

C 1 04856

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 DD YY

DATE WELL COMPLETED MM DD YY

Depth of Well 22 270 26 (TO NEAREST FOOT)

1/29/2015 O.K. BB

PERMIT NO. FROM "PERMIT TO DRILL WELL" 40-14-0143

OWNER Kelly, Craig + Lisa last name first name STREET OR RFD 3552 Rosemary Ln TOWN Ellinor Ct MD SUBDIVISION Rosemary Estate SECTION LOT 238

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. Rows include Topsoil, Brn Rd Rock, Red Mud Rock, Gray Rock.

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. M D 553 DRILLERS SIGNATURE LIC. NO. 1 Aug D 942

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

GROUTING RECORD

WELL HAS BEEN GROUTED (Circle Appropriate Box) YES NO Y N 44 44 TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 45 46 20 NO. OF POUNDS 45 46 500 GALLONS OF WATER DEPTH OF GROUT SEAL (to nearest foot) from 48 TOP 52 ft. to 54 BOTTOM 58 ft. (enter 0 if from surface)

CASING RECORD

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)

TABLE with columns: diameter inch, depth (feet) from, to

SCREEN RECORD

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

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 61 62 63 64 65 66 67 68 69 70

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 TELESCOPE CASING LOG INDICATOR OTHER DATA

C 3

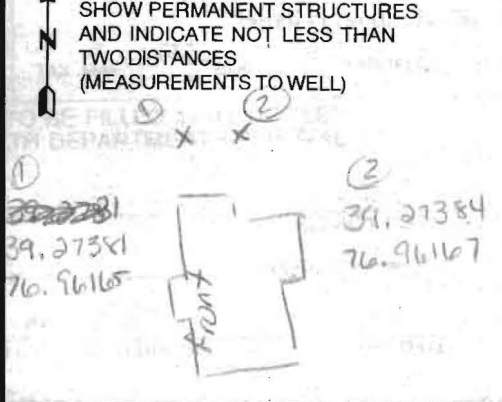
PUMPING TEST

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 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

LOCATION OF WELL ON LOT



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COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER Kelly, Craig & Lisa last name first name STREET OR RFD TOWN Elizabeth City MD SUBDIVISION Rosemary Estate SECTION LOT 238

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, FEET (FROM, TO), check if water bearing. Includes entries for Topsoil, Bin Rd Rock, Red Mud Rock, and Gng Rock.

GROUTING RECORD

WELL HAS BEEN GROUTED (Y/N) TYPE OF GROUTING MATERIAL (Cement, Bentonite Clay) NO. OF BAGS, NO. OF POUNDS, GALLONS OF WATER, DEPTH OF GROUT SEAL

CASING RECORD

MAIN CASING TYPE (Steel, Concrete, Plastic, Other) Nominal diameter top (main) casing, Total depth of main casing

OTHER CASING (if used) diameter, depth

SCREEN RECORD

screen type or open hole (Steel, Brass, Open Hole, Plastic, Other)

DEPTH (nearest ft.)

Table with columns: E, A, C, H, S, R, E, E, N. Rows for Slot Size 1, 2, 3 and Diameter of Screen.

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

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

TELESCOPE CASING LOG INDICATOR OTHER DATA

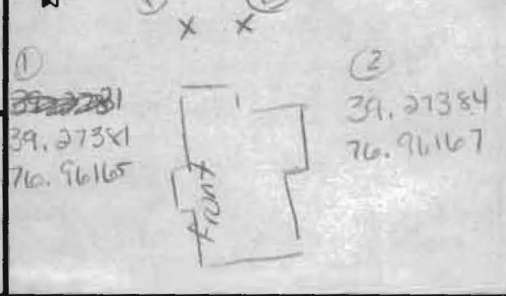
PUMPING TEST

HOURS PUMPED, PUMPING RATE, METHOD USED TO MEASURE PUMPING RATE, WATER LEVEL (before/when pumping), TYPE OF PUMP USED

PUMP INSTALLED

DRILLER INSTALLED PUMP (YES/NO), TYPE OF PUMP INSTALLED PLACE, CAPACITY, PUMP HORSE POWER, PUMP COLUMN LENGTH, CASING HEIGHT

LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURES AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



NUMBER OF UNSUCCESSFUL WELLS: WELL HYDROFRACTURED (Y/N)

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. M D 553

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION) LIC. NO. A D 942

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

B 1 25762

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

HO -14 -0143

fill in this form completely

555321

please type

Date Received (APA)

11/18/14

OWNER INFORMATION

Kelly TE Craig + Lisa
Last Name Owner First Name
3552 Rosemary Lane
Street or RFD
Ellicott City MD 21042
Town State Zip

B 3

LOCATION OF WELL

Howard COUNTY
Rose Mary Estates SUBDIVISION
SECTION 44 LOT 23B
Ellicott City NEAREST TOWN

