



**Howard County
Health Department**

Bureau of Environmental Health
8930 Stanford Boulevard, Columbia, MD 21045
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 12/5/14

ONSITE SEWAGE DISPOSAL SYSTEM

P 585330

INSTALLATION
APPROVAL DATE: _____

**PERMIT
CONSTRUCTION**

A _____

PROPERTY ADDRESS: 4710 Ashby Court

SUBDIVISION: Homewood Crossing

LOT: 77 TAX ID: _____

CONTRACTOR: Fogle's Septic Clean Inc.

EMAIL: kevin@foglesinc.com

CONTRACTOR ADDRESS: 580 Obrecht Road, Sykesville, MD 21784

PHONE: 410-795-5670

PROPERTY OWNER: Toll Brothers

EMAIL: _____

OWNER ADDRESS: 14881 Meriwether Drive, Glenelg, MD 21737

PHONE: 301-418-1923

BAT UNIT MODEL: ECOPOD E60NCA

PUMP SIZE: _____

PUMP TANK CAPACITY: 600GPD

DISTRIBUTION SYSTEM: GRAVITY LOW PRESSURE DOSED

NUMBER OF BEDROOMS: 4

TRENCHES:	LINEAR FEET REQUIRED: <u>SEE BAT PLAN 92'</u>	INLET DEPTH: <u>SEE BAT PLAN 4'</u>
	TRENCH WIDTH: <u>SEE BAT PLAN 3'</u>	MAXIMUM BOTTOM DEPTH: <u>SEE BAT PLAN 6.5'</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>SEE BAT PLAN</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>SEE BAT PLAN</u>
	LOCATION: PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Install BAT system per plan. <u>2 x 46' Trenches</u>	

ISSUED BY: Jeff Williams

ISSUE DATE: 12/5/14

EXPIRATION DATE: 12/5/15

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM
- NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

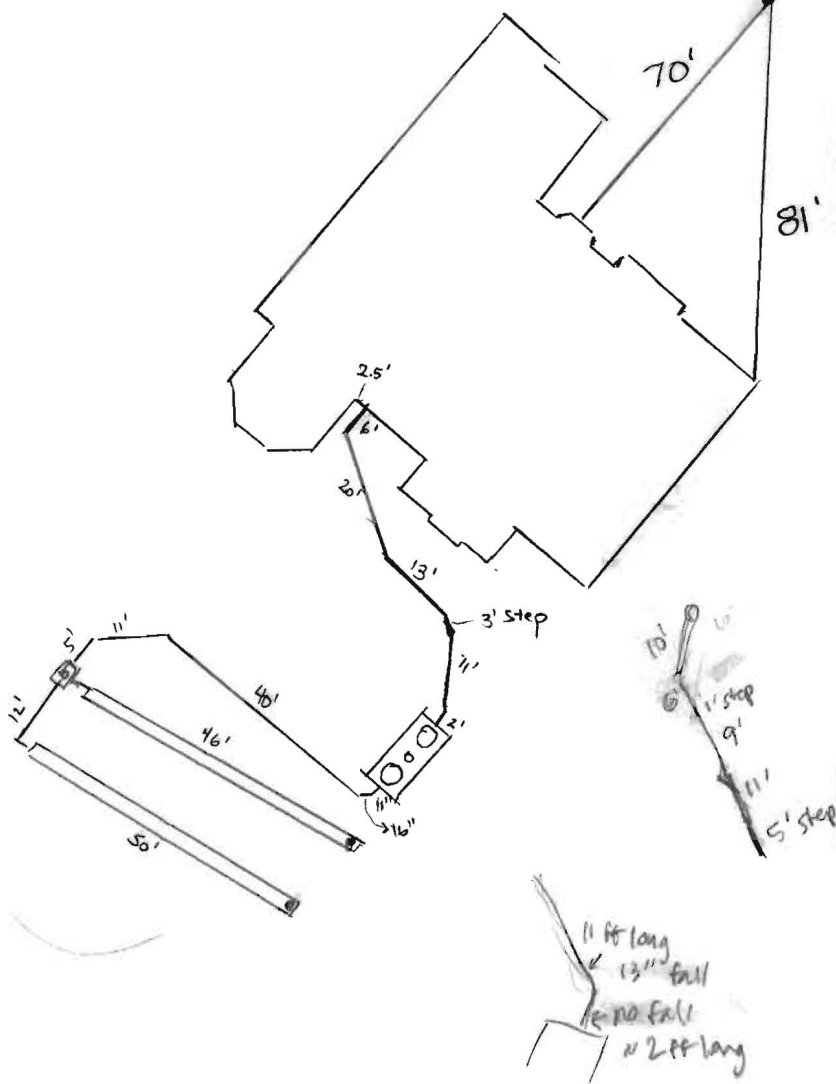
NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

NOT TO SCALE

10-95-0143



ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
_____	_____	_____

NUMBER OF TRENCHES _____

TOTAL LENGTH _____

ABSORPTION AREA _____

DISTRIBUTION BOX LEVEL _____

DISTRIBUTION BOX BAFFLE _____

DISTRIBUTION BOX PORT _____

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL _____

MANUFACTURER _____

CAPACITY _____ GAL

SEAM LOC _____

TANK LID DEPTH _____

BAFFLES _____

BAFFLE FILTER _____

MANHOLE LOC _____

6" PORT LOC _____

WATERTIGHT TEST _____

SLOTTED _____

DATE ON LID _____

PUMP/SEPTIC TANK LEVEL _____

MANUFACTURER _____

CAPACITY _____ GAL

SEAM LOC _____

TANK LID DEPTH _____

BAFFLES _____

BAFFLE FILTER _____

MANHOLE LOC _____

6" PORT LOC _____

WATERTIGHT TEST _____

SLOTTED _____

DATE ON LID _____

PRE-CONSTRUCTION:

INSTALLATION:

FINAL INSPECTOR _____ DATE OF APPROVAL _____

Clerk of the Circuit Court for
Howard County
Land Records/Licensing

The Thomas Dorsey Building
9250 Bendix Road
Columbia, MD 21045
410-313-5850

4710
Ashby
Court

=====
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Toll Brothers Inc
Reference/Control #: 133

=====
LR - Agreement Surcharge
1x 40.00 40.00
=====

SubTotal: 60.00
Total: 60.00
=====

REV-Check-BOA 60.00
Number : 09487698

10/28/2014 14:10 CC13-KD
#3466135 /1342/109

~ Thank you for visiting us today ~

Toll Bros., Inc

250 GIBRALTAR ROAD
HORSHAM, PA 19044
215-938-8000

Check No. - 9487698

Check Date - 10/13/14

Stub 1 of 1

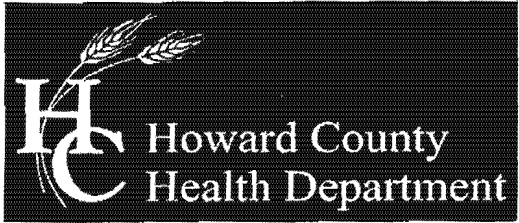
INVOICE NO	INVOICE DATE	COMMENT	GROSS	DEDUCTIONS	AMOUNT PAID
FEE1498/0057	101014	HEALTH DEPT DOCS LOT 57	60.00		60.00

See Reverse Side For Easy Opening Instructions

Toll Bros., Inc

250 GIBRALTAR ROAD
HORSHAM, PA 19044

CLERK OF THE COURT
00000



Bureau of Environmental Health
8930 Stanford Boulevard, Columbia, MD 21045
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

OPERATION AND MAINTENANCE AGREEMENT
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM
HAVING AN ADVANCED PRE-TREATMENT SYSTEM

THIS AGREEMENT is made this 28th day of October, 2014, among Toll Brothers, Inc., hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 4710 Ashby Ct Ellicott City, md, in the 5th Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 9808 Folio 204.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013. The pre-treatment device being installed is ECOPOD E60-ON

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require

maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

Barry Nye 10/28/14
Howard County Health Department

[Signature]
Owner #1 Signature Date

David Erat
Owner #1 Print Name

TOLL Brothers Inc.

[Signature] Oct 25, 14
Buyer #1 Signature Date

Ervin M. Norgren
Buyer #1 Print Name

Owner #2 Signature Date

Owner #2 Print Name

Buyer #2 Signature Date

Buyer #2 Print Name

MEMBER N. C. B. V. A.

MEMBER P. C. B. V. A.



Burial Vaults - Septic Tanks

PHONE: 410-848-0393
 FAX: 410-848-3551

925 WAKEFIELD VALLEY ROAD
 NEW WINDSOR, MD 21776

Five Year Initial Service Policy
 On Site Wastewater Treatment System

Brand Name: <u>ECCOPOD</u>	Model Number: <u>ELON</u>
Purchase Date: <u>2/11/15</u>	Serial Number: <u>EG04-0223TCA</u>

INITIAL POLICY:

A five (5) year service policy shall be furnished to the user by the Installer.

This policy is included in the original purchase price and shall provide the following:

1. An inspection/service call every six months which includes inspections, adjustment and servicing of the mechanical and electrical component parts as necessary to ensure proper function for the first year. And once a year there after..
2. An effluent quality inspection every six months consisting of a visual check for color, turbidity, scum overflow, and an examination for odors for the first year. And then once a year there after.
3. A sample shall be pulled from the aeration tank once a year as described in the "Solids Removal" Section to determine if there is an excess of solids in the treatment plant. If the test results determine if there is an excess of solids in the treatment plant. If the rest results determine a need for solids removal, the user will bear the cost and responsibility for doing so.
4. If any improper operation is observed which cannot be corrected at that time, the user shall be notified immediately in writing of the conditions and the estimated date of correction.

Violations of Warranty including shutting off the electric current to the system for more than 24 hours, disconnecting the alarm system restricting ventilation to the aerator, overloading the system above its rated capacity, or introducing excessive amounts of harmful matter into the system, or any other form of unusual abuse.

