

C 1 03797

SEQUENCE NO. (MDE USE ONLY)

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

THIS REPORT MUST BE SUBMITTED AFTER WELL IS COMPLETED. COUNTY NUMBER

ST/CO USE ONLY DATE Received MM 05 DD 12 YY 15

DATE WELL COMPLETED MM 09 DD 03 YY 15 Depth of Well 22 200 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" 8/24/1550 HO - 15 0024

OWNER T. Braun, John + Sherrie last name first name STREET OR RFD 2628 N. Rogers Ave TOWN Elkridge City MD SUBDIVISION SECTION LOT

WELL LOG Not required for driven wells

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

Table with columns: DESCRIPTION (Use additional sheets if needed), FEET (FROM, TO), check if water bearing. Includes handwritten entries: Top soil, soft Brn Clay, limestone w/ H2O, Vol Dwy sand, Brn sand + limestone.

NUMBER OF UNSUCCESSFUL WELLS: WELL HYDROFRACTURED YES NO Y N

CIRCLE APPROPRIATE LETTER 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...

DRILLERS LIC. NO. MW D 3553 DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION) LIC. NO. 1 D 144

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

GROUTING RECORD YES NO Y N 44 44 WELL HAS BEEN GROUTED (Circle Appropriate Box) TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 44 NO. OF POUNDS 2200 GALLONS OF WATER 1100 DEPTH OF GROUT SEAL (to nearest foot) from 0 ft. to 200 ft.

CASING RECORD casing types insert appropriate code below MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch) 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

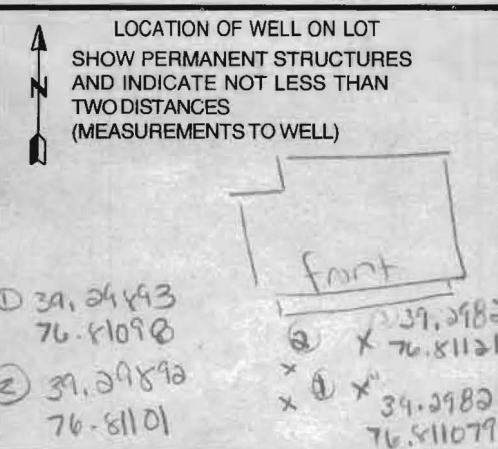
DEPTH (nearest ft.) 1 2 3 4 5 6 7 8 9 11 15 17 21 23 24 26 30 32 36 38 39 41 45 47 51 SLOT SIZE 1 2 3 DIAMETER OF SCREEN (NEAREST INCH) 56 60 from to

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

MDE 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

PUMPING TEST HOURS PUMPED (nearest hour) 8 9 PUMPING RATE (gal. per min.) 11 15 METHOD USED TO MEASURE PUMPING RATE WATER LEVEL (distance from land surface) BEFORE PUMPING 17 20 ft. WHEN PUMPING 22 25 ft. 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 INSTALLED PUMP YES NO (CIRCLE) (YES or NO) IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS. TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31 35 PUMP HORSE POWER 37 41 PUMP COLUMN LENGTH (nearest ft.) 43 47 CASING HEIGHT (circle appropriate box and enter casing height) + above LAND SURFACE - below (nearest foot) 49 50 51



B 1 36004

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

Ho - 15 - 0024 fill in this form completely

555774 please type

Date Received (APA) 03/16/15

OWNER INFORMATION

8 Brun John + Sherrie 15 Last Name Owner First Name 34 2628 N. Rogers Avenue 36 Street or RFD 55 Ellicott City MD 21043 57 Town 70 State 72 Zip 76

B 3

LOCATION OF WELL

Howard 8 COUNTY 21 23 SUBDIVISION 42 SECTION 44 46 LOT 48 50 52 NEAREST TOWN Ellicott City 71

DRILLER INFORMATION

C. John Hess MWD 553 76 Driller's Name License No. 81 Allied Environmental Services Firm Name P.O. Box 129 Annapolis Junction MD 20701 Address C. John Hess Signature Date 03/16/15

B 4

SOURCES OF DRILLING WATER

1. Public 2. 3.

2628 N. Rogers Ave 11 STREET ADDRESS 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)



DISTANCE FROM ROAD

ENTER FT OR MI 34 37 38 39

TAX MAP 0017 BLK: 0018 PARCEL 0486

B 2

WELL INFORMATION

1 APPROX. PUMPING RATE (GAL. PER MIN.) 8 12 2 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
I INDUSTRIAL, COMMERCIAL, DEWATERING
P PUBLIC WATER SUPPLY WELL
T TEST, OBSERVATION, MONITORING
O OPEN LOOP GEOTHERMAL
C CLOSED LOOP GEOTHERMAL

