

05-415101

EMERGENCY/TEMP NO. IF ANY

08/11/4/25

|            |  |  |  |
|------------|--|--|--|
| <b>B 1</b> | SEQUENCE NO. (MDE USE ONLY)<br><u>87379</u>  | <b>STATE OF MARYLAND</b><br><b>APPLICATION FOR PERMIT TO DRILL WELL</b><br><u>587926</u> please type   | STATE PERMIT NUMBER<br><u>HO - 22 - 0176</u><br><small>fill in this form completely</small>  |
| <b>B 2</b> | <b>OWNER INFORMATION</b><br>Date Received (APA) <u>01/13/25</u><br><small>8 MM DD YY 13</small><br><u>Hesse Sandra L TR</u><br><small>15 Last Name Owner First Name 34</small><br><u>5241 Green Bridge Rd</u><br><small>36 Street or RFD 55</small><br><u>Dayton MD 21036</u><br><small>57 Town 70 State 72 Zip 76</small> |  | <b>B 3</b>   |
|            |  | <b>LOCATION OF WELL</b><br><u>Howard</u><br><small>8 COUNTY 21</small><br><u>Greenbridge</u><br><small>23 SUBDIVISION 42</small><br><small>SECTION 44 46 LOT 48 50</small><br><u>Dayton</u><br><small>52 NEAREST TOWN 71</small>   |  |
|            |  | <b>B 4</b>   |  |
|            |  | <b>SOURCES OF DRILLING WATER</b><br>1. <u>Public</u><br>2.<br>3.   | <u>5241 Green Bridge Rd</u><br><small>11 STREET ADDRESS 30</small><br>ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)<br><small>NORTH N WEST W EAST E SOUTH S</small><br><u>34 200' 37</u><br><small>DISTANCE FROM ROAD ENTER (F) OR MI 38 39</small><br>TAX MAP: <u>0028</u> BLK: _____ PARCEL <u>0058</u> |
| <b>B 2</b> | <b>WELL INFORMATION</b><br>APPROX. PUMPING RATE (GAL. PER MIN.) <u>8</u> / <u>12</u><br><small>1 2</small><br>AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) <u>14</u> / <u>20</u><br><small>1 2</small>   |  |  |
|            |  | <b>USE FOR WATER (CIRCLE APPROPRIATE BOX)</b><br><input type="checkbox"/> DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION<br><input type="checkbox"/> FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)<br><input type="checkbox"/> INDUSTRIAL, COMMERCIAL, DEWATERING<br><input type="checkbox"/> PUBLIC WATER SUPPLY WELL<br><input type="checkbox"/> TEST, OBSERVATION, MONITORING<br><input type="checkbox"/> OPEN LOOP GEOTHERMAL<br><input checked="" type="checkbox"/> CLOSED LOOP GEOTHERMAL <u>3 loops</u>  |  |
|            |  | <b>NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL</b><br><u>Howard County</u> <u>13</u><br><small>COUNTY NAME COUNTY NO.</small><br>STATE SIGNATURE _____ INSERT S → _____<br>DATE ISSUED <u>1/23/2025</u> <u>8:44pm</u> <u>1/23/2025</u><br><small>43 MM DD YY 48 CO SIGNATURE EXP. DATE</small>   |  |
|            |  | APPROXIMATE DEPTH OF WELL <u>300</u> FEET<br><small>24 28</small><br>APPROXIMATE DIAMETER OF WELL <u>6</u> INCH<br><small>NEAREST</small>  |  |
|            |  | <b>METHOD OF DRILLING (circle one)</b><br><input checked="" type="checkbox"/> BORED (or Augered) <input type="checkbox"/> JETTED <input type="checkbox"/> Jetted & DRIVEN<br><input checked="" type="checkbox"/> AIR-ROTARY <input type="checkbox"/> AIR-PERCussion <input type="checkbox"/> ROTARY (Hydraulic Rotary)<br><input type="checkbox"/> CABLE <input type="checkbox"/> REVERSE-ROTARY <input type="checkbox"/> DRIVE-POINT<br><small>other _____</small>  |  |
|            |  | <b>REPLACEMENT OR DEEPEINED WELLS (CIRCLE APPROPRIATE BOX)</b><br><input checked="" type="checkbox"/> THIS WELL WILL NOT REPLACE AN EXISTING WELL<br><input type="checkbox"/> THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED<br><input type="checkbox"/> THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS<br><input type="checkbox"/> THIS WELL WILL DEEPEIN AN EXISTING WELL<br>PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEINED (IF AVAILABLE) <u>41</u> - - - - - <u>52</u> |  |
|            |  | <b>PROPOSED LOCATION OF WELL ON LOT</b><br>SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL<br>   |  |
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|            |  | <b>Not to be filled in by driller (MDE OR COUNTY USE ONLY)</b><br>APPROP. PERMIT NUMBER - - - - - <u>G</u> - - - - -<br>PERMIT No. <u>HO - 22 - 0176</u><br><small>70 71 72 73 74 75 76 77 78 79</small>   |  |
|            |  | <b>SPECIAL CONDITIONS</b> <u>Please Notify office of Drilling &amp; Grant</u><br><small>NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED</small>   |  |

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Must grout from bottom to top of boreholes.