**THIS POLICY DOES NOT INCLUDE PUMPING
 SLUDGE FROM UNIT IF NECESSARY**

PERMITTING AUTHORITY:
Howard County

SYSTEM OWNER:
ERVIN NOEGREN

INSTALLATION LOCATION:
4710 Ashby Ct
Ellicott City MD

DISTRIBUTOR:
Babylon Vault Co

INSTALLER:
Fogles Septic
Obrecht Rd
Sykesville MD 21784

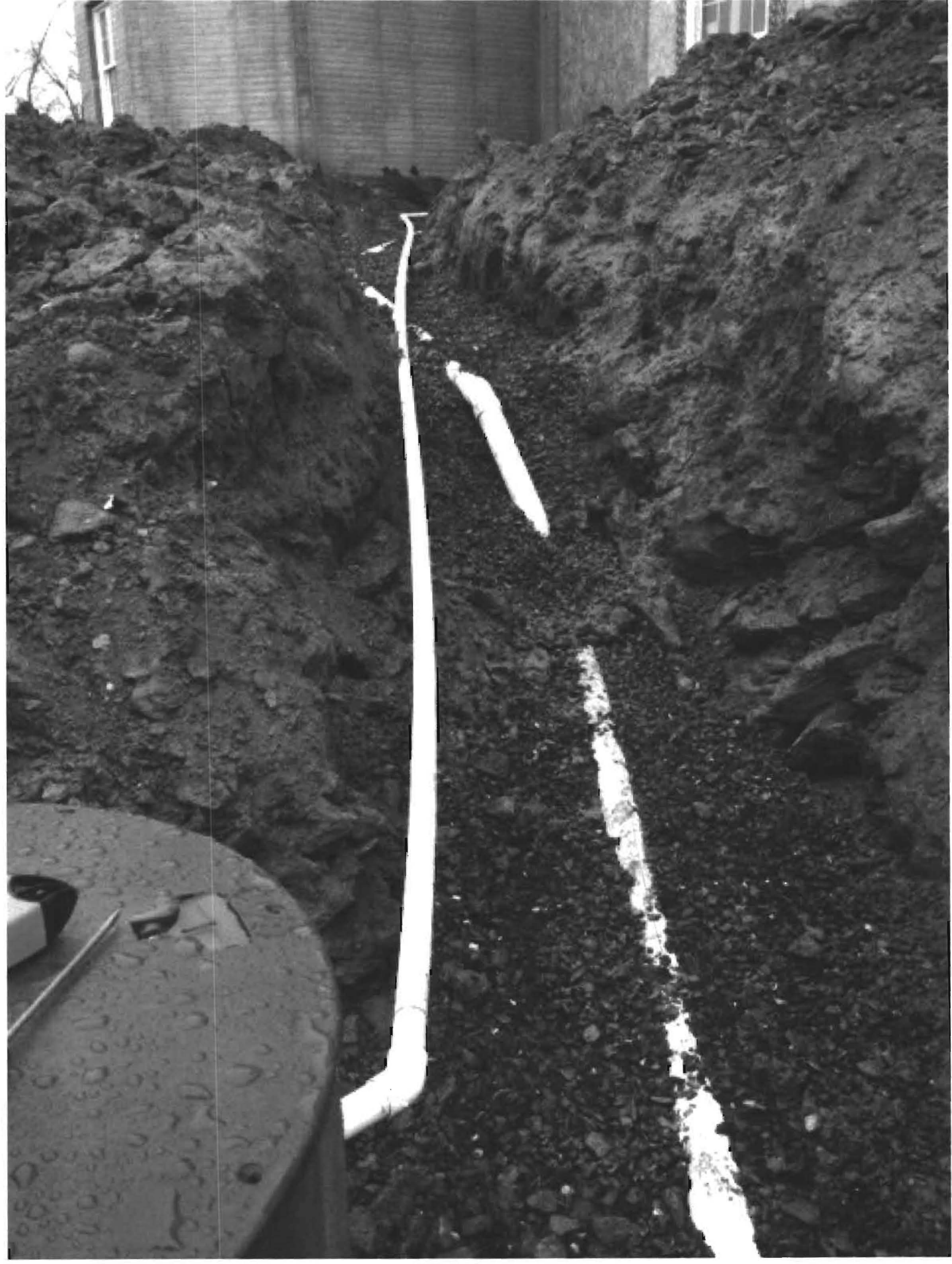
SERVICE COMPANY:
Same AS above

Service Operators License Number: Stewart R Keenly

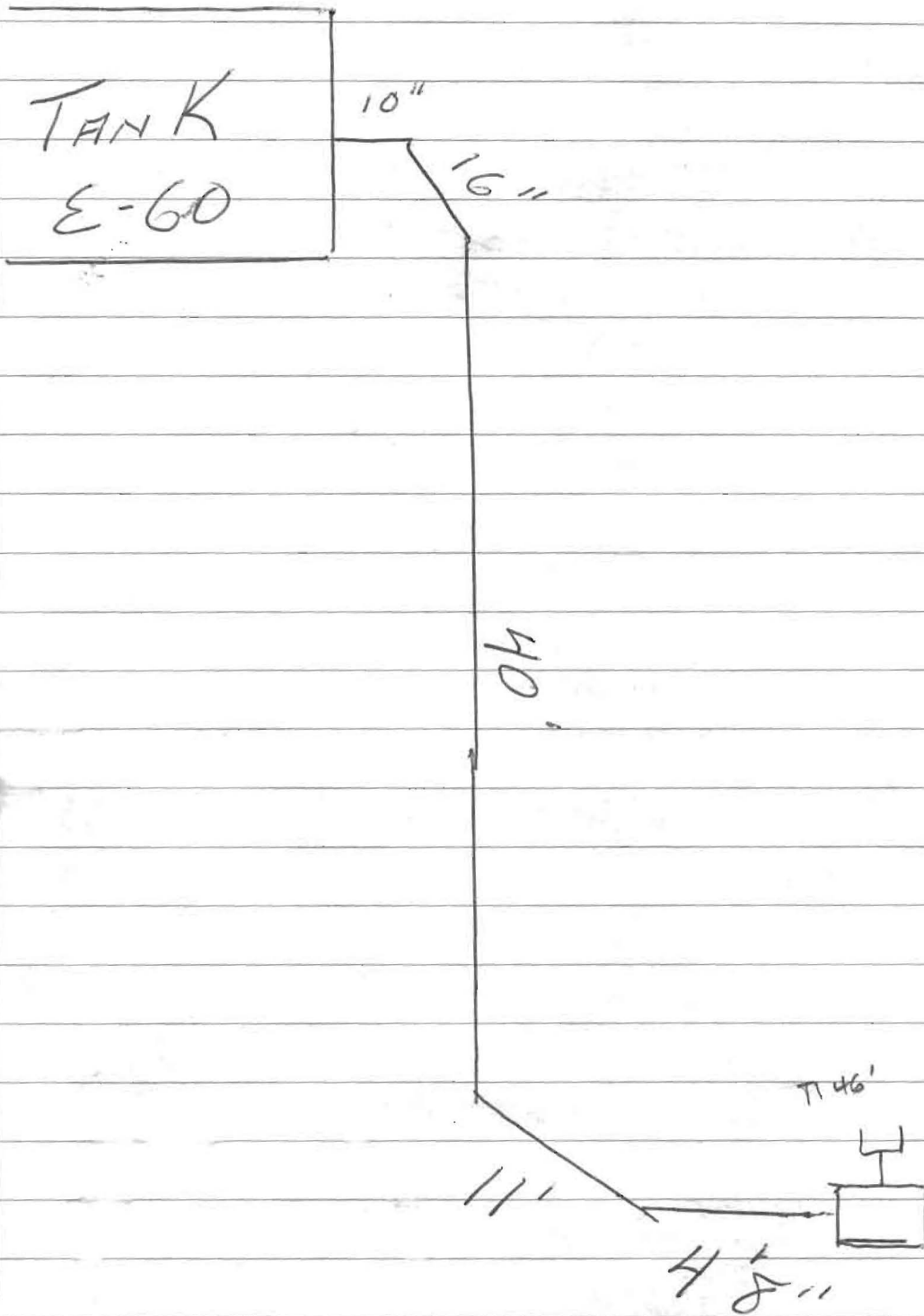
I agree to abide by the service policy as stated above: _____

Witness: _____

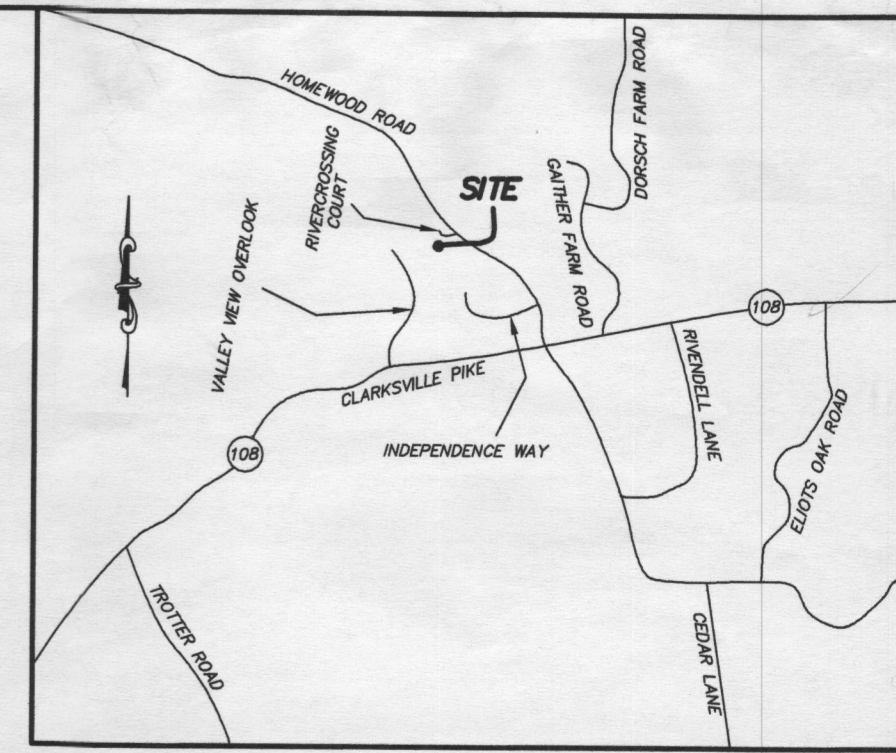




1/9/15 From Ed @ Fogle's



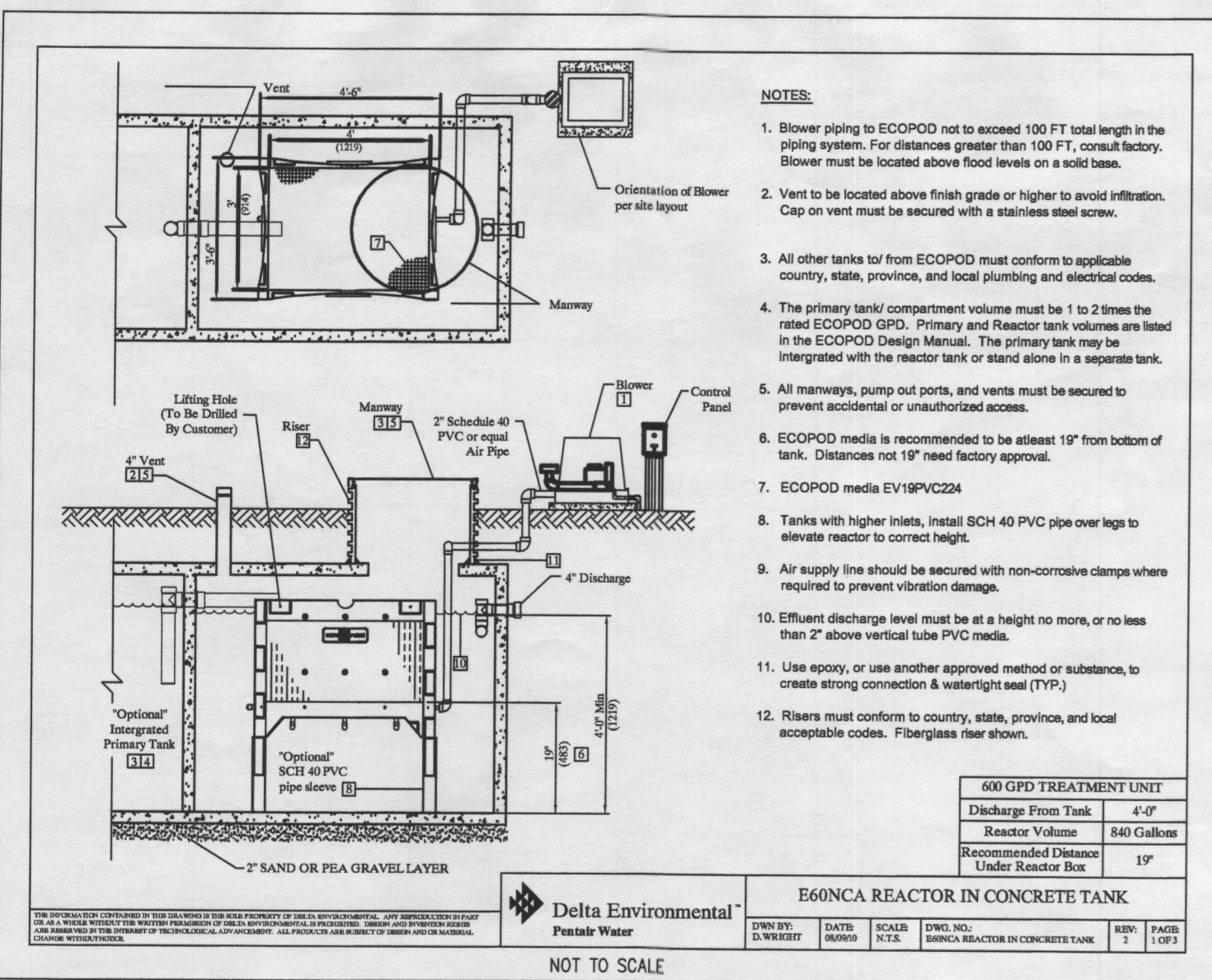
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE 1/27/15.



