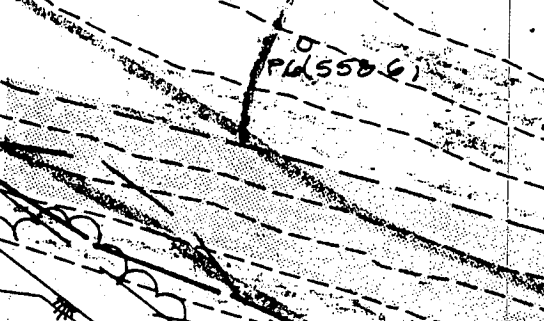
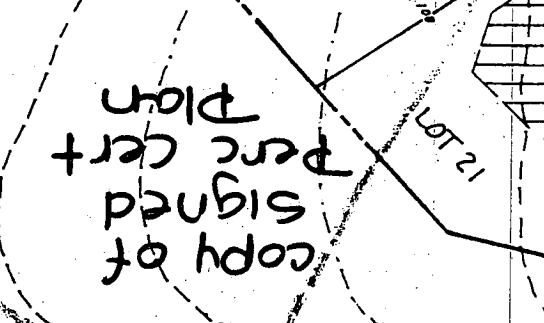
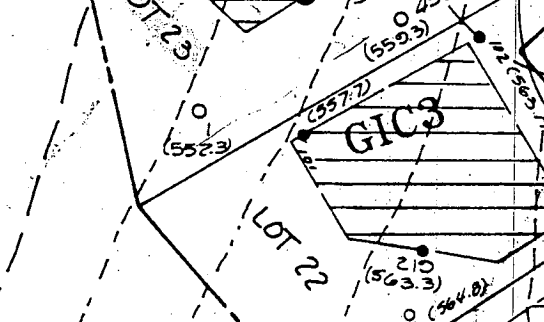
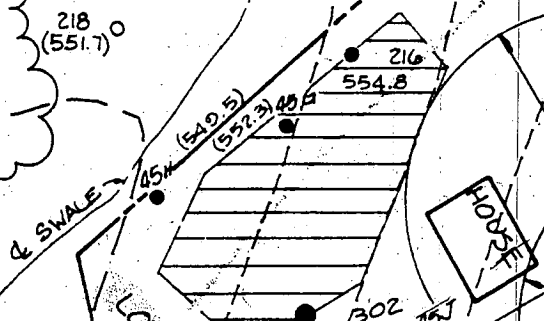
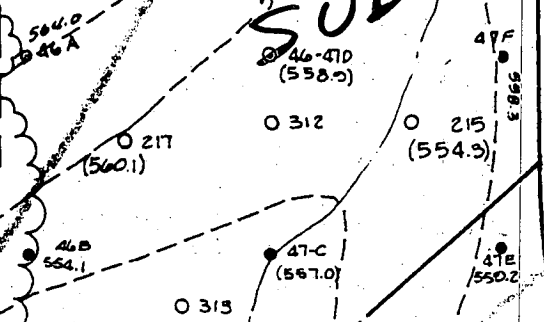
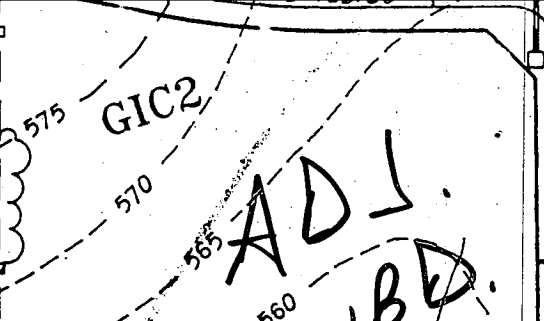
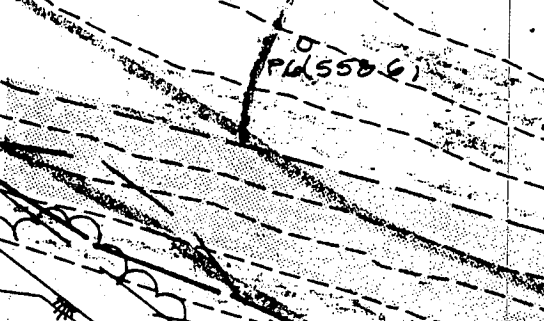
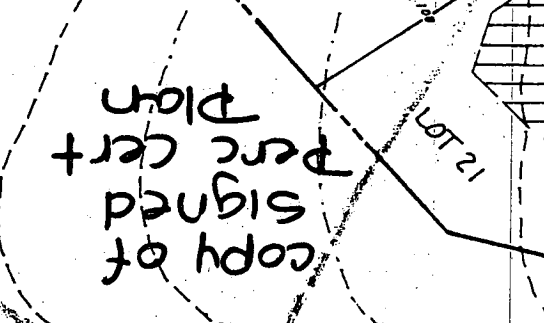
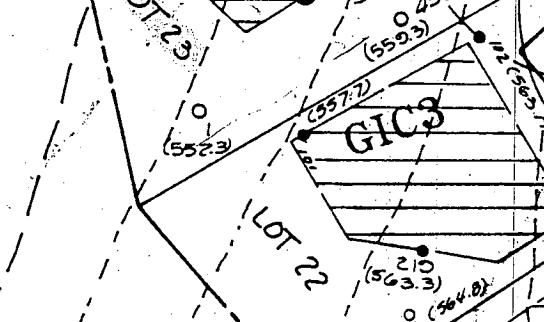
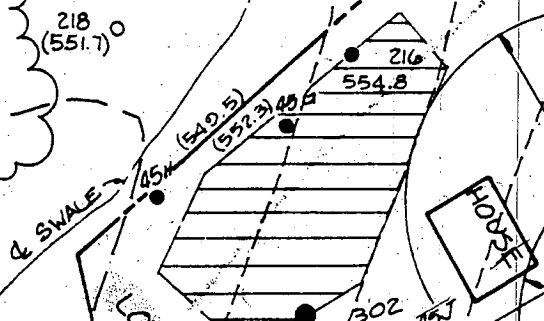
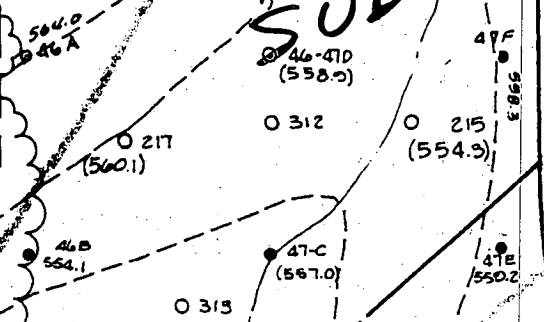
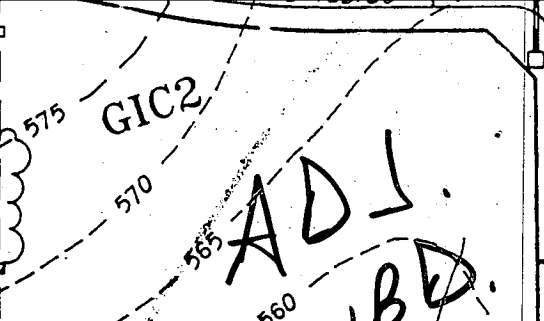
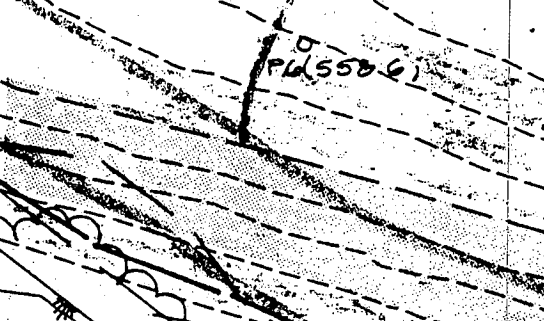
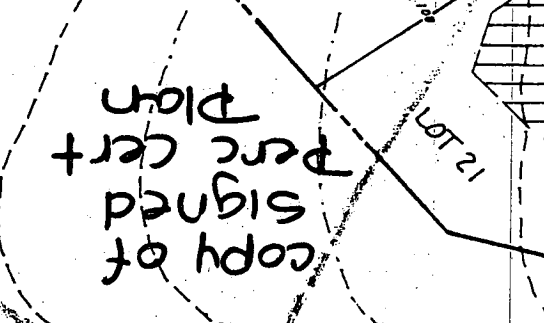
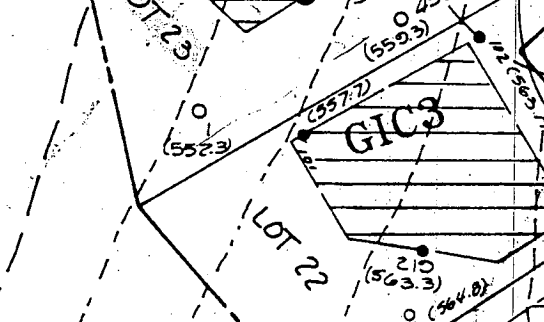