015 11/4/25

**C 1** 83489 SEQUENCE NO. (MDE USE ONLY)

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

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

COUNTY NUMBER \_\_\_\_\_

1 2 3 6  
(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

ST/CO USE ONLY DATE Received MM 11 DD 25 YY

DATE WELL COMPLETED MM 15 DD 30 YY 20

Depth of Well 300 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" 110-22-0176

28 29 30 31 32 33 34 35 36 37

OWNER Horse, Sandial last name first name

WELL SITE ADDRESS 5241 Green Bridge Rd TOWN Dayton MD

SUBDIVISION Green Bridge SECTION \_\_\_\_\_ LOT 2

**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  |                        |
| TGP Soil                                      | 0    | 1   |                        |
| Brn Clay                                      | 1    | 10  |                        |
| Brn Clay Sand                                 | 10   | 110 |                        |
| Sandstone                                     | 46   | 42  |                        |
| Red Clay + Sand                               | 42   | 60  |                        |
| Brn Sand + Clay                               | 60   | 90  |                        |
| Brn Gray Rock                                 | 90   | 95  |                        |
| Med Gray Rock                                 | 95   | 160 | ✓                      |
| Gray Rock                                     | 160  | 300 |                        |

3 closed Geo Holes

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

TYPE OF GROUTING MATERIAL (Circle one)  
CEMENT  BENTONITE CLAY

NO. OF BAGS 36 NO. OF POUNDS 7800

GALLONS OF WATER 400

DEPTH OF GROUT SEAL (to nearest foot)  
from 0 TOP 52 ft. to 300 BOTTOM 58 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

**C 2** DEPTH (nearest ft.)

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

SLOT SIZE 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_

DIAMETER OF SCREEN (NEAREST INCH)  
from \_\_\_\_\_ to \_\_\_\_\_

NUMBER OF UNSUCCESSFUL WELLS: \_\_\_\_\_

WELL HYDROFRACTURED  YES  NO

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 LIC. NO. 1 M U D 598

DRILLERS SIGNATURE Walter A. Wolf

LIC. NO. 1 D

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

**C 3** 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 \_\_\_\_\_

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 39.22621

LONGITUDE 76.99658

(DEFAULT COORD. WGS 84)

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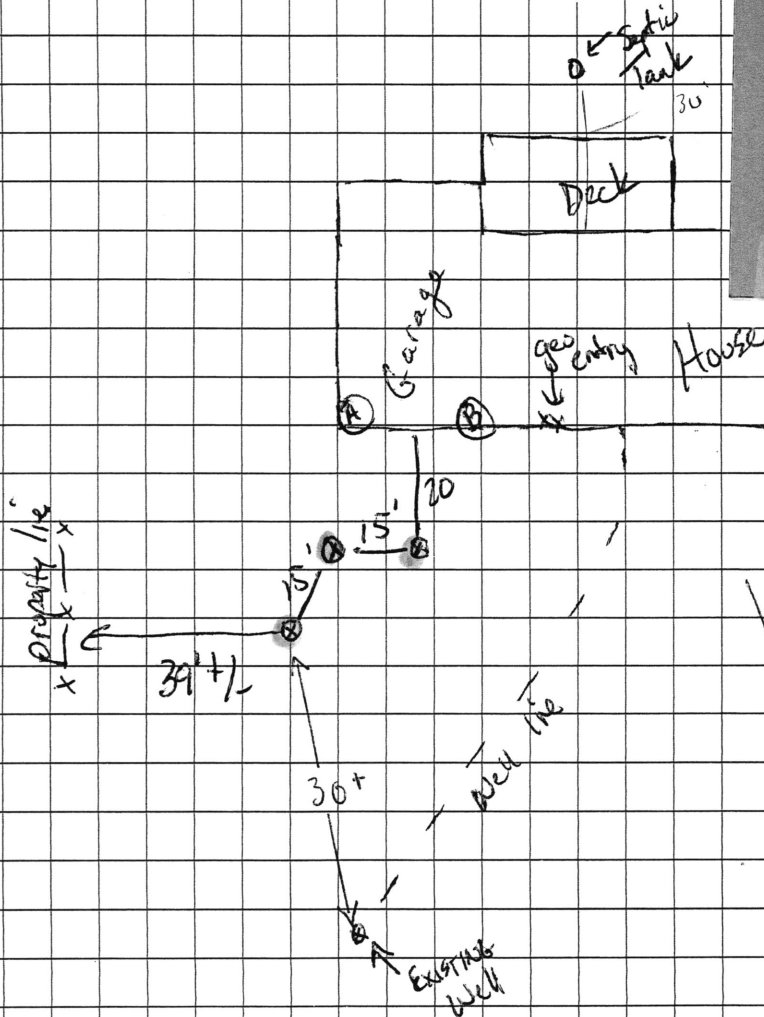
A B  
 23 27'  
 24 35'  
 38' 48'