VICINITY MAP
1" = 1000'

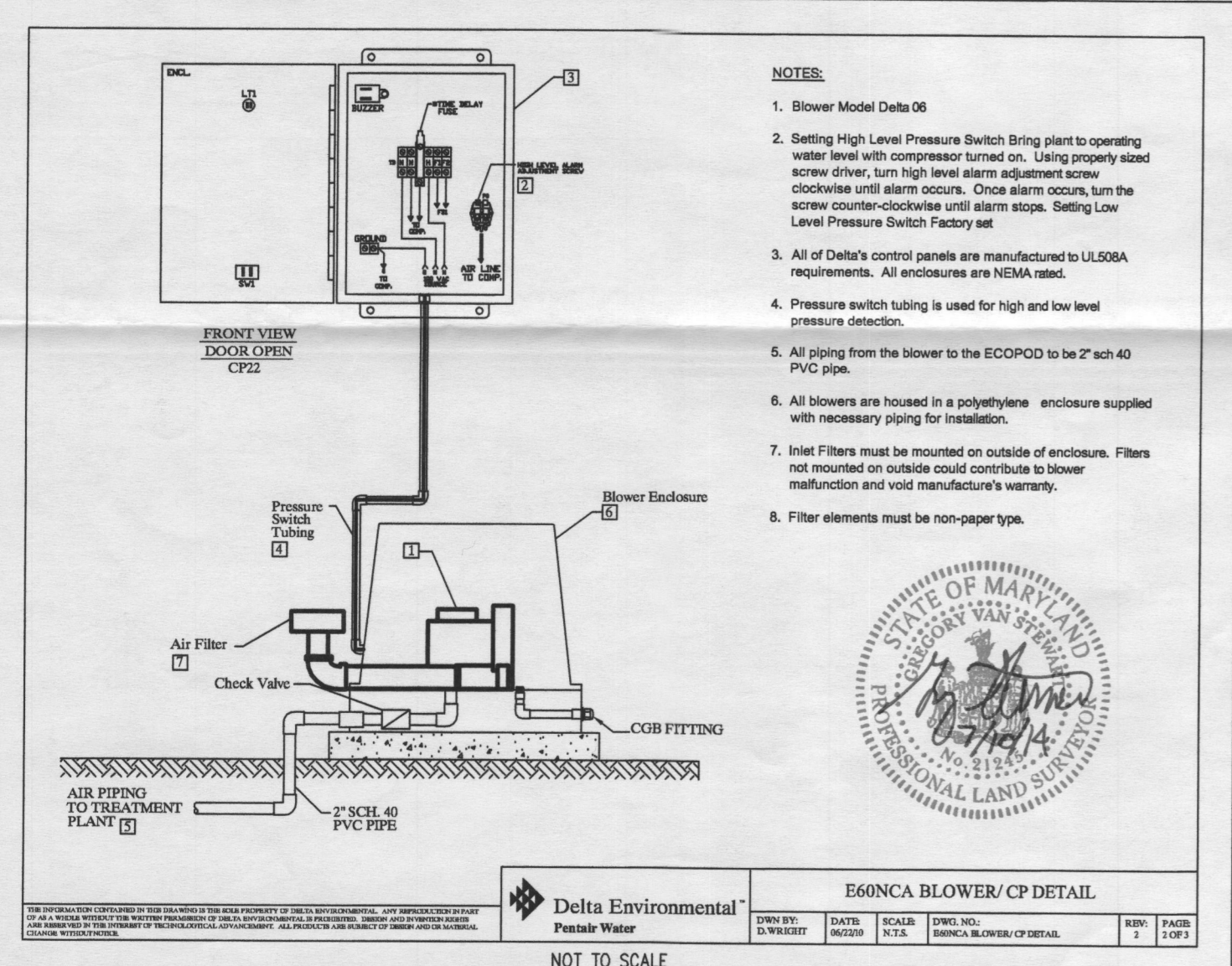
GENERAL NOTES:

1. THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE 2/2/04 COMPREHENSIVE ZONING PLAN AND PER COMP-LITE ZONING REGULATIONS DATED 7/28/06.
2. PLAT REFERENCE: PLAT No. 18241.
3. THE EXISTING TOPOGRAPHY WITHIN THE AREA OF PROPOSED WORK IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM ONE FOOT CONTOUR INTERVALS PREPARED BY ESE. DATED 5/11/11.
4. SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS AND DESIGN DETAILS. PRIOR TO STAKEOUT FOR CONSTRUCTION, IT SHALL BE THE OWNER/BUILDERS RESPONSIBILITY TO PROVIDE ESE CONSULTANTS INC. WITH THE MOST RECENT SET OF HOUSE PLANS.
5. THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410-313-1881) AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
6. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
7. TOTAL LIMIT OF DISTURBANCE: 23,688 SQ. FT. / 0.54 AC.±
8. STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED BY PREVIOUSLY APPROVED PLAN F-05-069 AND ENVIRONMENTAL SITE DESIGN AS SHOWN HEREON.
9. ANY DAMAGE TO PUBLIC "RIGHT-OF-WAYS" OR PAVED PUBLIC ROADS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
10. DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE CIVIL ENGINEER (ESE) MAY CAUSE THE WORK TO BE UNACCEPTABLE.
11. THE DIMENSIONED DISTANCES SHALL GOVERN IF SCALED AND DIMENSIONED DISTANCES ON THIS PLAN ARE FOUND TO BE IN DISAGREEMENT.
12. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM LOT AREA AND OWNERSHIP WIDTH AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
13. THESE AREAS DESIGNATE A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
14. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
15. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
16. UPON BUILDING PERMIT REVIEW THE SEPTIC SYSTEMS FOR ALL PROPOSED STRUCTURES AND/OR EXISTING STRUCTURE EXPANSIONS SHALL BE RE-EVALUATED TO DETERMINE SUFFICIENT SYSTEM CAPACITY.
17. THE DEVELOPMENT OF THIS LOT DOES NOT REQUIRE AN ENVIRONMENTAL CONCEPT PLAN SINCE STORMWATER MANAGEMENT WAS PREVIOUSLY APPROVED UNDER F-05-069 AND ENVIRONMENTAL SITE DESIGN AS SHOWN.
18. A STANDARD SEDIMENT CONTROL PLAN MAY BE USED FOR DEVELOPMENT OF THIS LOT. REFERENCE GRADING PLAN GP-14-034 DATED 10/30/13.
19. THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-0143 HAS BEEN FIELD LOCATED BY ESE CONSULTANTS - PROFESSIONAL LAND SURVEYOR(S), AND IS ACCURATELY SHOWN.
20. BUILDING SETBACKS (B.R.L.'s) SHOWN HEREON PER SITE DEVELOPMENT PLAN SETBACK DISTANCES SHOWN HEREON AS "±" HAVE AN ACCURACY OF ±0.1' FOOT.
21. CULVERT FOR DRIVEWAY PER F-05-069.