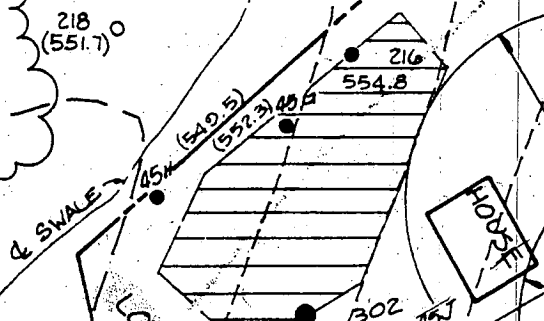
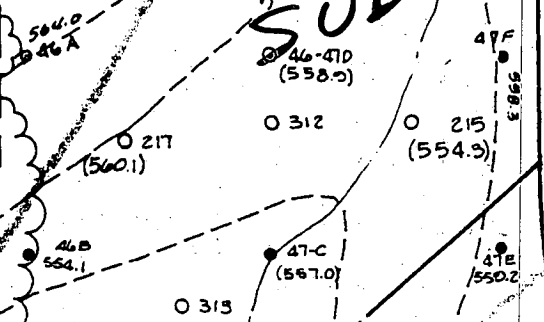
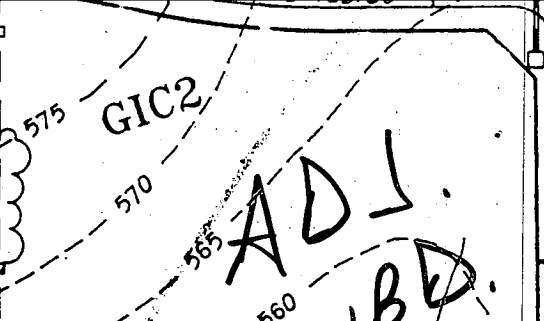
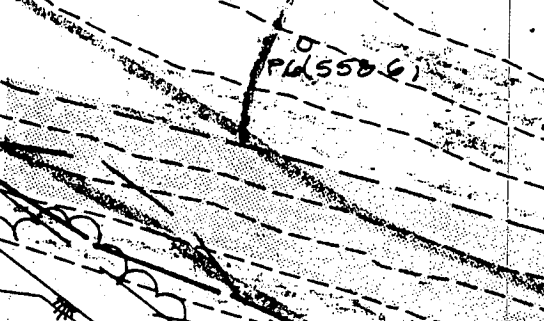
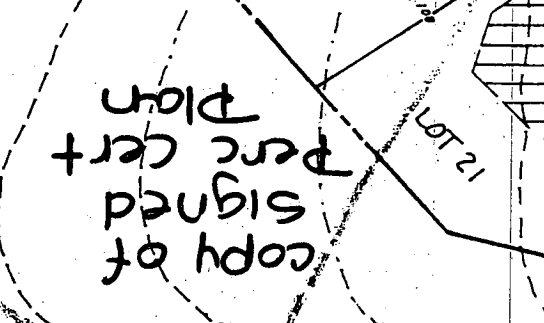
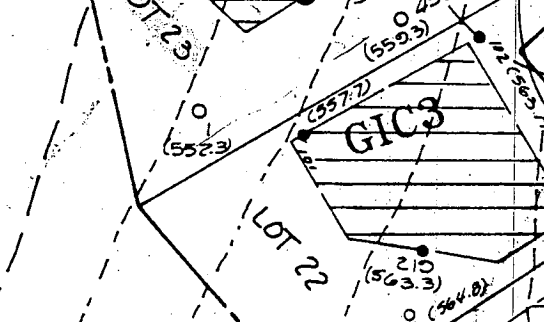
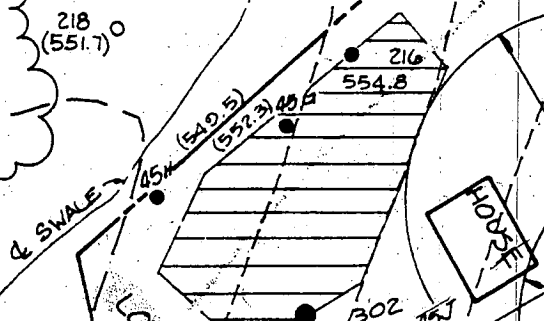
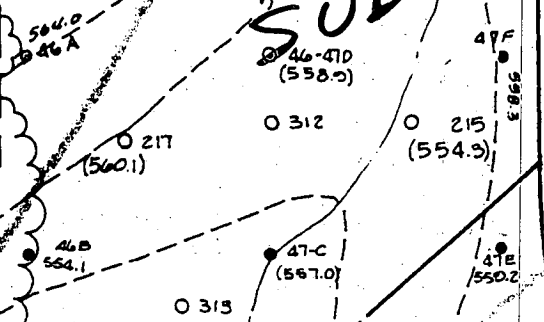
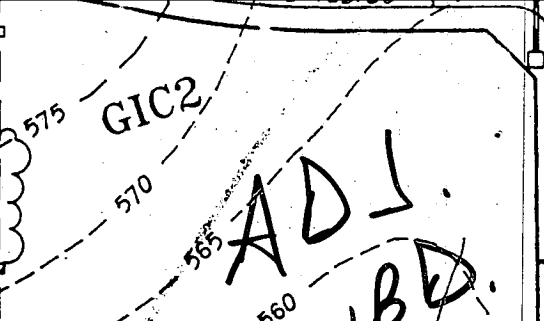
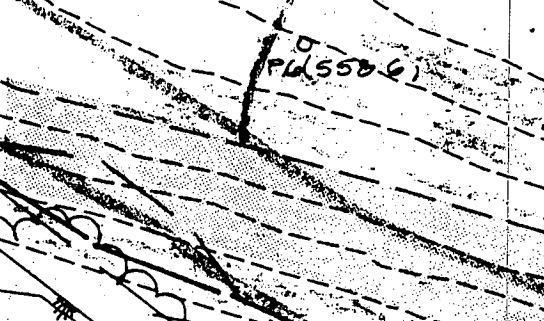
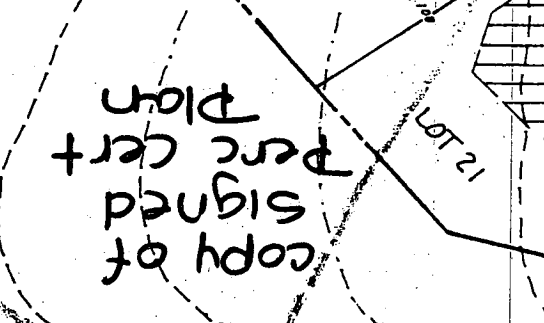
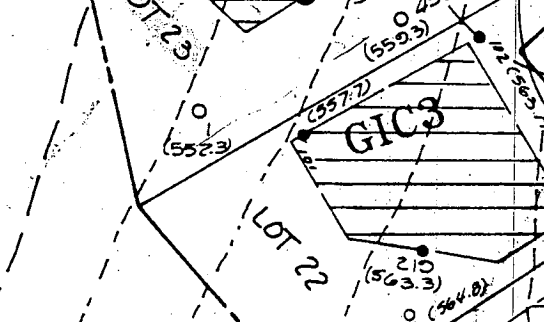
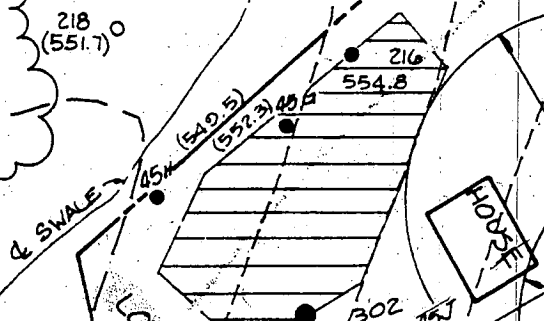
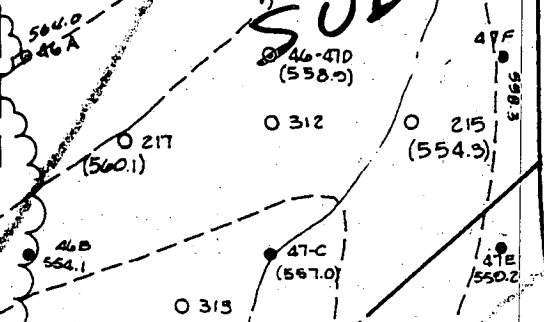
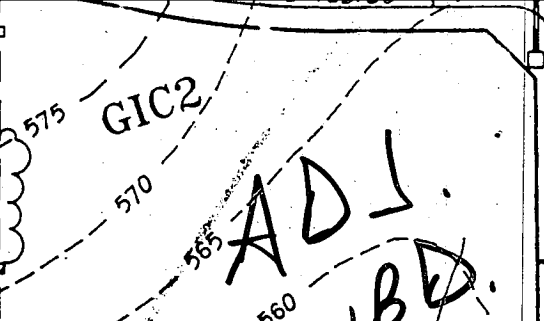