DRILLER INFORMATION

C John Hess Driller's Name
Allied Environmental Services Firm Name
PO Box 29 Annapolis Junction MD 20701 Address
C John Hess Signature
11/18/14 Date

B 4

SOURCES OF DRILLING WATER

1. Public
2.
3.

3552 Rosemary Lane STREET ADDRESS

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)



DISTANCE FROM ROAD

ENTER FT OR MI

TAX MAP: 0222 BLK: 0004 PARCEL: 054

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)

- DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
- FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- INDUSTRIAL, COMMERCIAL, DEWATERING
- PUBLIC WATER SUPPLY WELL
- TEST, OBSERVATION, MONITORING
- OPEN LOOP GEOTHERMAL
- CLOSED LOOP GEOTHERMAL 2 loops

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard COUNTY NAME
13 COUNTY NO.
STATE SIGNATURE _____ INSERT S →
DATE ISSUED 11/24/2014 AA 11/24/15
CO SIGNATURE EXP. DATE

APPROXIMATE DEPTH OF WELL 370 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

METHOD OF DRILLING (circle one)

- BORED (or Augered) AIR-ROTARY
- JETTED AIR-PERCussion
- Jetted & DRIVEN ROTARY (Hydraulic Rotary)
- CABLE REVerse-ROTary
- DRive-POINT

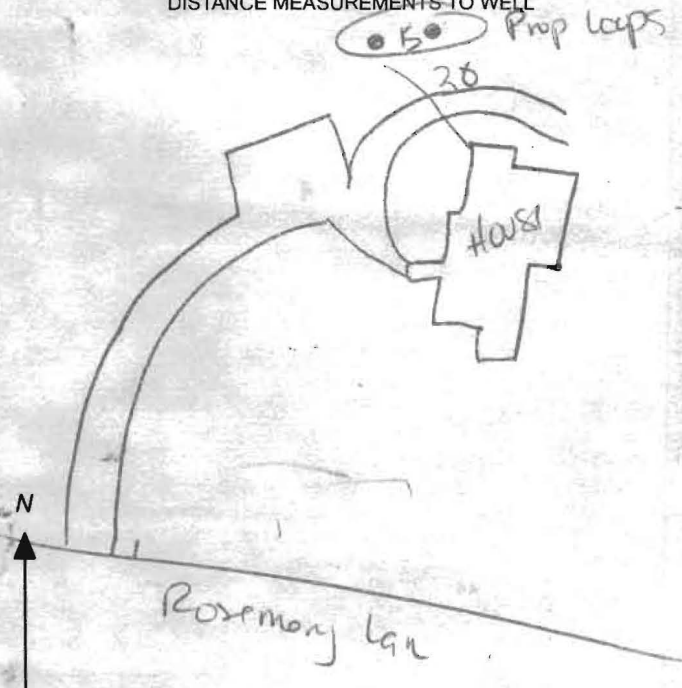
REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

- 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-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
 - THIS WELL WILL DEEPEMED AN EXISTING WELL
- PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) _____

