

1 2 3 4 5 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS) **FILL IN THIS FORM COMPLETELY PLEASE TYPE** COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED DATE WELL COMPLETED Depth of Well PERMIT NO. FROM "PERMIT TO DRILL WELL"

MM DD YY MM DD YY 22 380 26 **OK 8/20/15 sc** **HO-15-0079**

OWNER Stoughton, Ronald & Charlotte WELL SITE ADDRESS 11540 Manorstone Ln TOWN Columbia, 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

DESCRIPTION (Use additional sheets if needed)	FEET		check if water bearing
	FROM	TO	
Top Soil	0	2	
Brn w/ Red Rock	2	38	
Med Hard Rock	38	380	

38 bags x 20 gal/bag = 760 gal / 3 = 253 gal

3 closed loops

**GROUTING RECORD**  
WELL HAS BEEN GROUTED (Circle Appropriate Box) **Y N**

TYPE OF GROUTING MATERIAL (Circle one)  
CEMENT **CM** BENTONITE CLAY **BC**

NO. OF BAGS 38 NO. OF POUNDS 760  
GALLONS OF WATER 450 gal

DEPTH OF GROUT SEAL (to nearest foot)  
from 0 ft. to 380 ft.  
(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)

60 61 63 64 66 70

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

**SCREEN RECORD**  
screen type or open hole (insert appropriate code below)

**ST** STEEL **BR** BRASS **HO** OPEN HOLE  
**PL** PLASTIC **OT** OTHER

**C2** DEPTH (nearest ft.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
E	8	9	11	15	17																
A																					
C	23	24	26	30	32																
H																					
S																					
R	38	39	41	45	47																
C																					
E																					
E																					
N																					

DIAMETER OF SCREEN (NEAREST INCH)  
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

**C3** **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 (CIRCLE) (YES or NO) YES 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. 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 (nearest foot)  
**-** below }

LATITUDE 39.22580 LONGITUDE 76.90752  
(DEFAULT COORD. WGS 84)

NOTES:  
Front  
39.22580 / 76.90753  
39.22584

B 1 36712

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

HO - 15 - 0079

556454 please type

fill in this form completely

Date Received (APA)

05/11/15

OWNER INFORMATION

Stoughton/E Ronald + Charlott  
9497 Sylvan Dell  
Columbia MD 21045

B 3

LOCATION OF WELL

Howard  
Vil Harpers Choice S5  
Columbia  
NEAREST TOWN

DRILLER INFORMATION

C John Hess MW D 87553  
Allied Environmental Services  
PO Box 129 Annapolis Junction MD 20701  
C John Hess 05/06/15

B 4

SOURCES OF DRILLING WATER

1. Public

11540 Manors Lane Ln  
STREET ADDRESS

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)



DISTANCE FROM ROAD

ENTER FT OR MI

TAX MAP 0029 BLK 0015 PARCEL 0370

B 2

WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.)

8 / 12

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 3 loops

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard 13 COUNTY NAME COUNTY NO.
STATE SIGNATURE INSERT S
DATE ISSUED 5/29/15 CO SIGNATURE EXP. DATE 5/29/16

APPROXIMATE DEPTH OF WELL 380 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

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 DEEPEAN AN EXISTING WELL

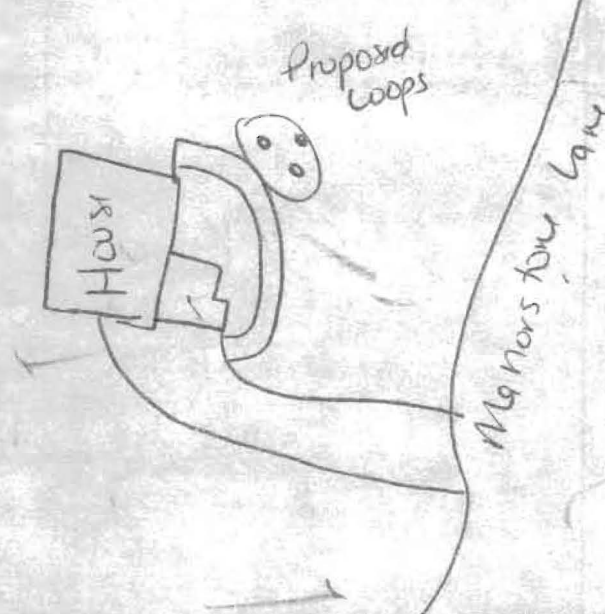
PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE)