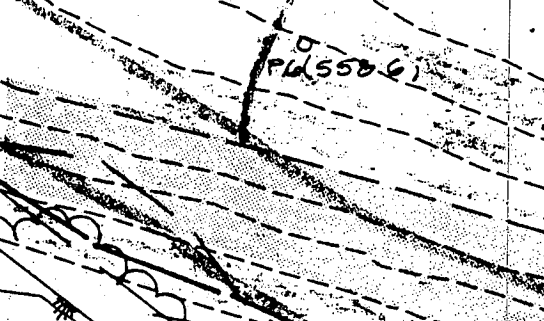
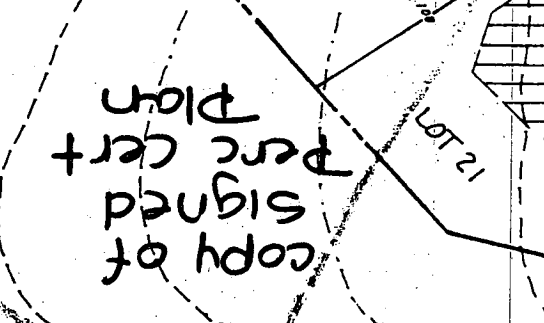
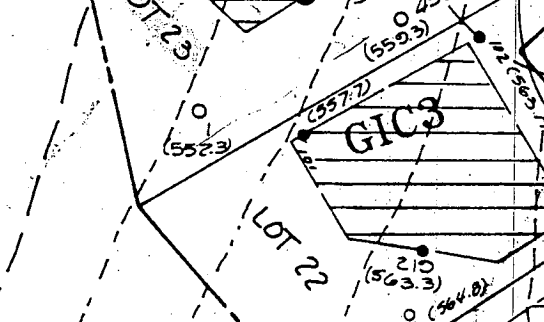
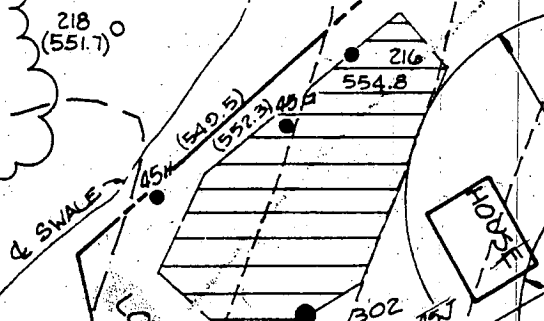
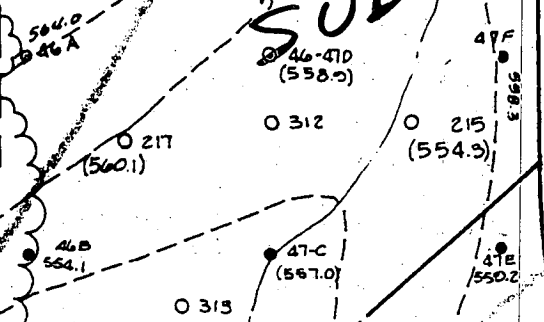
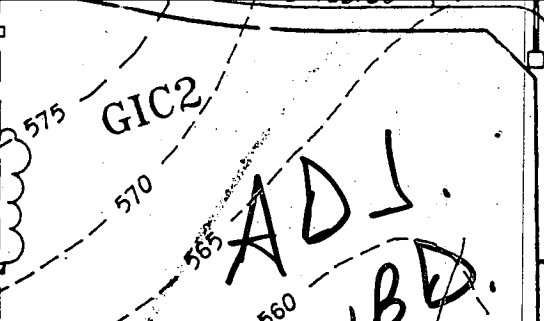
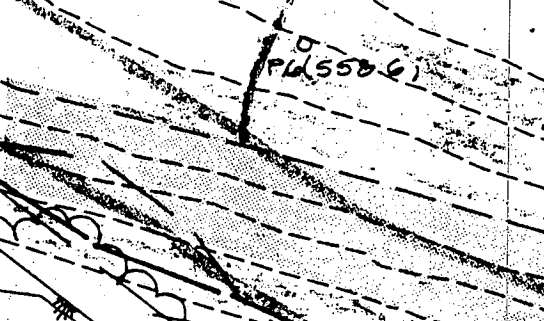
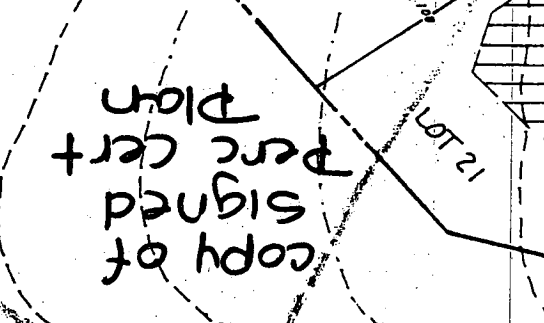
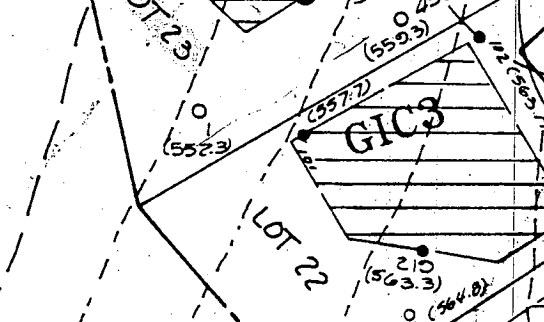
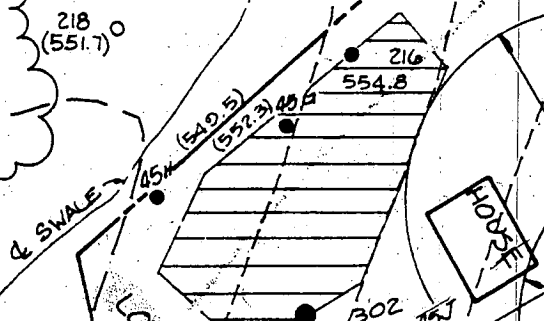
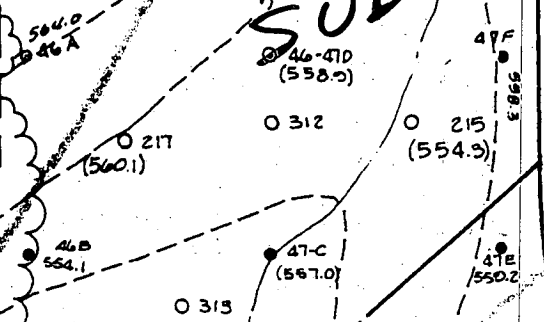
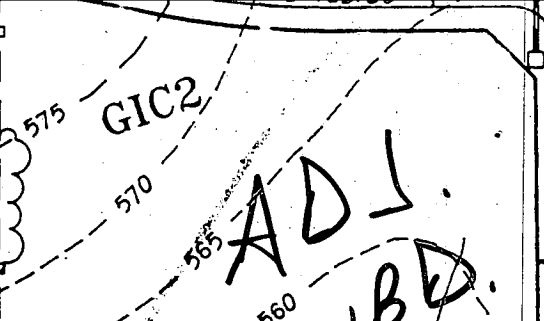
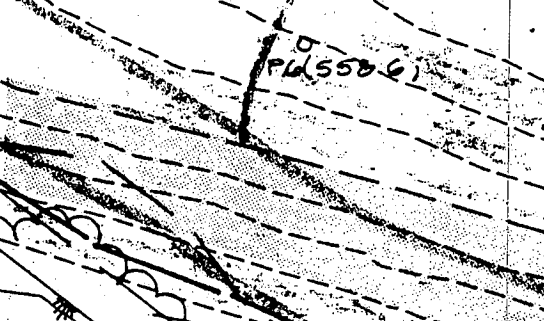
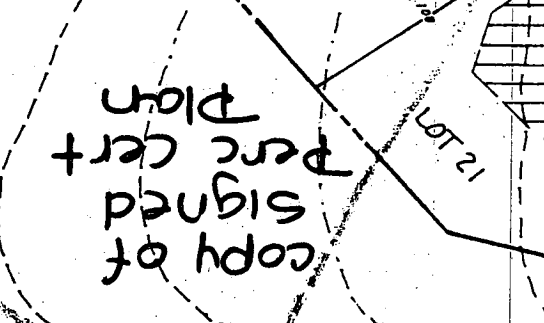
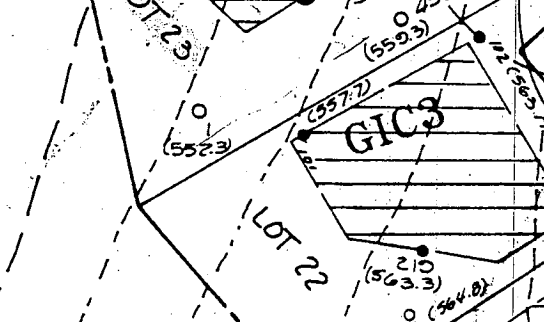