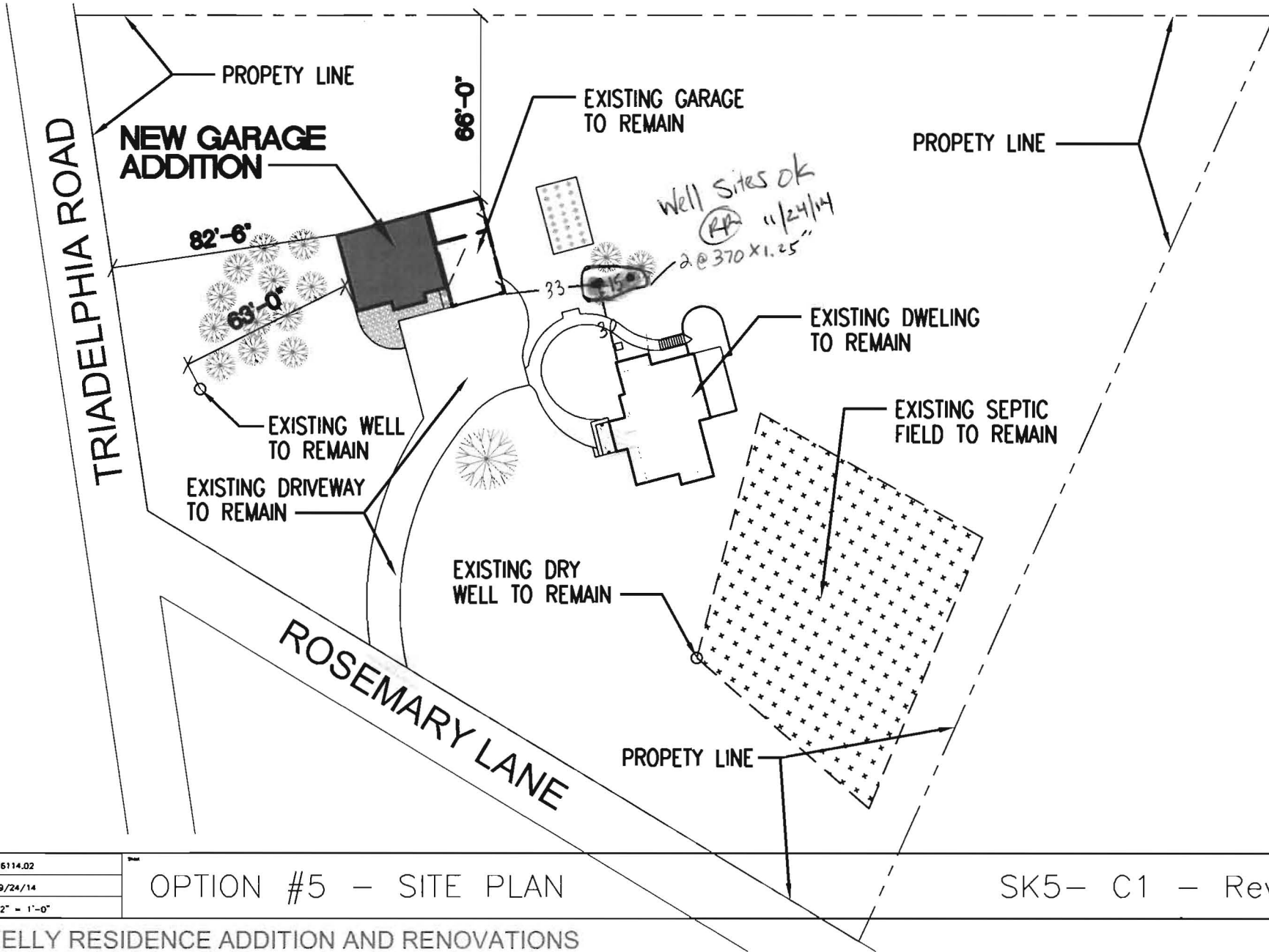
Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROX. PERMIT NUMBER _____ G _____
PERMIT No. HO -14 -0143

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 All wells must be grouted from bottom to top/Grout must be called in for inspection 24hrs prior to being completed.



Plot	6114.02
Date	9/24/14
Scale	1/32" = 1'-0"

OPTION #5 - SITE PLAN

SK5- C1 - Revised

KELLY RESIDENCE ADDITION AND RENOVATIONS

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.

GRADE

EACH BORE HOLE (TYP.)

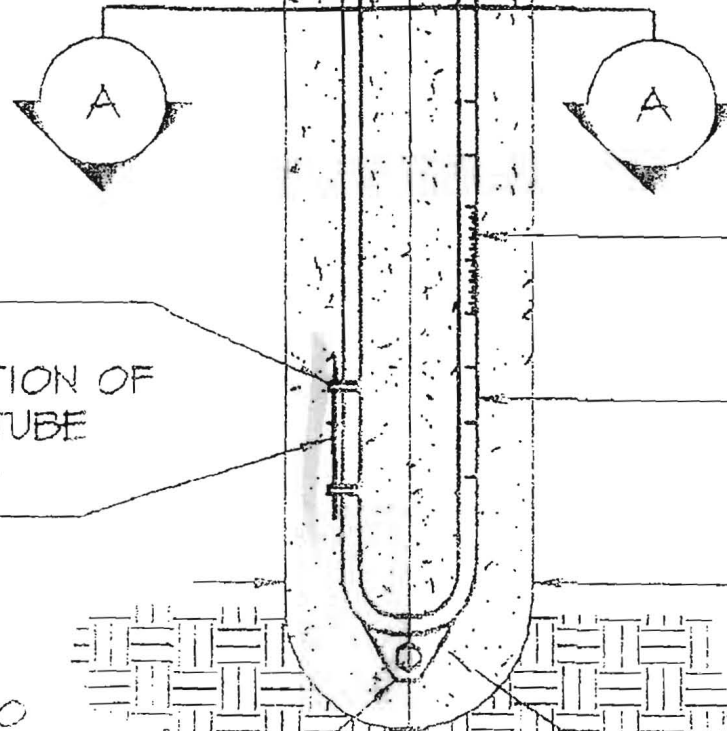
MINIMUM
HORIZONTAL BURY
DEPTH 4 FT

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

DEPTH MARKINGS IN FEET TO
INDICATE DEPTH OF INSERTION

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 HEALTH DEPARTMENT

55321

DATE
11 / 18 / 14

W-5

Received From

Allied Environmental Services

PHONE # (301) 776-8370

For Well permits (2)

10818 Vista Road, Columbia

3552 Rosemary Lane, Ellicott City

CASH
 CHECK
 NO.
 11338

Three hundred twenty $\frac{00}{100}$

Dollars

\$ 320 | 00

Received By Marian Curry