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard COUNTY NAME 13 COUNTY NO. STATE SIGNATURE INSERT S DATE ISSUED 3/31/15 CO SIGNATURE EXP. DATE 3/31/16

APPROXIMATE DEPTH OF WELL 400 FEET 24 28

APPROXIMATE DIAMETER OF WELL 6 INCH 6 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

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

- N 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-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
D THIS WELL WILL DEEPEMED AN EXISTING WELL

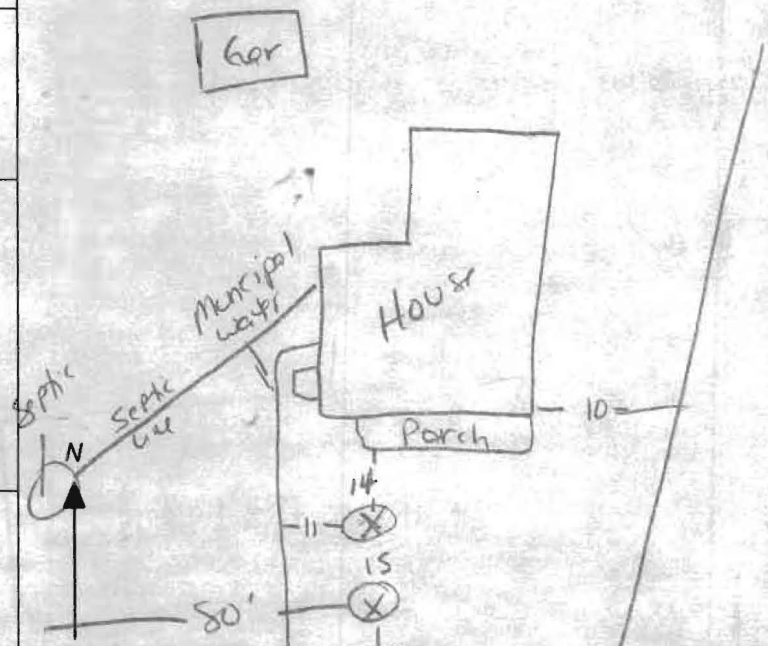
PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 52

Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROP. PERMIT NUMBER G

PERMIT No. 140-15 - 0024

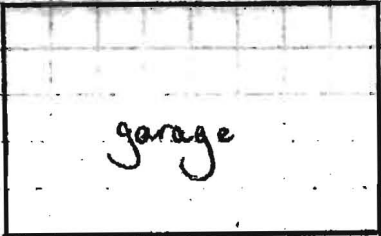
PROPOSED LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL



SPECIAL CONDITIONS Grant bottom to top. All grants must be called in prior.