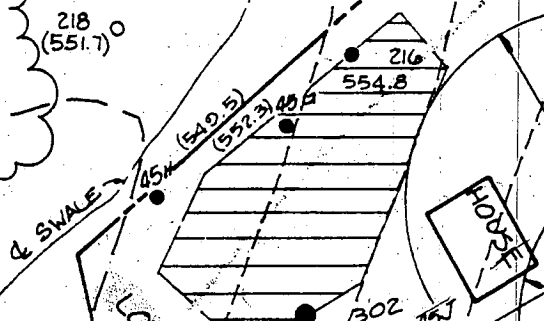
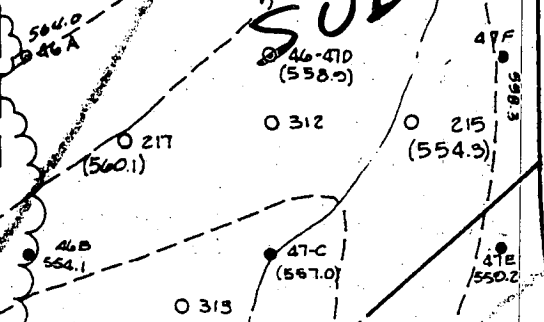
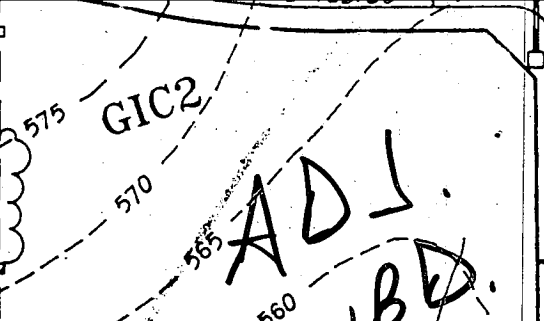
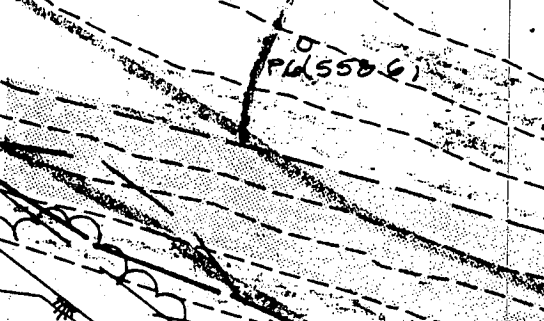
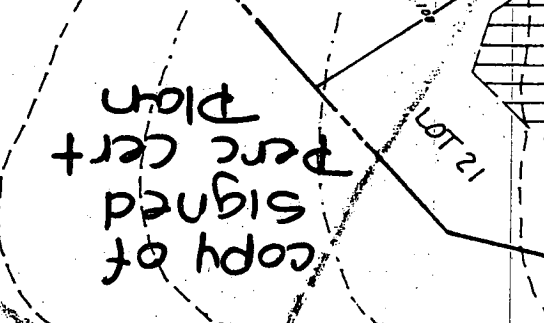
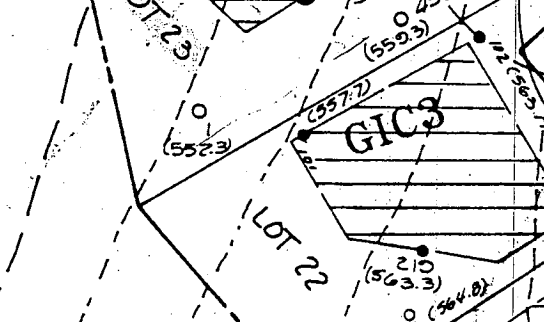
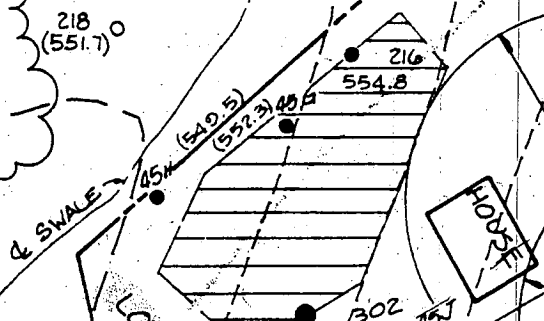
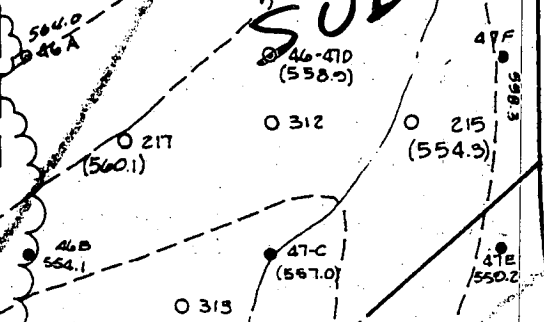
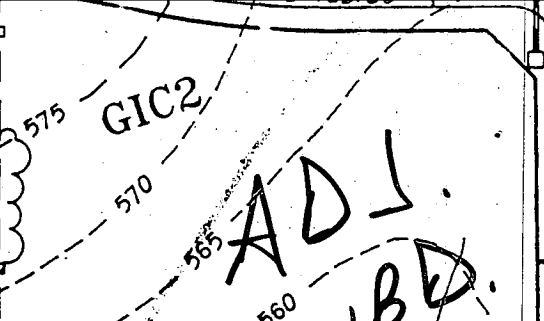
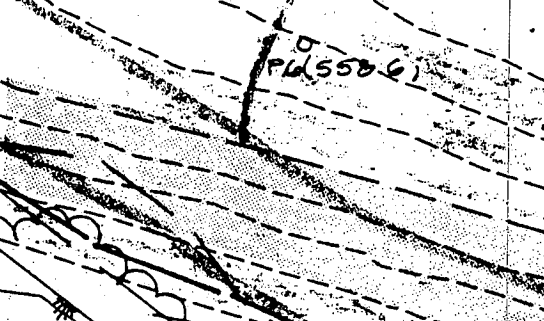
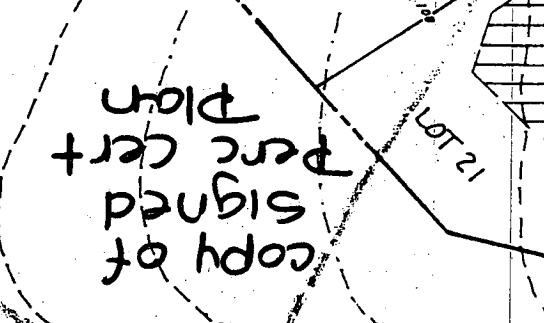
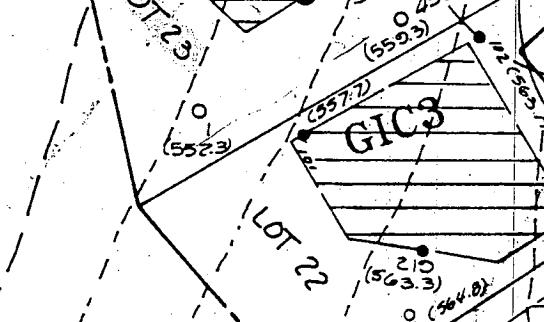
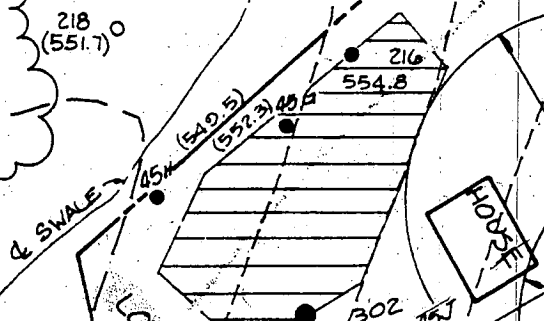
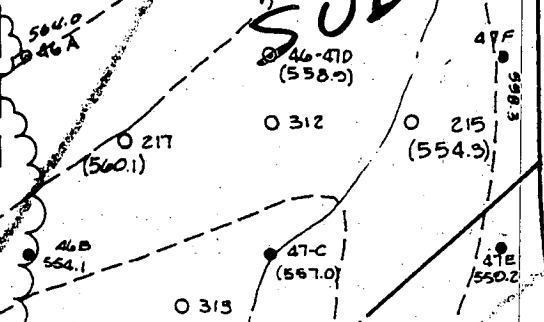
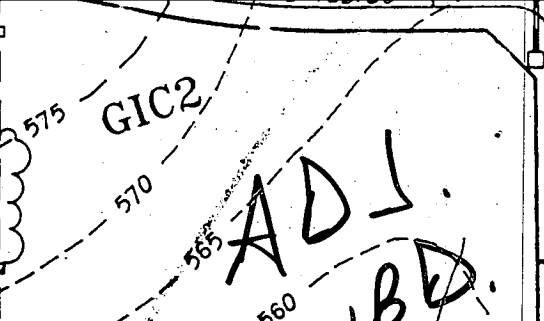