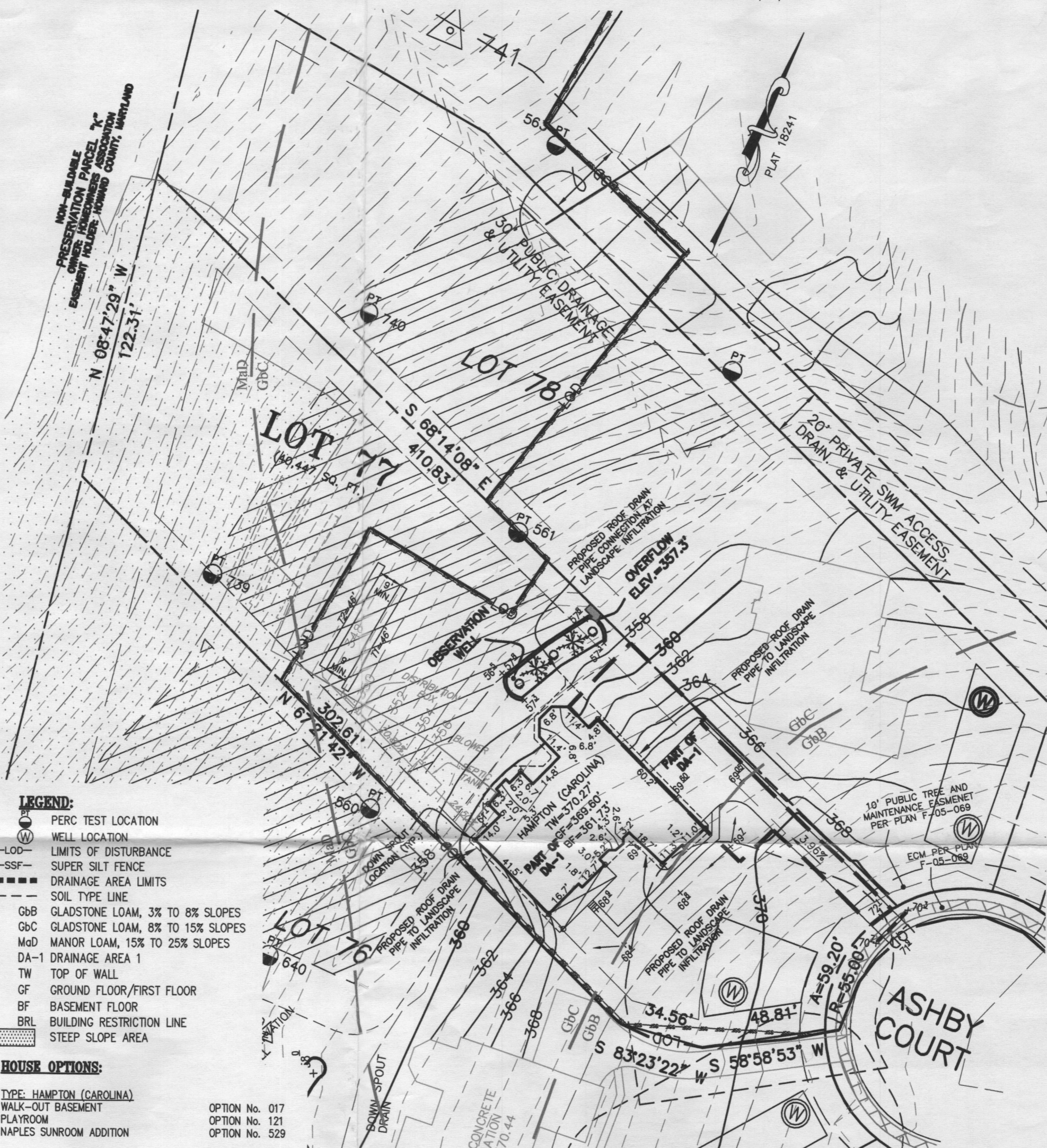
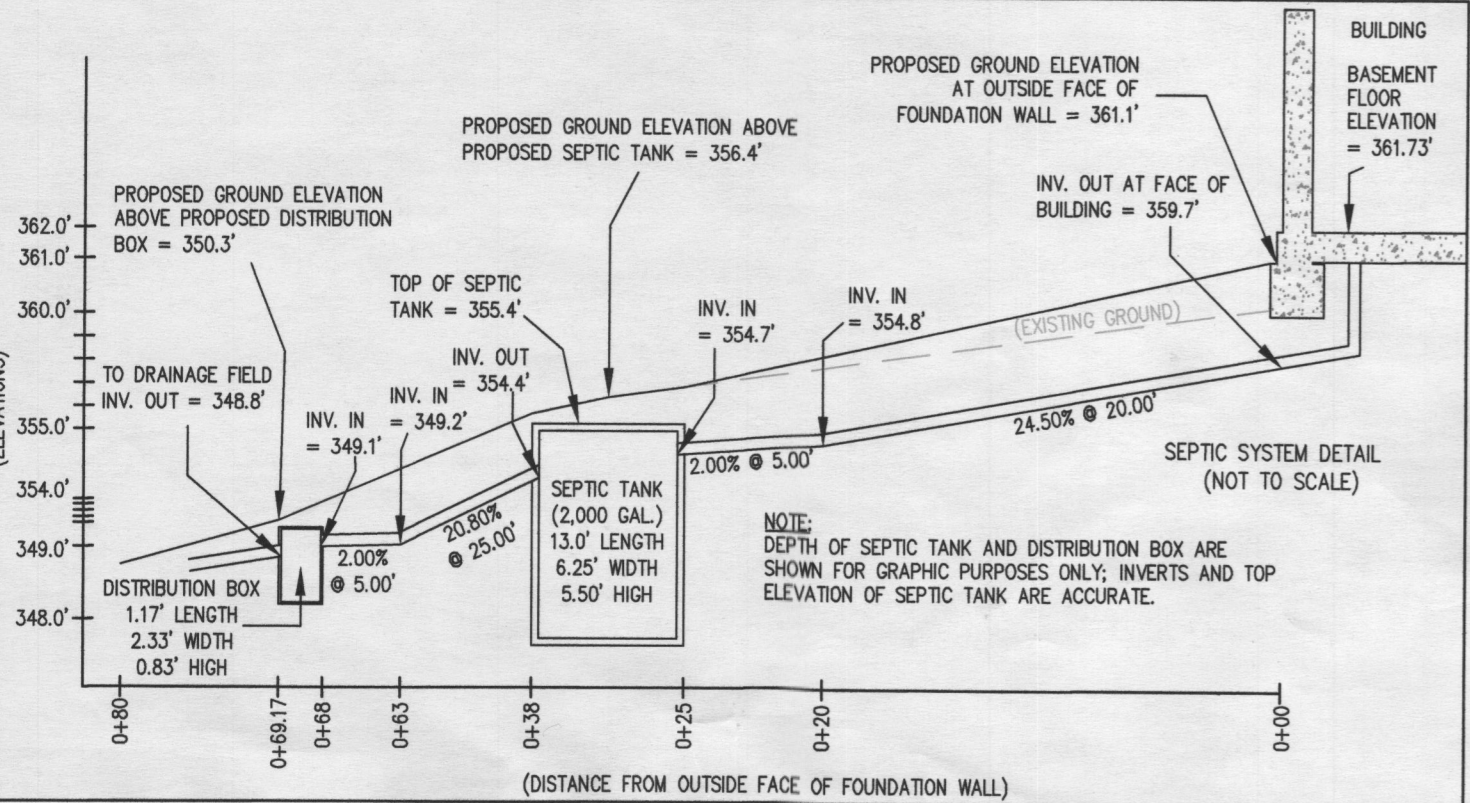
- NOTES:**
1. Blower piping to ECOPOD not to exceed 100 FT total length in the piping system. For distances greater than 100 FT, consult factory. Blower must be located above flood levels on a solid base.
 2. Vent to be located above finish grade or higher to avoid infiltration. Cap on vent must be secured with a stainless steel screw.
 3. All other tanks to/from ECOPOD must conform to applicable country, state, province, and local plumbing and electrical codes.
 4. The primary tank/ compartment volume must be 1 to 2 times the rated ECOPOD GPD. Primary and Reactor tank volumes are listed in the ECOPOD Design Manual. The primary tank may be integrated with the reactor tank or stand alone in a separate tank.
 5. All manways, pump out ports, and vents must be secured to prevent accidental or unauthorized access.
 6. ECOPOD media is recommended to be at least 19" from bottom of tank. Distances not 19" need factory approval.
 7. ECOPOD media EV19PVC224
 8. Tanks with higher inlets, install SCH 40 PVC pipe over legs to elevate reactor to correct height.
 9. Air supply line should be secured with non-corrosive clamps where required to prevent vibration damage.
 10. Effluent discharge level must be at a height no more, or no less than 2" above vertical tube PVC media.
 11. Use epoxy, or use another approved method or substance, to create strong connection & watertight seal (TYP.)
 12. Risers must conform to country, state, province, and local acceptable codes. Fiberglass rebar shown.

Delta Environmental
Pentair Water
E60NCA REACTOR IN CONCRETE TANK
NOT TO SCALE



- NOTES:**
1. Blower Model Delta 06
 2. Setting High Level Pressure Switch Bring plant to operating water level with compressor turned on. Using properly sized screw driver, turn high level alarm adjustment screw clockwise until alarm occurs. Once alarm occurs, turn the screw counter-clockwise until alarm stops. Setting Low Level Pressure Switch Factory set
 3. All of Delta's control panels are manufactured to UL508A requirements. All enclosures are NEMA rated.
 4. Pressure switch tubing is used for high and low level pressure detection.
 5. All piping from the blower to the ECOPOD to be 2" sch 40 PVC pipe.
 6. All blowers are housed in a polyethylene enclosure supplied with necessary piping for installation.
 7. Inlet Filters must be mounted on outside of enclosure. Filters not mounted on outside could contribute to blower malfunction and void manufacturer's warranty.
 8. Filter elements must be non-paper type.

Delta Environmental
Pentair Water
E60NCA BLOWER/CP DETAIL
NOT TO SCALE



- LEGEND:**
- PERC TEST LOCATION
 - WELL LOCATION
 - LOD LIMITS OF DISTURBANCE
 - SSF SUPER SILT FENCE
 - DRAINAGE AREA LIMITS
 - SOIL TYPE LINE
 - GbB GLADSTONE LOAM, 3% TO 8% SLOPES
 - GbC GLADSTONE LOAM, 8% TO 15% SLOPES
 - MaD MANOR LOAM, 15% TO 25% SLOPES
 - DA-1 DRAINAGE AREA 1
 - TW TOP OF WALL
 - GF GROUND FLOOR/FIRST FLOOR
 - BF BASEMENT FLOOR
 - BRL BUILDING RESTRICTION LINE
 - STEEP SLOPE AREA

- HOUSE OPTIONS:**
- TYPE: HAMPTON (CAROLINA)
 - WALK-OUT BASEMENT
 - PLAYROOM
 - NAPLES SUNROOM ADDITION
 - OPTION No. 017
 - OPTION No. 121
 - OPTION No. 529

SEPTIC SYSTEM/BEST AVAILABLE TECHNOLOGY (BAT) NOTES:

1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
2. THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET COVER.
3. THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON THE MANUFACTURER'S SPECIFICATIONS.
4. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
5. THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
6. WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE), IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
7. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
8. AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
9. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.

SEWAGE DISPOSAL SYSTEM DATA (4 BDRM):

1. PROPOSED INVERT AT FOUNDATION WALL: 359.7'
E60 ECOPOD SYSTEM
EX. GRADE OVER TANK: 356.4'
PROPOSED GRADE OVER TANK: 356.4'
INVERT IN: 354.7' INVERT OUT: 354.4'
2. DISTRIBUTION BOX
EXISTING GRADE OVER TANK: 350.3'
PROPOSED GRADE OVER TANK: 350.3'
INVERT IN: 349.1' INVERT OUT: 348.8'
3. TRENCH DESIGN (4 BDRM x 150 GF/BDRM = 600 GPD)
600 GPD ± 1.2 APP. RATE = 500 SF
USE 3' WIDE TRENCH WITH 30" GRAVEL BELOW PIPE
9' MIN. SPACING BETWEEN TRENCH EDGES
500 SF ± 3' WIDTH = 166.67 LF x 0.55 = 91.67 LF MIN. TRENCH
USE 2 46" LONG TRENCHES = 92 LF

TRENCH DATA:

- BOTTOM MAX. DEPTH (7')
- TRENCH 1 (T1):**
GROUND ABOVE = 349.0'
INV. IN = 345.0'
BOTTOM TRENCH = 342.5'
- TRENCH 2 (T2):**
GROUND ABOVE = 347.4'
INV. IN = 343.4'
BOTTOM TRENCH = 340.9'

APPROVED: FOR HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Approved Septic System Plan
Howard County Health Department
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE
DIRECTOR
DATE
PROFESSIONAL ENGINEER
DATE

PLOT PLAN FOR BAT INSTALLATION
LOT 77
HOMWOOD CROSSING
LIBER 9808, FOLIO 204
PLAT No. 18241
TAX No. 05-443423
FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ADDRESS: 4710 ASHBY COURT
ELLCOTT CITY, MARYLAND

ESE Land Planning
Engineering
Land Surveying

ESE Consultants Inc.
7164 Columbia Gateway Dr.
Suite 203
Columbia, MD 21046
TEL: 410-872-9105
FAX: 410-872-4870

DATE: 07/08/14 SCALE: 1"=40' FILE: PP LOT 77_rev 1
CHK'D: G.V.S. JOB NO: 1214 DRAWN: R.C.K.