Revised 04/03/15

140-15-0024



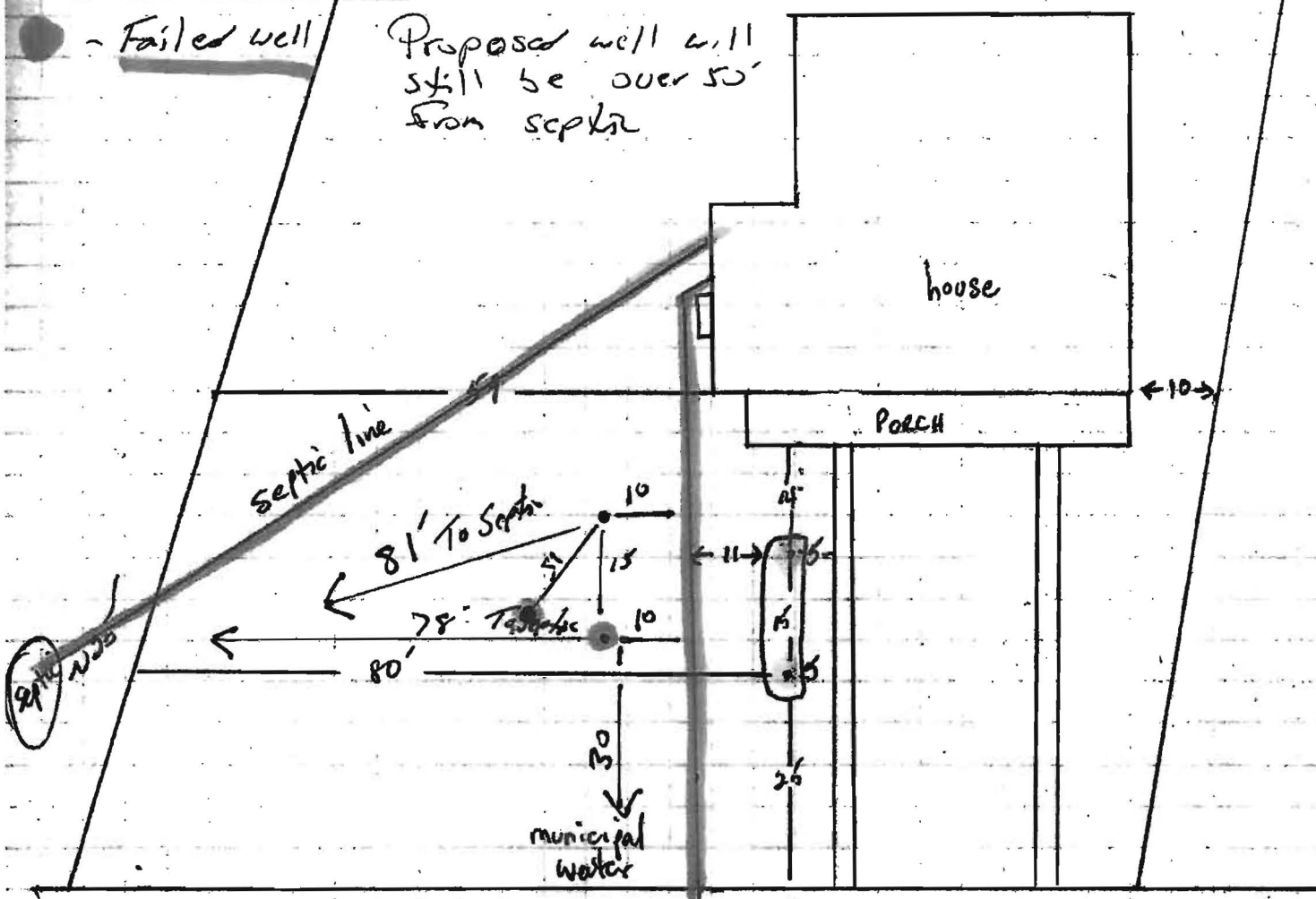
garage

- Proposed replacement well

revised site plan 4/1/15  
verbal by Kevin Wolf  
to John Hess

- Failed well

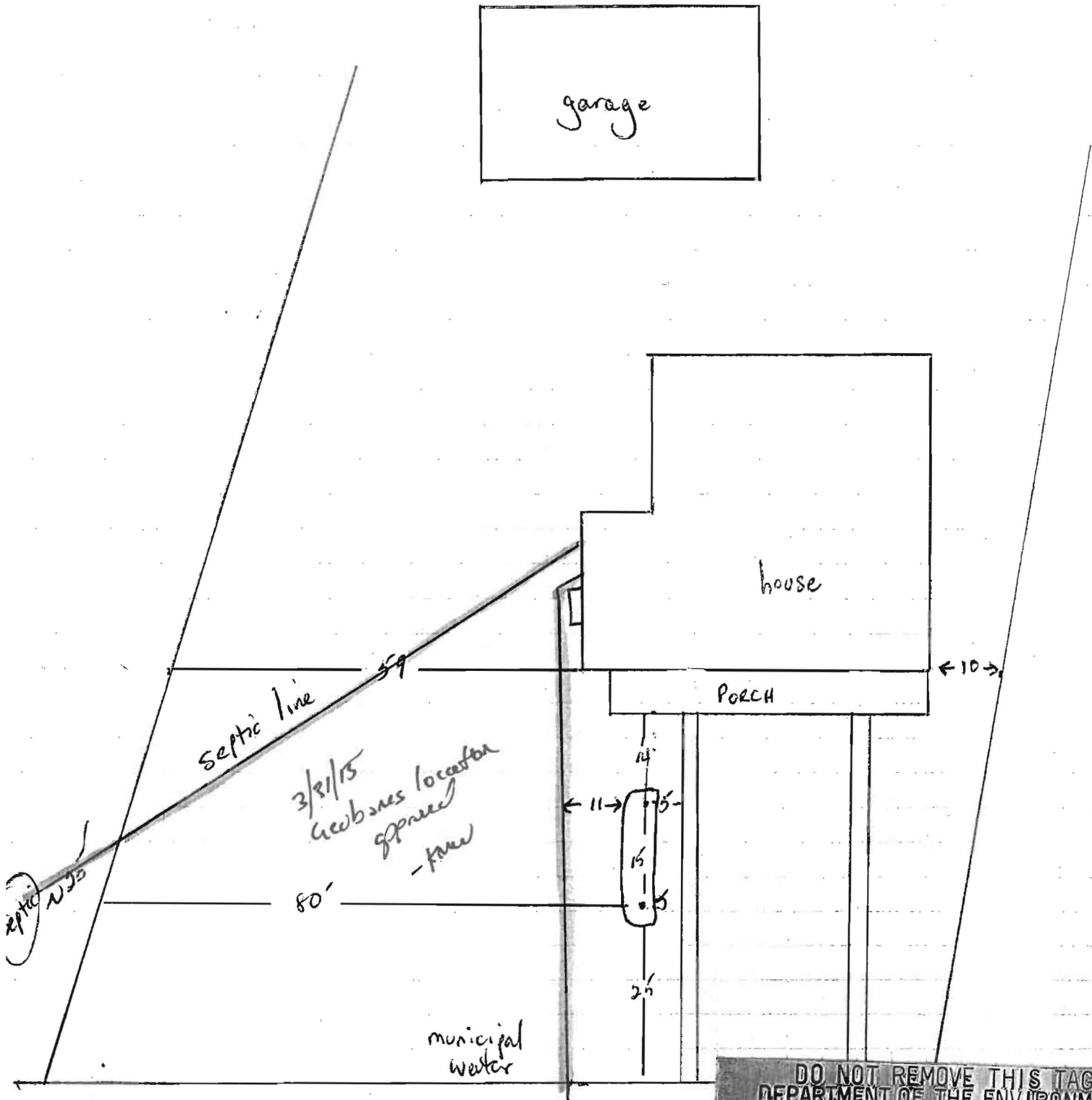
Proposed well will  
still be over 50'  
from septic



4/3/15

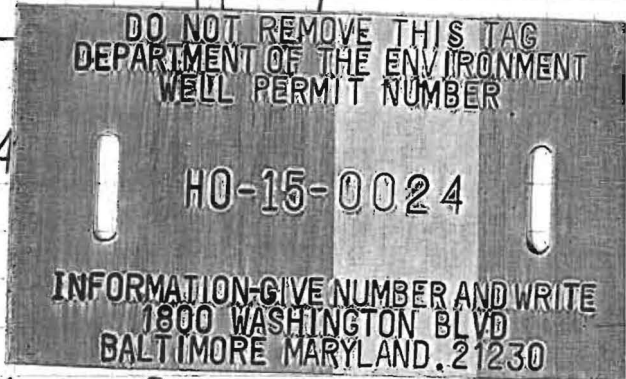
Revised locations  
approved Driller excavating 2628 North Rogers Ave  
very loose material below 180'  
-Kau  
Elliot City

Septic is on neighbors lot - depression is 25' inside fence.  
This was done @ time of subdivision