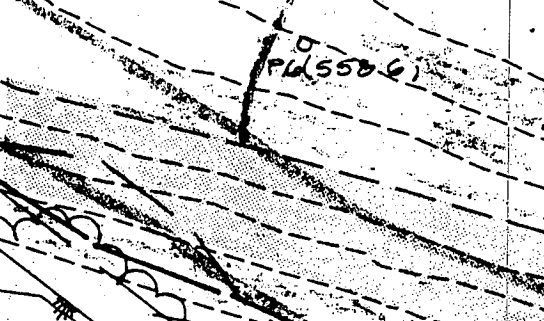
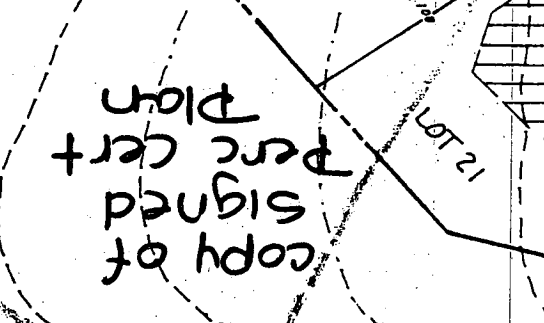
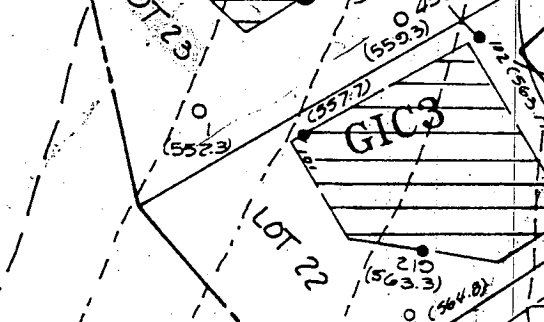
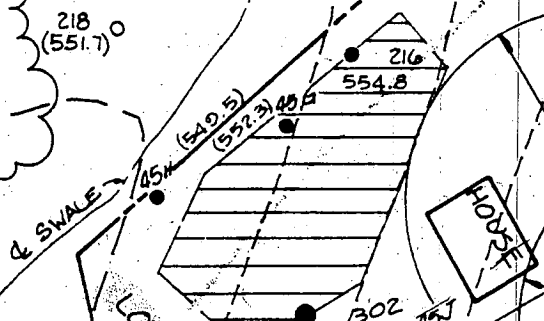
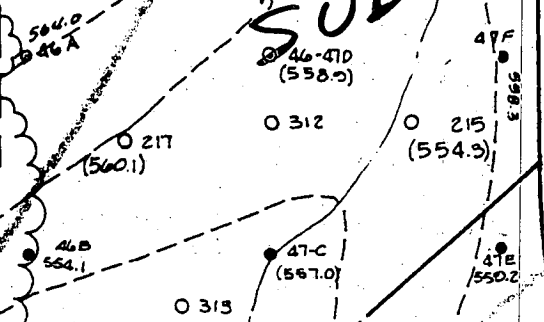
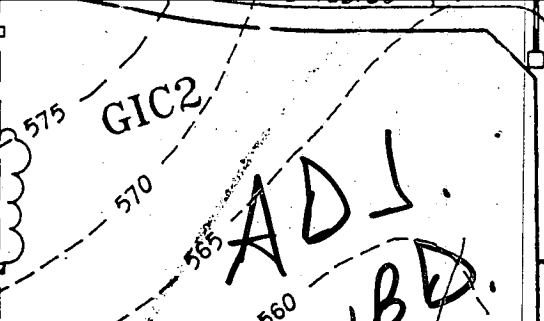
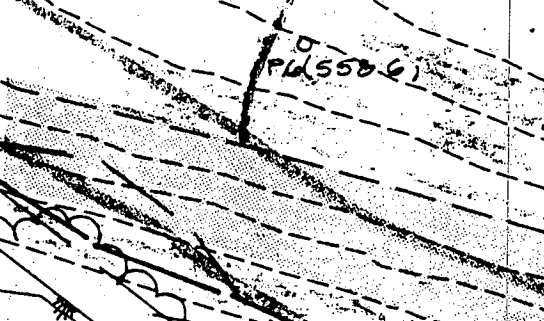
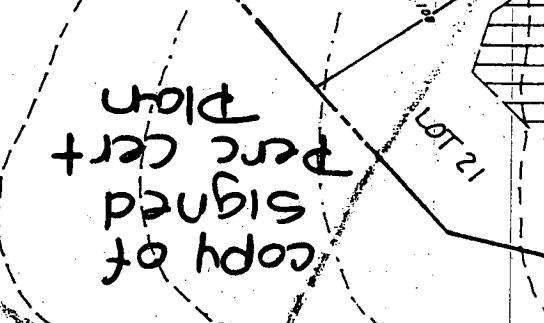
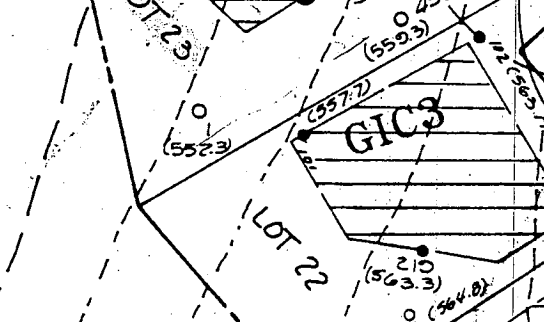
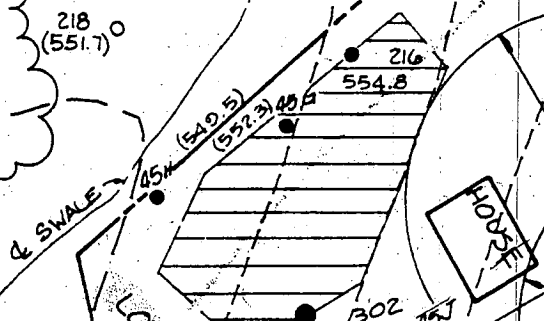
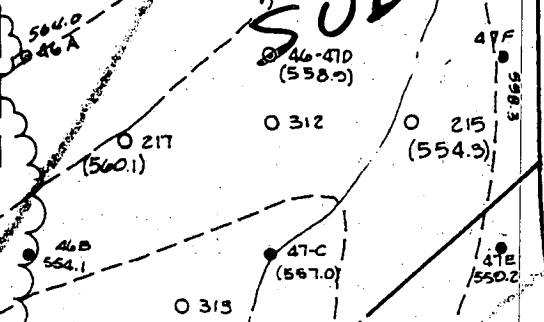
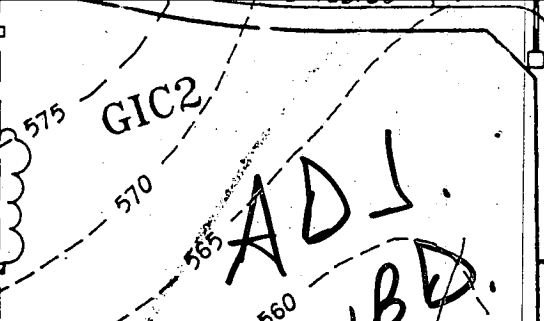
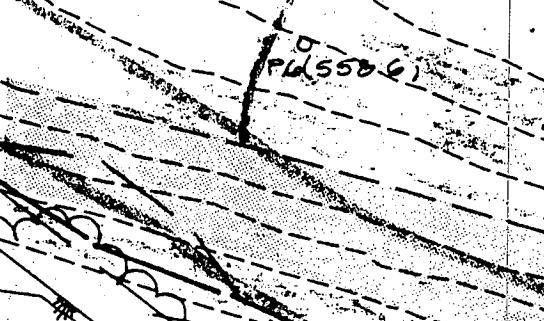
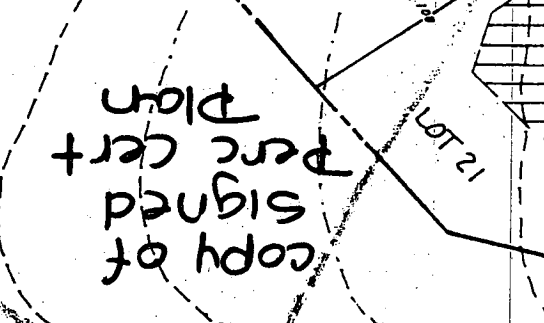
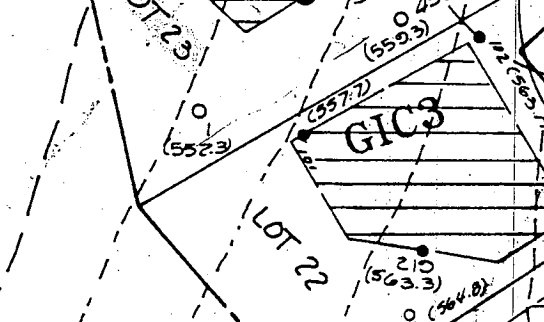