SEWAGE DISPOSAL SYSTEM DATA (4 BDRM)

- PROPOSED INVERT AT FOUNDATION WALL: 359.7'
 1. E60 ECOPOD SYSTEM
 EX. GRADE OVER TANK: 356.4'
 PROPOSED GRADE OVER TANK: 356.4'
 INVERT IN: 354.7' INVERT OUT: 354.4'
2. DISTRIBUTION BOX
 EXISTING GRADE OVER TANK: 350.3'
 PROPOSED GRADE OVER TANK: 350.3'
 INVERT IN: 349.1' INVERT OUT: 348.8'
3. TRENCH DESIGN (4 BDRM x 150 GPD/BDRM = 600 GPD)
 600 GPD ÷ 1.2 APP. RATE = 500 SF
 USE 3' WIDE TRENCH WITH 30" GRAVEL BELOW PIPE
 9' MIN. SPACING BETWEEN TRENCH EDGES
 500 SF ÷ 3' WIDTH = 166.67 LF x 0.55 = 91.67 LF MIN. TRENCH
 USE 2 46' LONG TRENCHES = 92 LF

TRENCH DATA

- BOTTOM MAX. DEPTH (7')
TRENCH 1 (T1):
 GROUND ABOVE = 349.0'
 INV. IN = 345.0'
 BOTTOM TRENCH = 342.5'
- TRENCH 2 (T2):**
 GROUND ABOVE = 347.4'
 INV. IN = 343.4'
 BOTTOM TRENCH = 340.9'

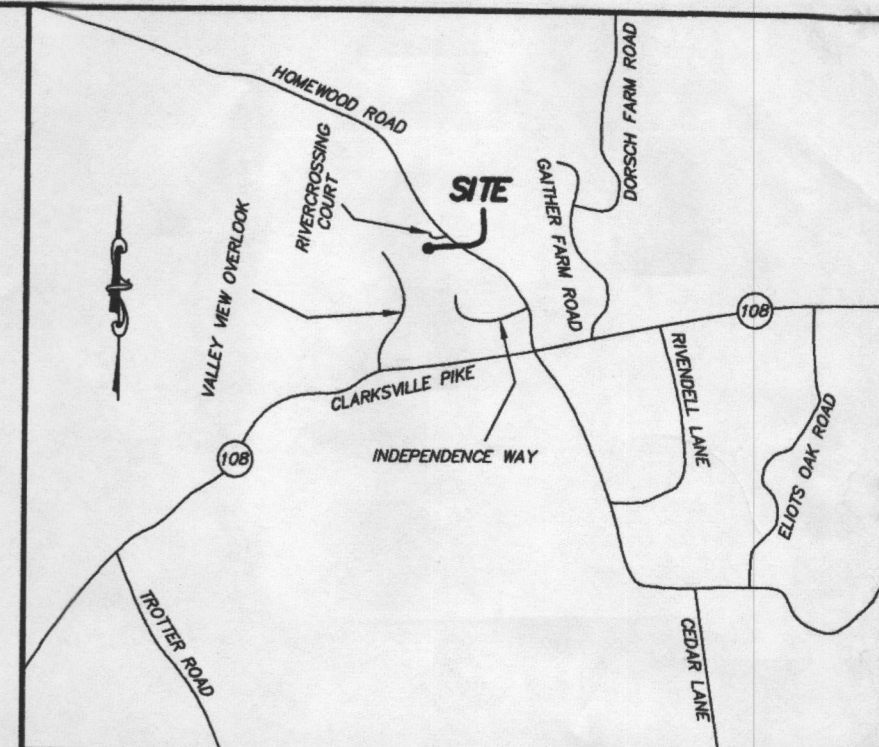
LEGEND:

- PERC TEST LOCATION
- ⊙ WELL LOCATION
- LO- LIMITS OF DISTURBANCE
- SSF- SUPER SILT FENCE
- DRAINAGE AREA LIMITS
- SOIL TYPE LINE
- GbB GLADSTONE LOAM, 3% TO 8% SLOPES
- GbC GLADSTONE LOAM, 8% TO 15% SLOPES
- MaD MANOR LOAM, 15% TO 25% SLOPES
- DA-1 DRAINAGE AREA 1
- TF TOP OF WALL
- GF GROUND FLOOR/FIRST FLOOR
- BF BASEMENT FLOOR
- BRL BUILDING RESTRICTION LINE
- ▨ STEEP SLOPE AREA

HOUSE OPTIONS:

- TYPE- HAMPTON (CAROLINA)
- WALK-OUT BASEMENT
- PLAYROOM
- NAPLES SUNROOM ADDITION

- OPTION No. 017
- OPTION No. 121
- OPTION No. 529



VICINITY MAP

1" = 1000'

GENERAL NOTES:

- THE LOT SHOWN HEREON WAS RECORDED ON MAY 2, 2006 AS PLAT NUMBER 18241. REFER TO THIS PLAT FOR DIMENSIONS, LOT AREAS, ALL EASEMENTS AND BUILDING RESTRICTIONS.
- THIS AREA DESIGNATES A PRIVATE SEWER EASEMENT OF AT LEAST 10,000 SQUARE FEET, AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWER EASEMENT. ANY CHANGES TO A PRIVATE SEWER EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
- EXACT LENGTH OF SEPTIC TRENCHES ARE TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF PRE-CONSTRUCTION INSPECTION.
- SPOIL FROM THE TRENCHING OF THE SEPTIC AREA IS TO BE PLACED ON THE UPHILL SIDE OF THE EXCAVATION FOR EACH INDIVIDUAL LOT.
- SEDIMENT AND EROSION CONTROLS WERE APPROVED BY HOWARD SOIL CONSERVATION DISTRICT UNDER F-05-069 AND GP-14-034 AND SHALL COMPLY WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- STORMWATER MANAGEMENT FOR THIS LOT AS SHOWN.
- THE EXISTING WELL SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-0143 HAS BEEN FIELD LOCATED BY ESE CONSULTANTS - PROFESSIONAL LAND SURVEYOR(S), AND IS ACCURATELY SHOWN.
- THE EXISTING TOPOGRAPHY WITHIN THE AREA OF PROPOSED WORK IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM ONE FOOT CONTOUR INTERVALS PREPARED BY ESE. DATED 5/11/11.

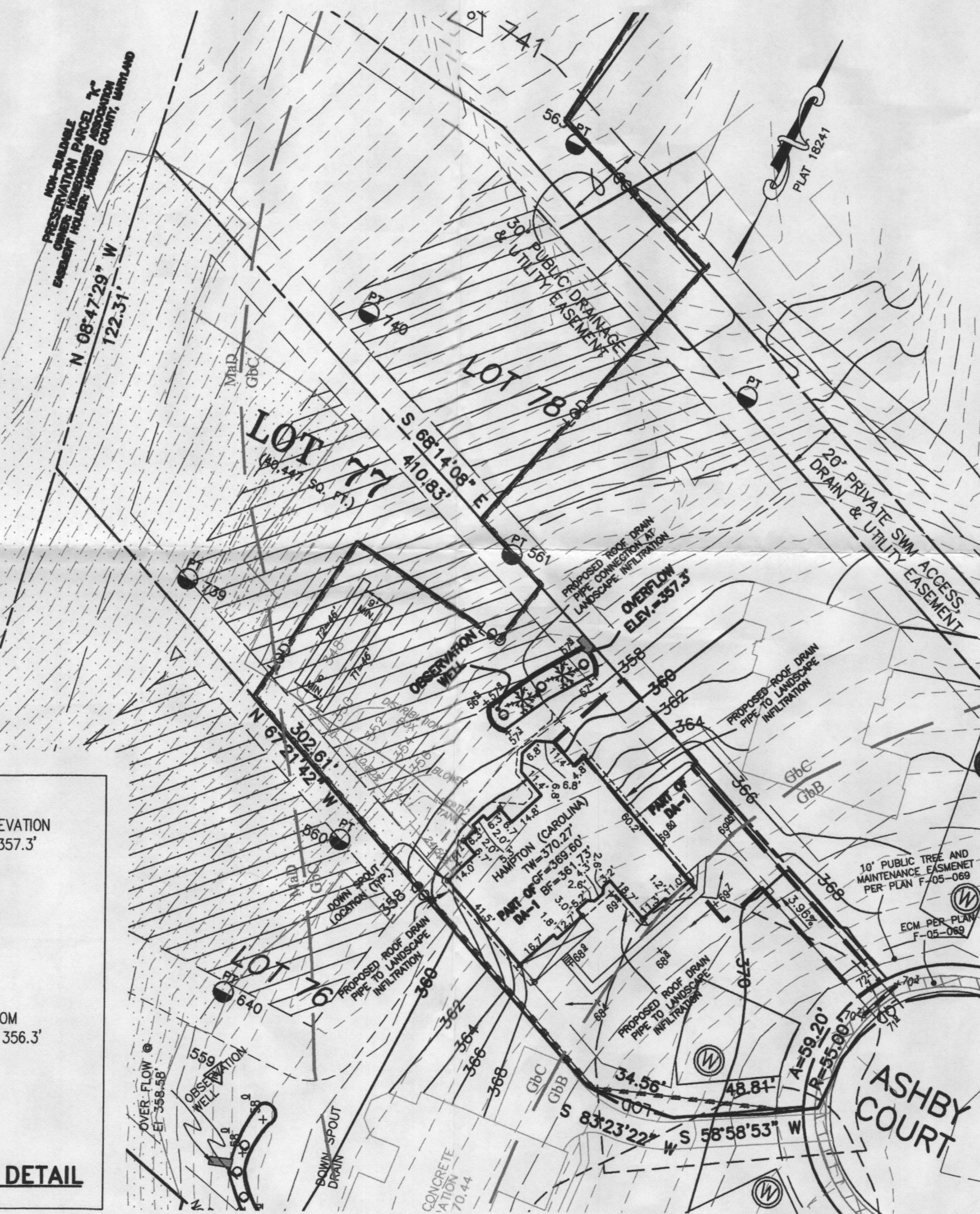
WELL AND SEPTIC NOTES:

TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THE FOLLOWING STATEMENTS ARE TRUE:

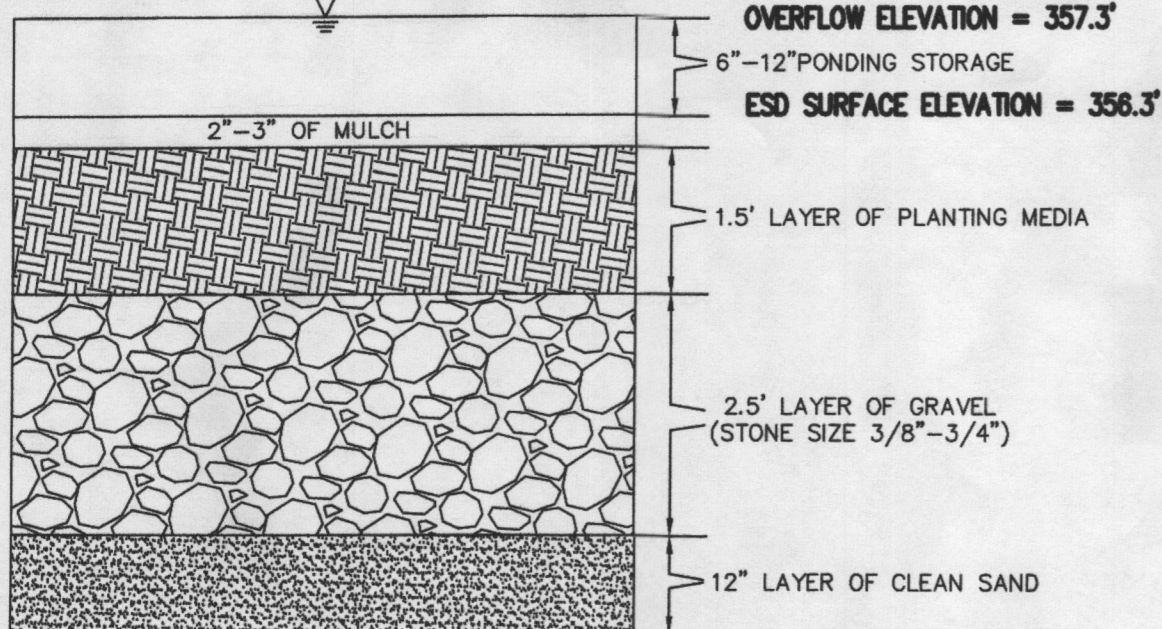
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL EASEMENTS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES HAVE BEEN SHOWN. ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWNGRADIENT OF ANY EXISTING OR PROPOSED SEPTIC SYSTEM AND SEWAGE DISPOSAL EASEMENTS HAVE BEEN SHOWN. THE ENGINEER HAS USED ALL EFFORTS TO FIND THE LOCATIONS OF ALL SURROUNDING WELLS AND SEPTIC SYSTEMS.
- THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTHS AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AS SHOWN ON THE RECORD PLAT 18240 GENERAL NOTES ITEM 2.
- ANY CHANGES TO A PRIVATE SEWER EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- THE SOIL TYPE FOR THIS LOT IS GbB, GbC AND MaD, HYDROLOGIC SOIL GROUP B.

STORMWATER MANAGEMENT CONSTRUCTION AND MAINTENANCE NOTES:

- FINAL GRADING FOR LANDSCAPE INFILTRATION SHOULD NOT TAKE PLACE UNTIL SURROUNDING SITE IS STABILIZED.
- SUB SOIL SHALL NOT BE COMPACTED. EXCAVATION SHOULD BE CONDUCTED IN DRY CONDITIONS WITH EQUIPMENT LOCATED OUTSIDE OF THE PRACTICE TO MINIMIZE BOTTOM AND SIDEWALL COMPACTION.
- SEE APPENDIX B.4 OF THE MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL FOR SAND, GRAVEL AND PLANTING MEDIA.
- INSPECTION SHALL BE MADE AT THE FOLLOWING STAGES:
 - DURING EXCAVATION TO SUB-GRADE
 - DURING PLACEMENT OF BACKFILL AND OBSERVATION WELL
 - DURING CONSTRUCTION OF APPURTENANT CONVEYANCE STRUCTURES
 - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION
- PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTENANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE OR OTHER LEGAL MEASURES PREVENTING ITS NEGLIGENCE, ADVERSE ALTERATIONS AND REMOVAL.
- DURING FIRST YEAR OF OPERATION, INSPECTION FREQUENCY SHOULD BE AFTER EVERY MAJOR STORM AND POORLY ESTABLISHED AREAS RE-VEGETATED.
- THE TOP FEW INCHES OF THE PLANTING SOIL SHOULD BE REMOVED AND REPLACED WHEN WATER PONDS FOR MORE THAN 48 HOURS OR THERE IS ALGAE GROWTH ON THE SURFACE OF THE FACILITY.
- IF STANDING WATER PERSISTS AFTER FILTER MEDIA HAS BEEN MAINTAINED, THE GRAVEL, SOIL AND SAND MAY NEED TO BE CLEANED AND/OR REPLACED.
- OCCASIONAL PRUNING AND REPLACEMENT OF DEAD VEGETATION IS NECESSARY. IF SPECIFIC PLANTS ARE NOT SURVIVING, MORE APPROPRIATE SPECIES SHOULD BE USED. WATERING MAY BE REQUIRED DURING PROLONGED DRY PERIODS.

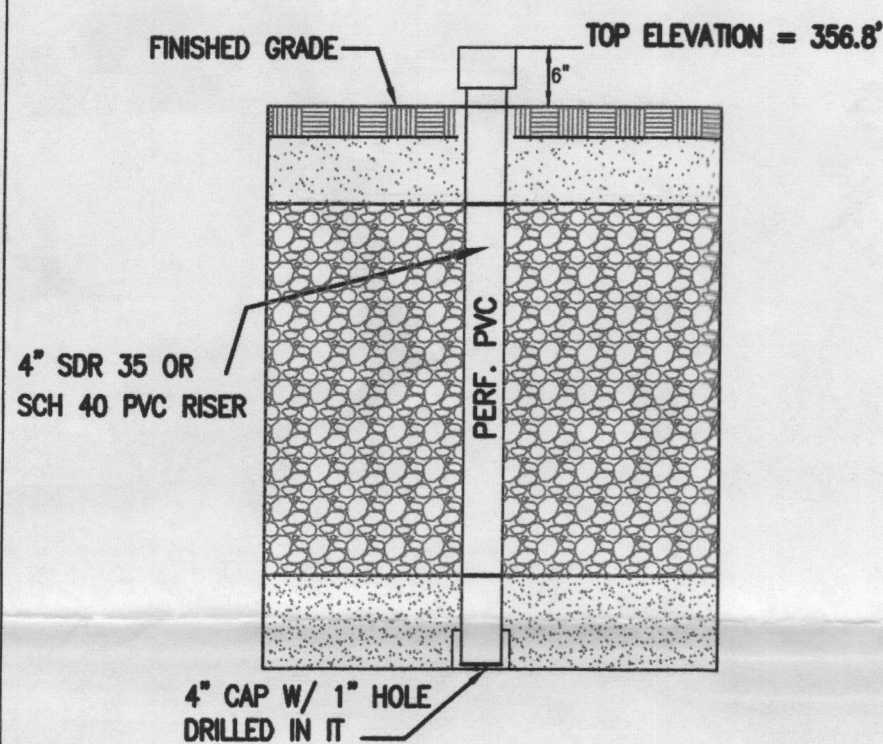


FILTER FABRIC ON THE SIDES ONLY



LANDSCAPE INFILTRATION DETAIL

NOT TO SCALE



OBSERVATION WELL DETAIL

NOT TO SCALE

STORMWATER MANAGEMENT COMPUTATIONS

DRAINAGE AREA NO. 1
 (DRIVEWAY AND ROOFTOP)
 HOUSE/ROOFTOP = 3,613 SQ. FT. (0.0829 ACRES)
 DRIVEWAY (IMPERVIOUS) = 1,580 SQ. FT. (0.0363 ACRES)
 GRASS (NON-IMPERVIOUS) = 1,693 SQ. FT. (0.0389 ACRES)

TOTAL IMPERVIOUS AREA TO BE TREATED = 5,193 SQ. FT. (0.1192 ACRES)
 TOTAL PERVIOUS AREA TO BE TREATED = 1,693 SQ. FT. (0.0389 ACRES)

TOTAL AREA TO BE TREATED = 6,886 SQ. FT. (0.1581 ACRES)

ESD CALCULATIONS:

A = (TOTAL DRAINAGE AREA) = 6,886 SQ. FT. (0.1581 ACRES)
 Pe = 1.0" (RAINFALL TARGET)
 (I) = (IMPERVIOUS AREA) ÷ (IMPERVIOUS AREA + DRAINAGE AREA)
 (0.1192 ÷ 0.1581) = 0.7540 = 75%
 Rv = (THE DIMENSIONLESS VOLUMETRIC RUNOFF COEFFICIENT)
 0.05 + 0.009 x (I) = 0.05 + 0.009 x (75%) = 0.725
 Qe = (RUNOFF DEPTH IN INCHES THAT MUST BE TREATED)
 (Pe x Rv) = (1 x 0.725) = 0.725 INCHES
 ESDv = RUNOFF VOLUME (IN ACRES-FEET)
 (Pe) x (Rv) x (A) ÷ 12
 (1) x (0.725) x (6886) ÷ 12 = 4,992.35 ÷ 12 = 416.0 CF

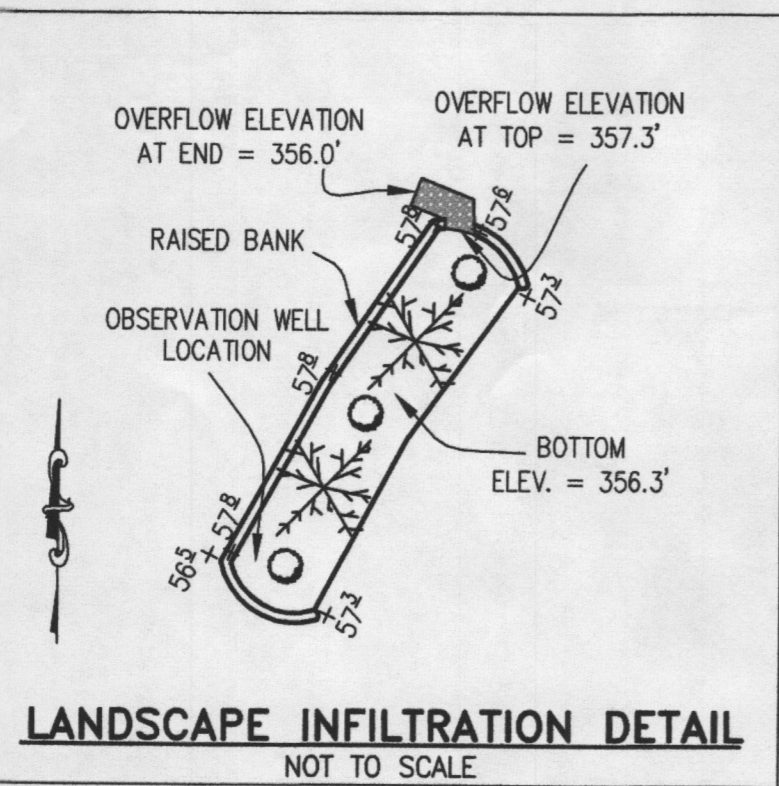
ESD SPECIFICATIONS:

LANDSCAPE INFILTRATION DESIGN (LESS THAN 10,000 SQ. FT.)
 DRAINAGE AREA = 6,886 SQ. FT.
 PROPOSED IMPERVIOUS AREA = 5,193 SQ. FT.
 SURFACE AREA = 420 SQ. FT.
 STORAGE AREA = (SURFACE AREA x DEPTH) (420 x 1) = 420 CF
 TOTAL STORAGE AREA = 420 CF

*ESD TO THE MEP IS MET

PLANTING SCHEDULE:

PLANTS	MINIMUM NUMBER	TYPE
TREES	3	SPECIES TO BE DETERMINED BY LANDSCAPE CONTRACTOR CHOSEN FROM THE APPROVED SPECIES LIST AS DESCRIBED IN MDC MANUAL APPENDIX A.
SHRUBS / BUSHES	2	SPECIES TO BE DETERMINED BY LANDSCAPE CONTRACTOR, CHOSEN FROM APPROVED SPECIES LIST



LANDSCAPE INFILTRATION DETAIL

NOT TO SCALE

APPROVED: FOR HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DIRECTOR

PROFESSIONAL ENGINEER

STORMWATER MANAGEMENT
 LANDSCAPE INFILTRATION DESIGN
 LOT 77
HOMWOOD CROSSING
 LIBER 9808, FOLIO 204
 PLAT No. 18241
 TAX No. 05-443423
 FIFTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 ADDRESS: 4710 ASHBY COURT
 ELLICOTT CITY, MARYLAND

ESE Land Planning
 Engineering
 Land Surveying

ESE Consultants Inc.
 7164 Columbia Gateway Dr.
 Suite 203
 Columbia, MD 21046
 TEL: 410-872-9105
 FAX: 410-872-4870

DATE: 07/08/14 SCALE: 1"=40' FILE: SWM LOT 77_rev 1
 CHK'D: G.V.S. JOB NO: 1214 DRAWN: R.C.K.