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

APPROX. PERMIT NUMBER G

PERMIT No. HO - 15 - 0079

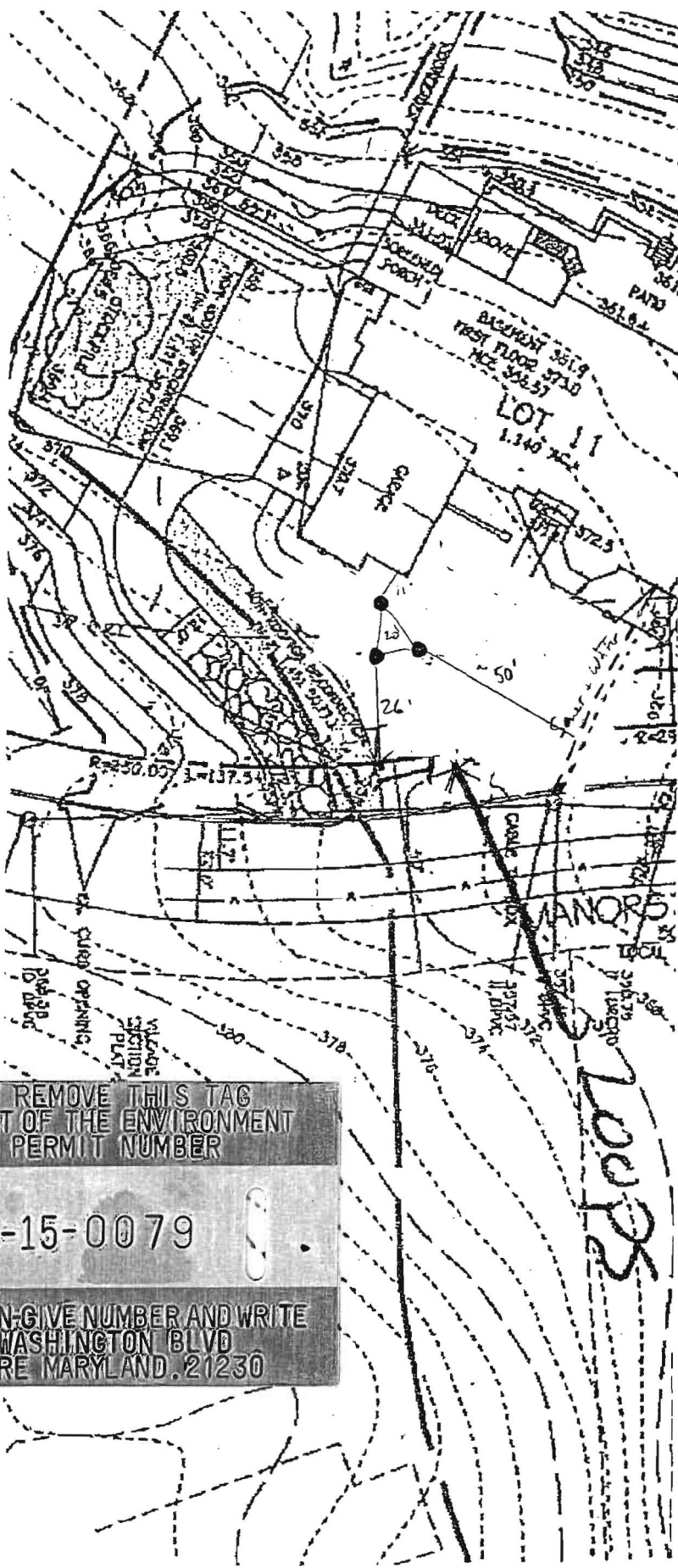
PROPOSED LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL



Ground Loop

SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED



Scale  
1"=50'