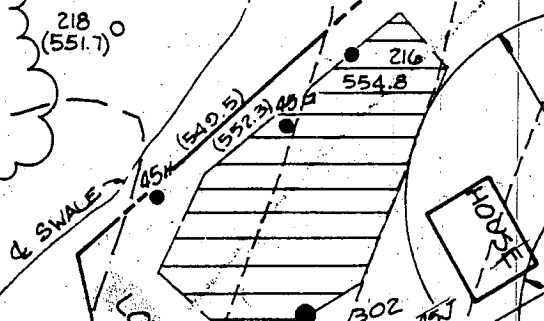
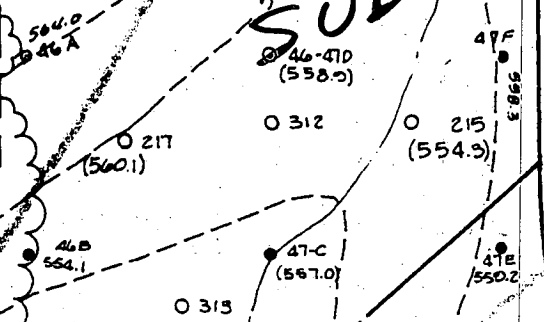
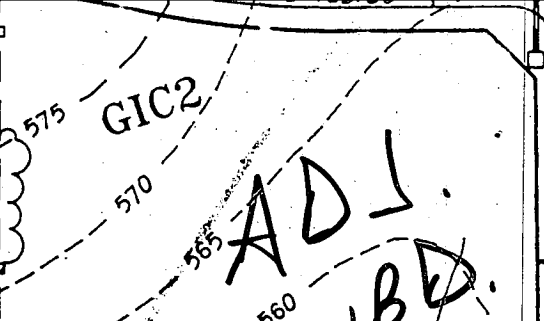
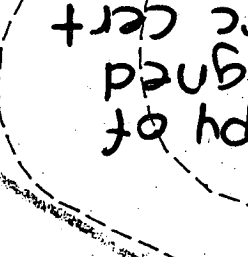
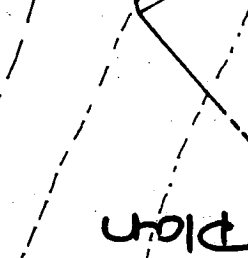
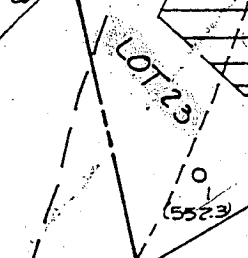
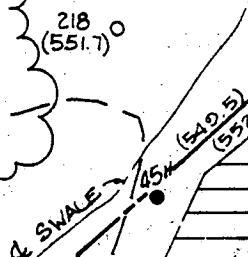
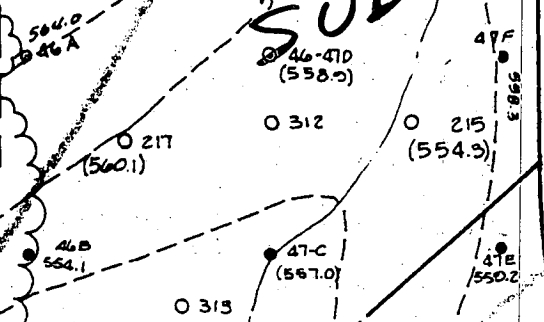
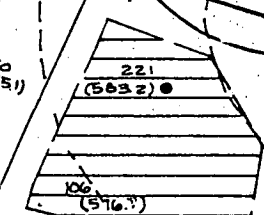
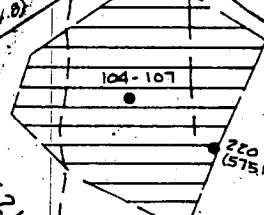
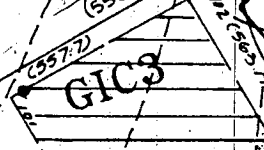
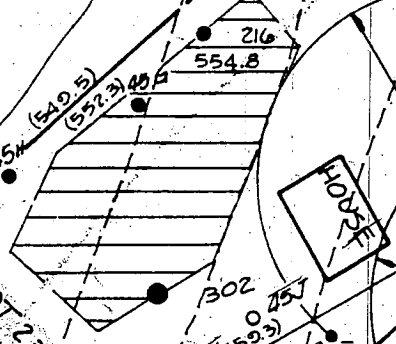
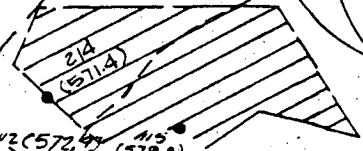
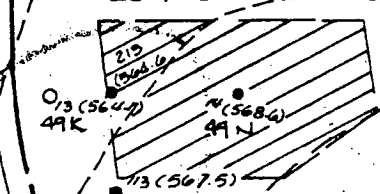
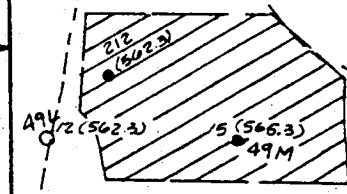
HOUSE