SEWAGE DISPOSAL SYSTEM DATA (4 BDRM)

- PROPOSED INVERT AT FOUNDATION WALL: 359.7'
 1. EGO ECOPOD SYSTEM
 EX. GRADE OVER TANK: 356.4'
 PROPOSED GRADE OVER TANK: 356.4'
 INVERT IN: 354.7' INVERT OUT: 354.4'
2. DISTRIBUTION BOX
 EXISTING GRADE OVER TANK: 350.3'
 PROPOSED GRADE OVER TANK: 350.3'
 INVERT IN: 349.1' INVERT OUT: 348.8'
3. TRENCH DESIGN (4 BDRM x 150 GPD/BDRM = 600 GPD)
 600 GPD ÷ 1.2 APP. RATE = 500 SF
 USE 3" WIDE TRENCH WITH 30" GRAVEL BELOW PIPE
 9' MIN. SPACING BETWEEN TRENCH EDGES
 500 SF ÷ 3' WIDTH = 166.67 LF x 0.55 = 91.67 LF MIN. TRENCH
 USE 2 46' LONG TRENCHES = 92 LF

TRENCH DATA

- BOTTOM MAX. DEPTH (7)
TRENCH 1 (T1):
 GROUND ABOVE = 349.0'
 INV. IN = 345.0'
 BOTTOM TRENCH = 342.5'
- TRENCH 2 (T2):**
 GROUND ABOVE = 347.4'
 INV. IN = 343.4'
 BOTTOM TRENCH = 340.9'

LEGEND:

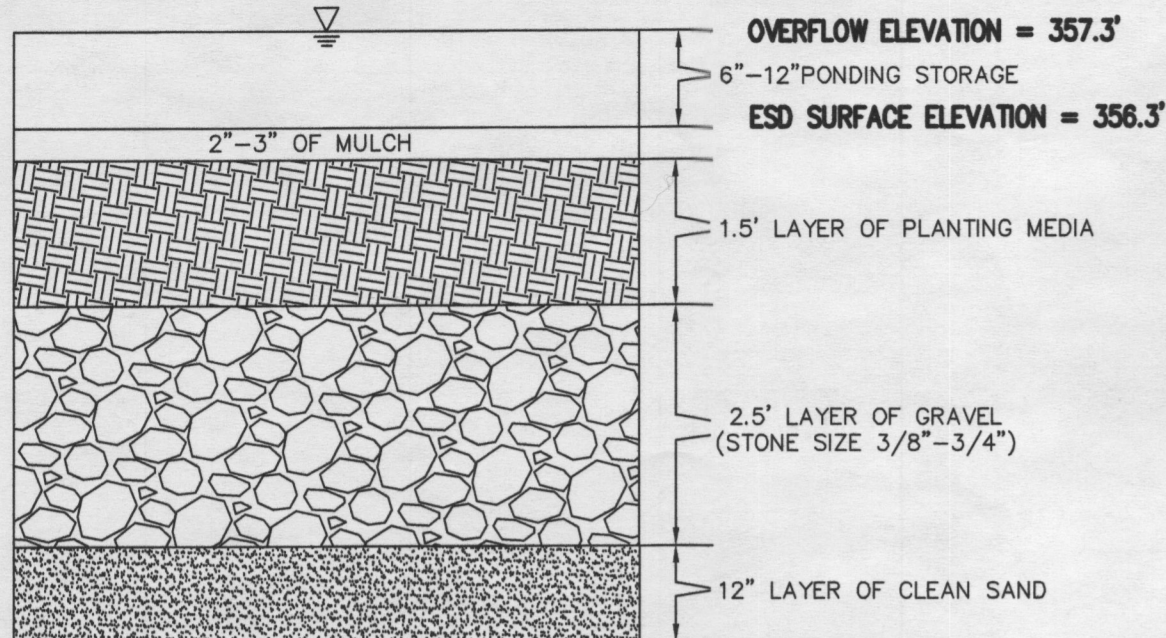
- PERC TEST LOCATION
- WELL LOCATION
- LOD- LIMITS OF DISTURBANCE
- SSF- SUPER SILT FENCE
- DRAINAGE AREA LIMITS
- SOIL TYPE LINE
- GbB GLADSTONE LOAM, 3% TO 8% SLOPES
- GbC GLADSTONE LOAM, 8% TO 15% SLOPES
- MoD MANOR LOAM, 15% TO 25% SLOPES
- DA-1 DRAINAGE AREA 1
- TW TOP OF WALL
- GF GROUND FLOOR/FIRST FLOOR
- BF BASEMENT FLOOR
- BRL BUILDING RESTRICTION LINE
- STEEP SLOPE AREA

HOUSE OPTIONS:

- TYPE- HAMPTON (CAROLINA)
- WALK-OUT BASEMENT
- PLAYROOM
- NAPLES SUNROOM ADDITION

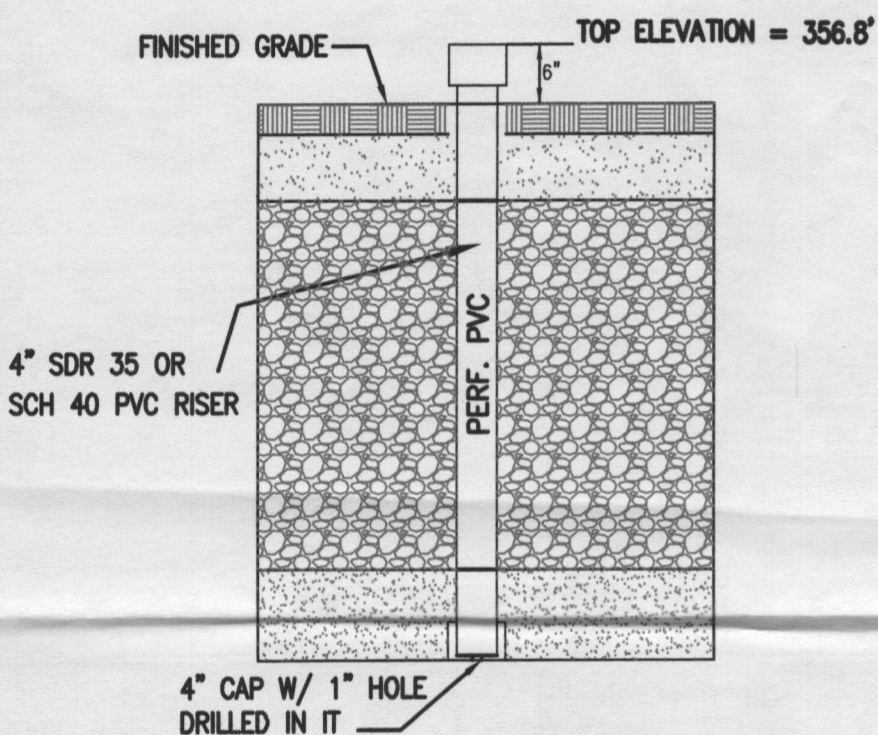
- OPTION No. 017
- OPTION No. 121
- OPTION No. 529

FILTER FABRIC ON THE SIDES ONLY



LANDSCAPE INFILTRATION DETAIL

NOT TO SCALE



OBSERVATION WELL DETAIL

NOT TO SCALE

STORMWATER MANAGEMENT COMPUTATIONS

DRAINAGE AREA NO. 1
 (DRIVEWAY AND ROOFTOP)
 HOUSE/ROOFTOP = 3,613 SQ. FT. (0.0829 ACRES)
 DRIVEWAY (IMPERVIOUS) = 1,580 SQ. FT. (0.0363 ACRES)
 GRASS (NON-IMPERVIOUS) = 1,693 SQ. FT. (0.0389 ACRES)

TOTAL IMPERVIOUS AREA TO BE TREATED = 5,193 SQ. FT. (0.1192 ACRES)
 TOTAL PERVIOUS AREA TO BE TREATED = 1,693 SQ. FT. (0.0389 ACRES)

TOTAL AREA TO BE TREATED = 6,886 SQ. FT. (0.1581 ACRES)

ESD CALCULATIONS:

A = (TOTAL DRAINAGE AREA) = 6,886 SQ. FT. (0.1581 ACRES)
 Pe = 1.0" (RAINFALL TARGET)
 (I) = (IMPERVIOUS AREA) = (IMPERVIOUS AREA ÷ DRAINAGE AREA)
 (0.1192 ÷ 0.1581) = 0.7540 = 75%
 Rv = (THE DIMENSIONLESS VOLUMETRIC RUNOFF COEFFICIENT)
 0.05 + 0.009 x (I) = 0.05 + 0.009 x (75%) = 0.725
 Qe = (RUNOFF DEPTH IN INCHES THAT MUST BE TREATED)
 (Pe x Rv) = (1 x 0.725) = 0.725 INCHES
 ESDV = RUNOFF VOLUME (IN ACRES-FEET)
 (Pe) x (Rv) x (A) ÷ 12
 (1) x (0.725) x (6886) ÷ 12 = 4,992.35 ÷ 12 = 416.0 CF