11540 Manorstone Ln

Site plan approved  
5/29/15 SC

10005

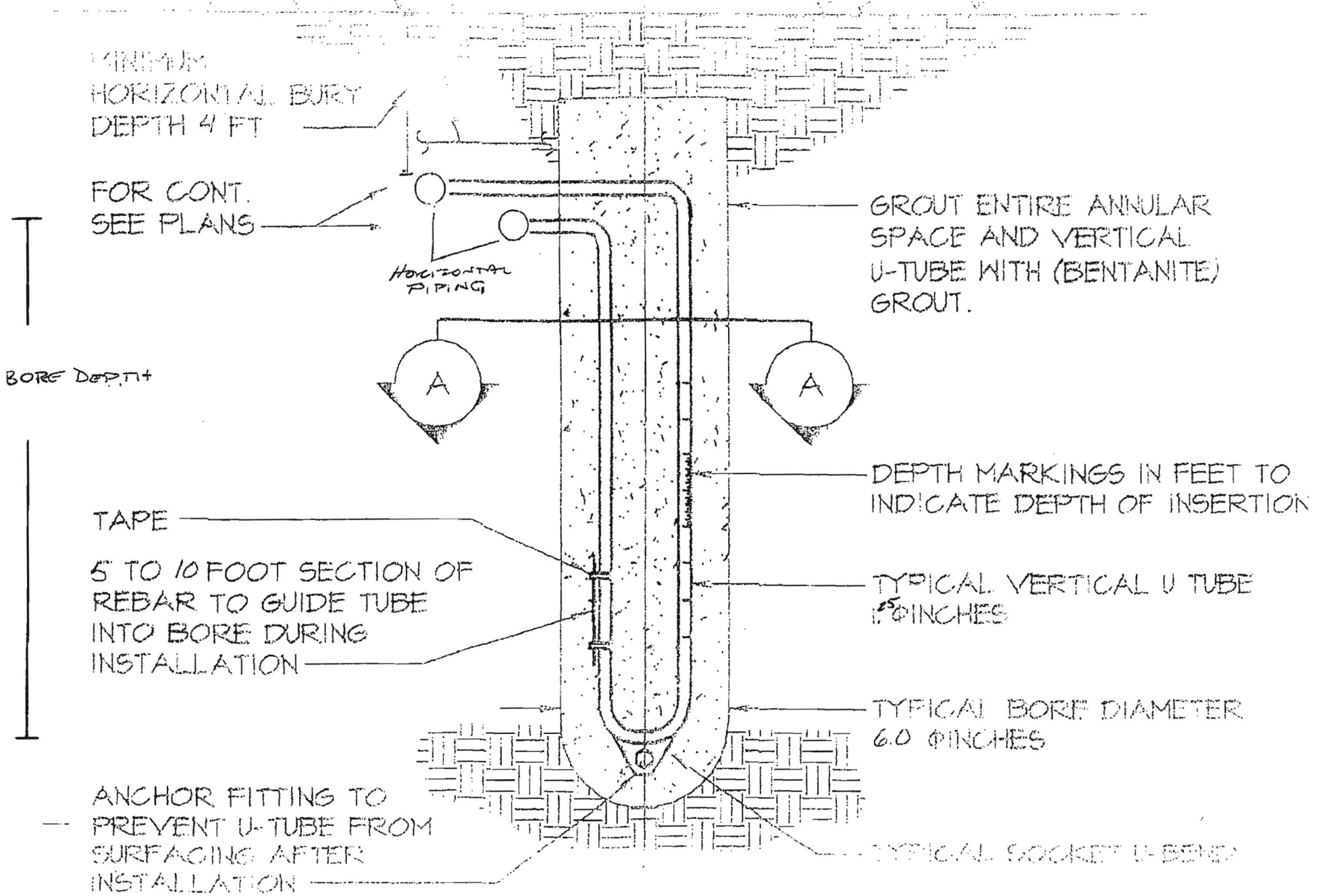
DO NOT REMOVE THIS TAG  
DEPARTMENT OF THE ENVIRONMENT  
WELL PERMIT NUMBER

HO-15-0079

INFORMATION-GIVE NUMBER AND WRITE  
1800 WASHINGTON BLVD  
BALTIMORE MARYLAND. 21230

GRADE

EACH BORE HOLE (TYP.)



MINIMUM  
HORIZONTAL BURY  
DEPTH 4 FT

FOR CONT.  
SEE PLANS

HORIZONTAL  
PIPING

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

BORE DEPTH

TAPE

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

ANCHOR FITTING TO  
PREVENT U-TUBE FROM  
SURFACING AFTER  
INSTALLATION

DEPTH MARKINGS IN FEET TO  
INDICATE DEPTH OF INSERTION

TYPICAL VERTICAL U TUBE  
1.5 INCHES

TYPICAL BORE DIAMETER  
6.0 INCHES

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.