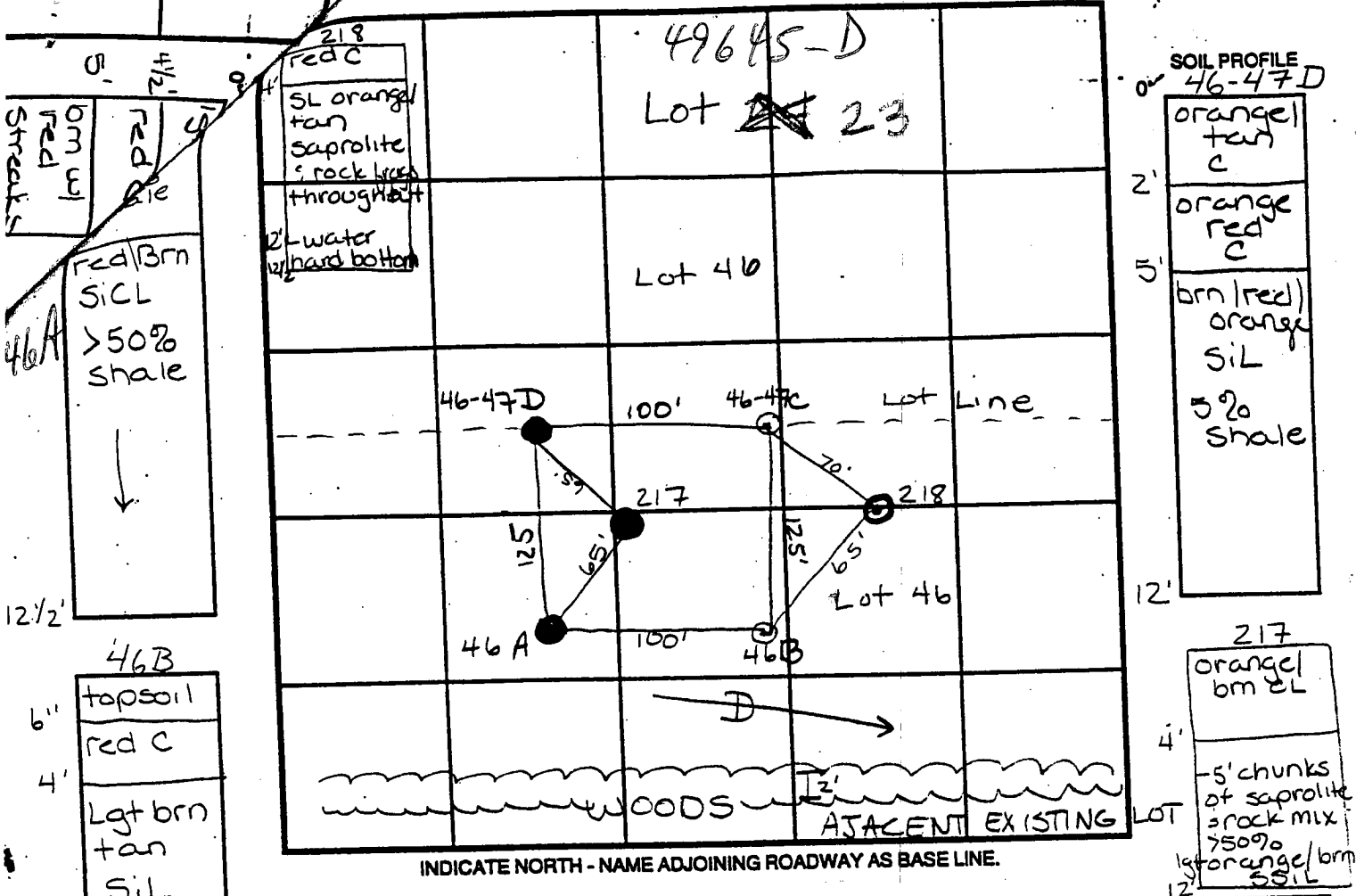
HOUSE

copy of signed plat
to be filed

TESTED AREA

ELLORIC WITHIN PROPERTY





46A

12 1/2'

6"

4'

12'

46B

topsoil

red c

Lgt brn tan SiL

46-47C

4 1/2'

5'

11'

13'

red/Brn SiL

>50% shale

brn w/ red streaks

SiL

>50% shale

DATE	TEST NO.	DEPTH	PRE-WET		TEST - 1" DROP		TIME
			START	STOP	START	STOP	
11/17/93	46A	Visual	to 12 1/2'	>50% shale			F
	46B	4 1/2' / v12'	10:13 ¹⁵	10:22 ⁴⁵	10:22 ⁴³	10:39	17min
	46-47C	5' / v13'	10:37	10:53	10:53	11:15	23min
	46-47D	4 1/2' / v12'	10:42	>30min			F
		6' / v12'	11:28 ¹⁵	11:45	11:45	12:07	22min
3/15/94	217	Visual	to 12'	Failed - Rock			F
3/15/94	218	Visual	to 12'	Failed - need to stay 25' off			F

REMARKS Next to stay 25' off swale

TYPE OF SOIL Glenelg Loam

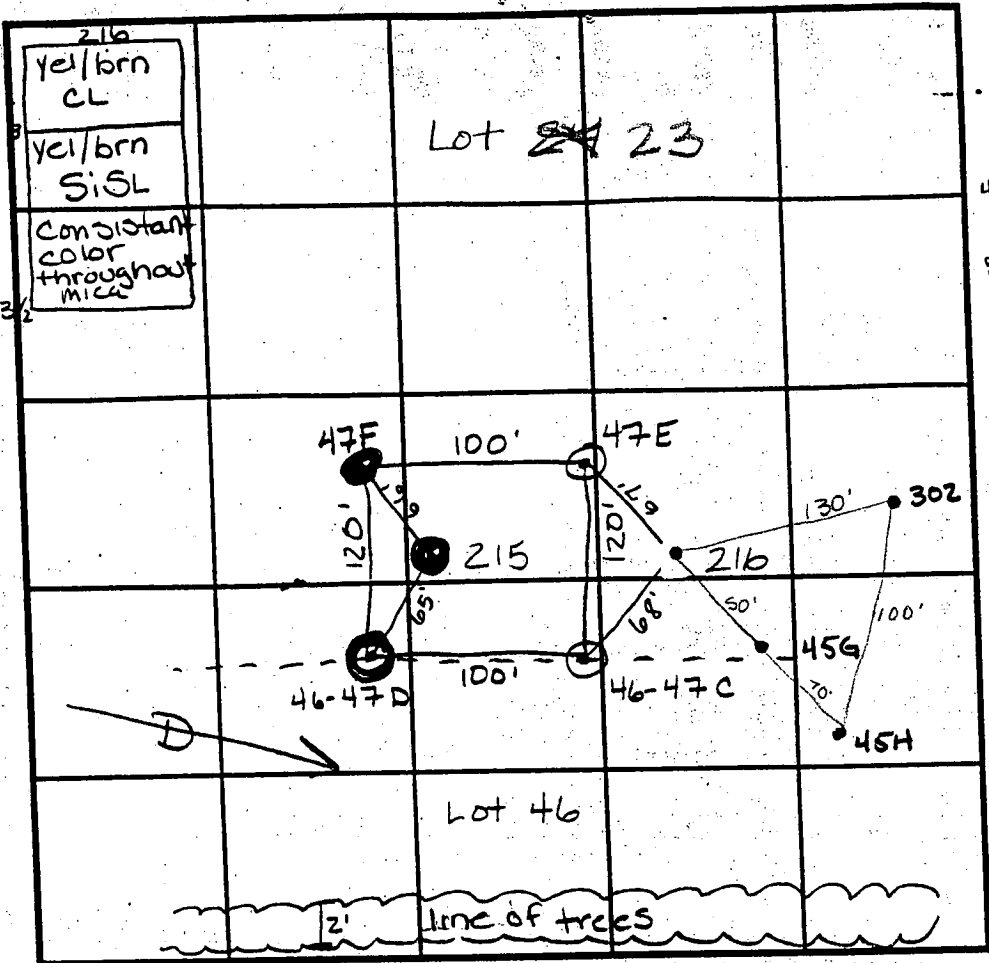
TESTED BY CRAIG WILLIAMS & Amy McMiller ALSO PRESENT Bobby SAUNDERS