5241 Green Bridge Rd  
 Dayton MD  
 3 wells @ 300'  
 closed loop geothermal

**SITE PLAN**

**DO NOT REMOVE THIS TAG**  
**DEPARTMENT OF THE ENVIRONMENT**  
**WELL PERMIT NUMBER**  
 HO-22-0176  
**INFORMATION - GIVE NUMBER AND WRITE**  
 1800 WASHINGTON BLVD  
 BALTIMORE MARYLAND 21230



Well site  
 Approved  
 11/23/2025  
 (SP)

Sediment Control Protocol: SILT FENCE

Distance From House: 20' TO garage  
 From Septic: 50' + , Septic in the rear  
 From Sewer: N/A  
 From Property Line: Fence opposite driveway  
 From Street: 100' +

Trees Nearby: Yes. But ok  
 Utility Issues: Electric to light post  
 Mats Needed: Yes & Plastic for Driveway  
 Access For H/U: Yes, Tunnel under side walk  
 Neighboring Tags: HO-94-0090

Comments: \_\_\_\_\_

Person Completing Form: Wes Wolfe

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 (BENTONITE)  
GROUT.

BORE DEPTH



DEPTH MARKINGS IN FEET TO  
INDICATE DEPTH OF INSERTION

TAPE

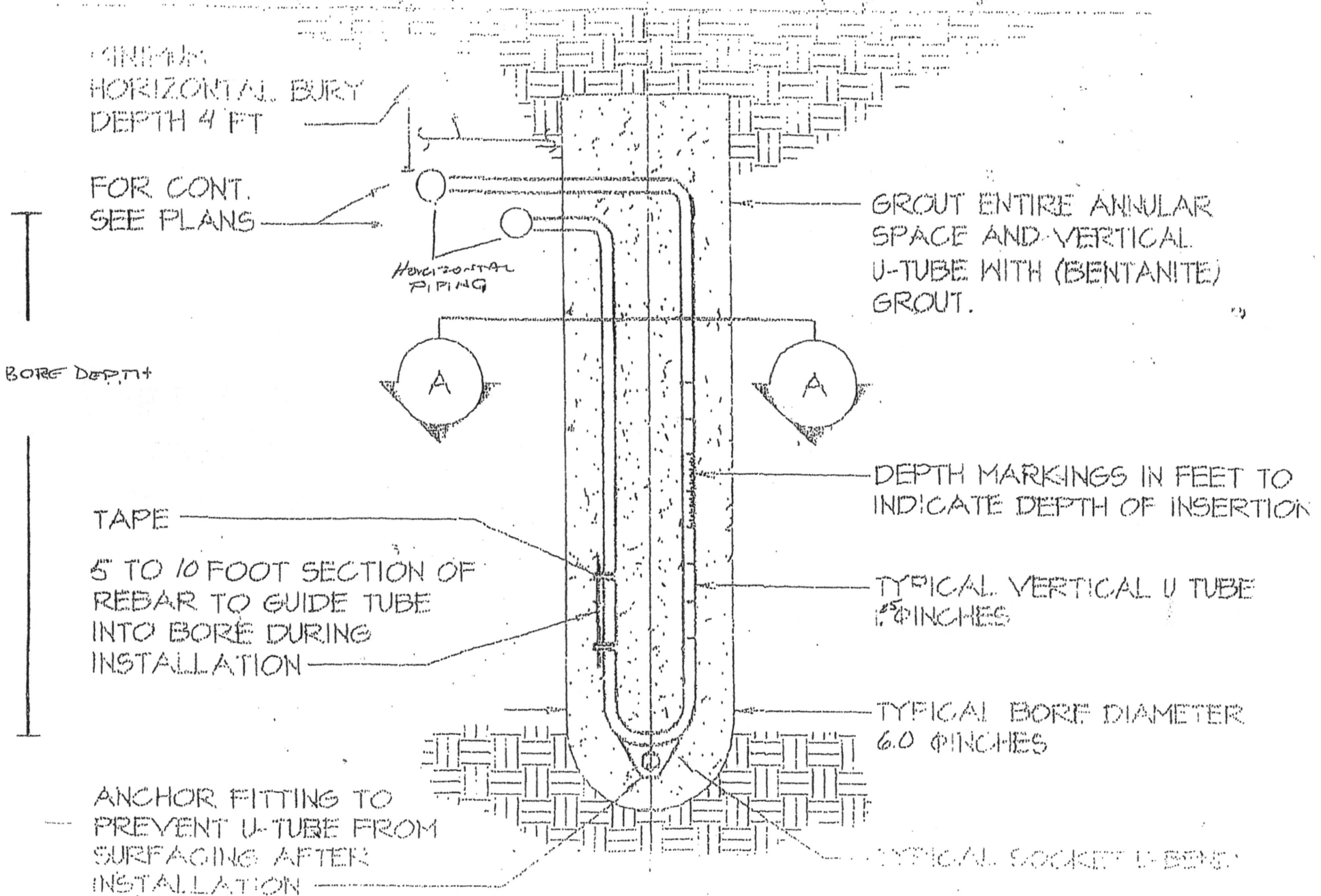
5' TO 10' FOOT SECTION OF  
REBAR TO GUIDE TUBE  
INTO BORE DURING  
INSTALLATION

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.