2628 North Rogers A

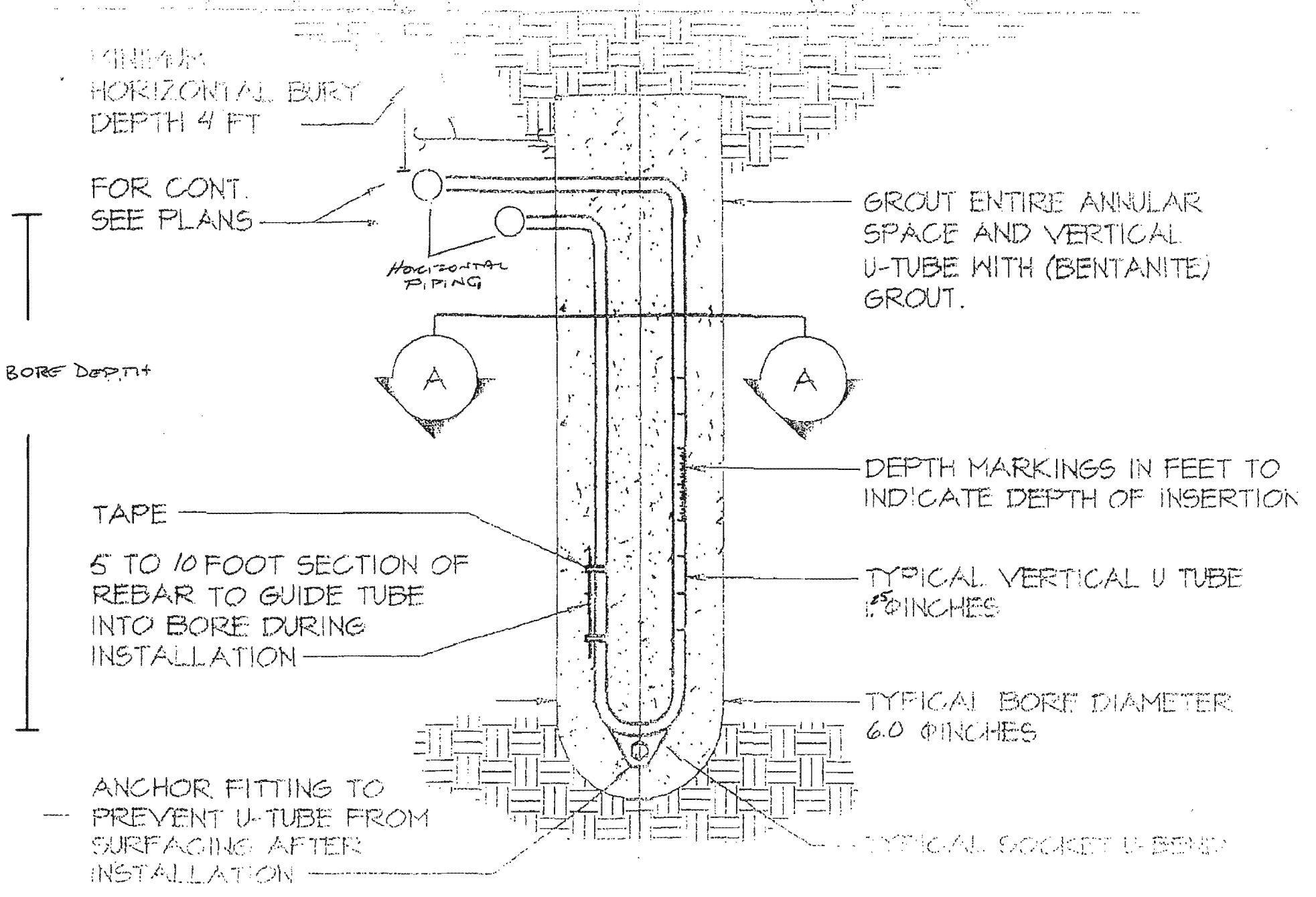
Ellicott City



septic is on neighbors lot - depression is 25' inside fence.  
This was done @ time of subdivision

GRADE

EACH BORE HOLE (TYP.)



HORIZONTAL BURY  
DEPTH 4 FT

FOR CONT.  
SEE PLANS

HORIZONTAL  
PIPING

GROUT ENTIRE ANNULAR  
SPACE AND VERTICAL  
U-TUBE WITH (BENTONITE)  
GROUT.

BORE DEPTH

DEPTH MARKINGS IN FEET TO  
INDICATE DEPTH OF INSERTION

TAPE

5 TO 10 FOOT SECTION OF  
REBAR TO GUIDE TUBE  
INTO BORE DURING  
INSTALLATION

TYPICAL VERTICAL U TUBE  
1.5 INCHES

TYPICAL BORE DIAMETER  
6.0 INCHES

ANCHOR FITTING TO  
PREVENT U-TUBE FROM  
SURFACING AFTER  
INSTALLATION

TYPICAL SOCKET U-BEND

## **HOWARD COUNTY GROUTING PROCEDURE**

Boreholes will be grouted from the bottom to the top via a tremie pipe and positive displacement pump. Bentonite grout, known as Quik-Grout will be used according to the manufacturer's specifications to achieve a consistency of at least 20% solids (24 gallons potable water/50 lb. sack of grout) and a permeability no more than  $2.5 \text{ E}(-08) \text{ cm/sec}$ . Grouting will be completed immediately after installing the geothermal loop and no later than twenty-four (24) hours after installing the geothermal loop. Open boreholes/annular space will be protected as necessary to prevent the entry of surface water or pollutants.