TRENCH DESIGN DATA: AVERAGE PERCOLATION TIME _____ TRENCH WIDTH _____

INLET DEPTH _____ MAXIMUM BOTTOM DEPTH _____ SQ. FT/BEDROOM _____

A49645D
COUNTY #

SOIL PROFILE
46-47D
orange tan C
2'
red orange C
5'
brn/red orange SiL
50% decayed shale



SOIL PROFILE
46-47D
1st brn C
4 1/2'
red C
5'
brn w/ red streaks
11'
50% shale
215
yel/tan C
4'
red-H2O coming in
4 1/2'
yel/tan SiL

47 F
orange brn C
5'
red brn to orange brn SiL
pockets of very decayed shale at 7'

47E
brn/orange CL
2'
red CL
3'
brn/orange SiL
10% decayed weathered shale
8'
possible 50% decayed shale shelf

INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE
ADJOINING EXISTING LOT

DATE	TEST NO.	DEPTH	PRE-WET		TEST - 1" DROP		TIME
			START	STOP	START	STOP	
11/17/93	46-47D	4 1/2' V12	11:42	>30 min			F
		6' V12	11:28 ¹⁵	11:45	11:45	12:07	22min
	47F	5' V13	11:22 ³⁰	11:25	11:25	11:33	8min
	47E	4' V12 1/2	11:37 ³⁰	11:41	11:41	11:45	4min
	46-47C	5' V13	10:37	10:53	10:53	10:15	23min
3/15/94	215	Visual to 13'			water zone		F
3/15/94	(216)	Visual to 13 1/2'					OK
	(302)	3 1/2' V11 1/2	11:00 ³⁰	11:02	11:02	11:07	5 1/2 min
	(45G)	Visually					OK
	(45H)	Visually					OK

REMARKS: shallow system only need to stay 25' off swale
 TYPE OF SOIL: Glendg Loam
 TESTED BY: CRAIG WILLIAMS & Amy McMILLEN ALSO PRESENT Bobby SAUNDERS
 TRENCH DESIGN DATA: AVERAGE PERCOLATION TIME 5 min TRENCH WIDTH 3'
 INLET DEPTH 3' MAXIMUM BOTTOM DEPTH 5' SQ. FT./BEDROOM 180

A49645C
COUNTY #

Lot ~~41~~ 25 ~~22~~ 22

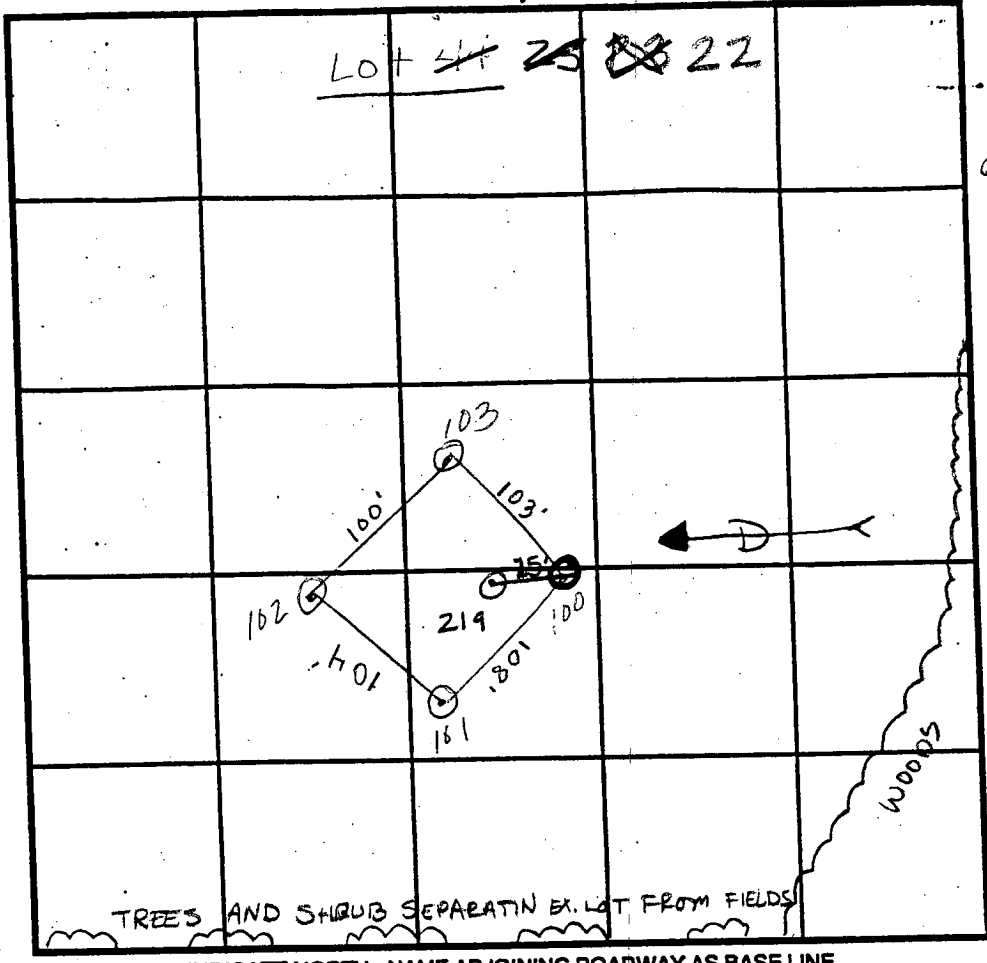
SOIL PROFILE
102
1' 0" topsoil
6" orange/brn cl
2 1/2' brn w/ yellow and red streaks SIL
Juity at 8"
12'

101
6" topsoil
yellow/brn (dk brn) C
2' red/brn ch
3 1/2' brn w/ red/yel streaks
shaley at 7 1/2"
11'

100
6" topsoil
yel/orange - C
4 1/2' reddish brn SIL
shaley at 10"
at most 50% vermic bedding
12'

SOIL PROFILE
103
6" topsoil
reddish/orange
3' yel/red streaks SIL
4' vertical bedding saprolite
7' expand in no arrangement

219
1g+brn w/ some yellow SSIL
saprolite and rock mix throughout
OR



INDICATE NORTH - NAME ADJOINING ROADWAY AS BASE LINE.

DATE	TEST NO.	DEPTH	PRE-WET		TEST - 1" DROP		TIME
			START	STOP	START	STOP	
12/7/93	102	3 1/2' / 12'	10:03	10:08	10:08	10:13	5min
*	101	3 1/2' / 11'	10:10	10:13	10:13	10:20	7min
	100	5' / 12'	10:17	10:18 ³⁰	10:18 ³⁰	10:20	1 1/2 min
	103	3' / 11'	10:26	10:29 ¹⁵	10:29 ¹⁵	10:32	2 3/4 min
	101	7' / 11'	2:26 ³⁰	2:29 ¹⁵	2:29 ¹⁵	2:3	3 3/4 min
3/16/94	219	Visual to 13'					OR

REMARKS 1 1/2" system
 TYPE OF SOIL Glendy loam
 TESTED BY Amy McMiller / Jane Nucleau ALSO PRESENT B SAUNDERS
 TRENCH DESIGN DATA: AVERAGE PERCOLATION TIME 5 min TRENCH WIDTH 3'
 INLET DEPTH 1.5 MAXIMUM BOTTOM DEPTH 3.5 SQ. FT./BEDROOM 180