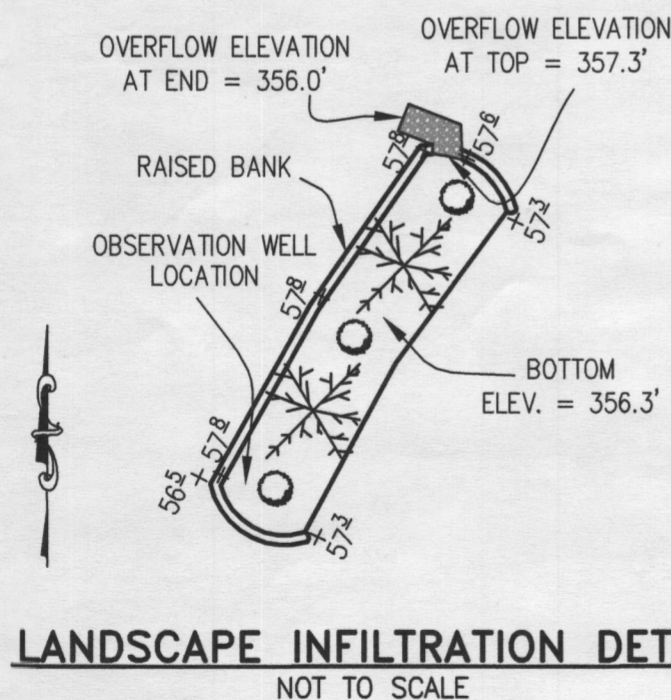
ESD SPECIFICATIONS:

LANDSCAPE INFILTRATION DESIGN (LESS THAN 10,000 SQ. FT.)
 DRAINAGE AREA = 6,886 SQ. FT.
 PROPOSED IMPERVIOUS AREA = 5,193 SQ. FT.
 SURFACE AREA = 420 SQ. FT.
 STORAGE AREA = (SURFACE AREA x DEPTH) (420 x 1) = 420 CF
 TOTAL STORAGE AREA = 420 CF

***ESD TO THE MEP IS MET**

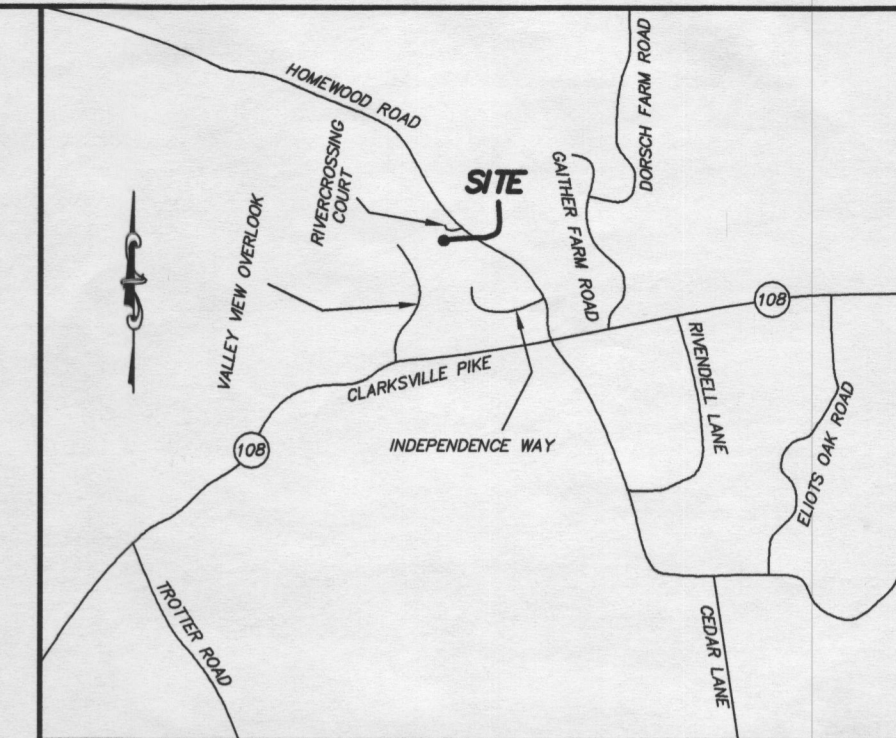
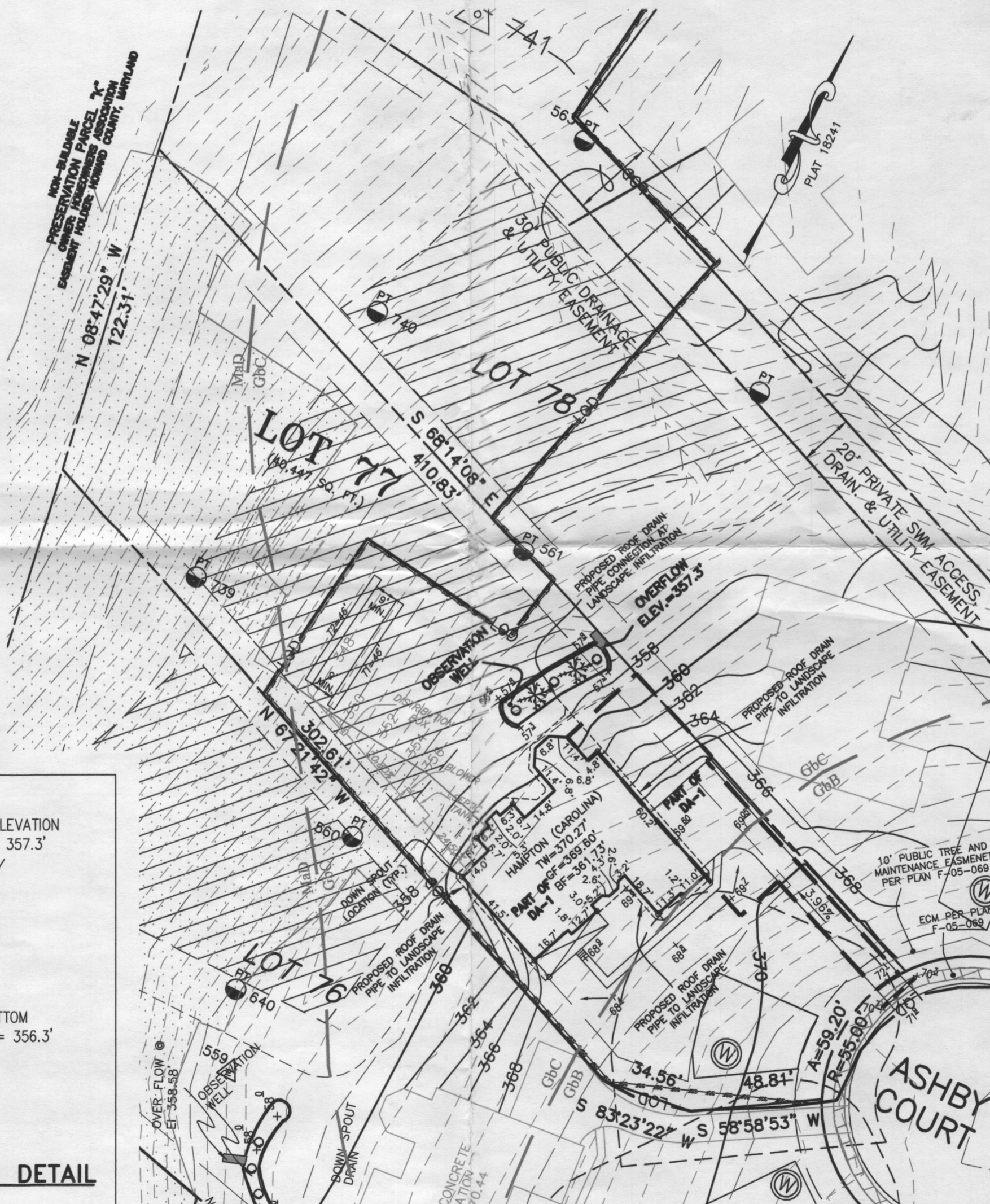
PLANTING SCHEDULE:

PLANTS	MINIMUM NUMBER	TYPE
TREES	3	SPECIES TO BE DETERMINED BY LANDSCAPE CONTRACTOR CHOSEN FROM THE APPROVED SPECIES LIST AS DESCRIBED IN MDE MANUAL APPENDIX A.
SHRUBS / BUSHES	2	SPECIES TO BE DETERMINED BY LANDSCAPE CONTRACTOR, CHOSEN FROM APPROVED SPECIES LIST



LANDSCAPE INFILTRATION DETAIL

NOT TO SCALE



VICINITY MAP

1" = 1000'

GENERAL NOTES:

- THE LOT SHOWN HEREON WAS RECORDED ON MAY 2, 2006 AS PLAT NUMBER 18241. REFER TO THIS PLAT FOR DIMENSIONS, LOT AREAS, ALL EASEMENTS AND BUILDING RESTRICTIONS.
- THIS AREA DESIGNATES A PRIVATE SEWER EASEMENT OF AT LEAST 10,000 SQUARE FEET, AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWER EASEMENT. ANY CHANGES TO A PRIVATE SEWER EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
- EXACT LENGTH OF SEPTIC TRENCHES ARE TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF PRE-CONSTRUCTION INSPECTION.
- SPOIL FROM THE TRENCHING OF THE SEPTIC AREA IS TO BE PLACED ON THE UPHILL SIDE OF THE EXCAVATION FOR EACH INDIVIDUAL LOT.
- SEDIMENT AND EROSION CONTROLS WERE APPROVED BY HOWARD SOIL CONSERVATION DISTRICT UNDER F-05-069 AND GP-14-034 AND SHALL COMPLY WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- STORMWATER MANAGEMENT FOR THIS LOT AS SHOWN.
- THE EXISTING WELL SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-0143 HAS BEEN FIELD LOCATED BY ESE CONSULTANTS - PROFESSIONAL LAND SURVEYOR(S), AND IS ACCURATELY SHOWN.
- THE EXISTING TOPOGRAPHY WITHIN THE AREA OF PROPOSED WORK IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM ONE FOOT CONTOUR INTERVALS PREPARED BY ESE. DATED 5/11/11.

WELL AND SEPTIC NOTES:

TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THE FOLLOWING STATEMENTS ARE TRUE:

- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL EASEMENTS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES HAVE BEEN SHOWN. ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWNGRADIENT OF ANY EXISTING OR PROPOSED SEPTIC SYSTEM AND SEWAGE DISPOSAL EASEMENTS HAVE BEEN SHOWN. THE ENGINEER HAS USED ALL EFFORTS TO FIND THE LOCATIONS OF ALL SURROUNDING WELLS AND SEPTIC SYSTEMS.
- THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTHS AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AS SHOWN ON THE RECORD PLAT 18240 GENERAL NOTES ITEM 2.
- ANY CHANGES TO A PRIVATE SEWER EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- THE SOIL TYPE FOR THIS LOT IS GbB, GbC AND MoD, HYDROLOGIC SOIL GROUP B.

STORMWATER MANAGEMENT CONSTRUCTION AND MAINTENANCE NOTES:

- FINAL GRADING FOR LANDSCAPE INFILTRATION SHOULD NOT TAKE PLACE UNTIL SURROUNDING SITE IS STABILIZED.
- SUB SOIL SHALL NOT BE COMPACTED. EXCAVATION SHOULD BE CONDUCTED IN DRY CONDITIONS WITH EQUIPMENT LOCATED OUTSIDE OF THE PRACTICE TO MINIMIZE BOTTOM AND SIDEWALL COMPACTON.
- SEE APPENDIX B.4 OF THE MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL FOR SAND, GRAVEL AND PLANTING MEDIA.
- INSPECTION SHALL BE MADE AT THE FOLLOWING STAGES:
 - (a) DURING EXCAVATION TO SUB-GRADE
 - (b) DURING PLACEMENT OF BACKFILL AND OBSERVATION WELL
 - (c) DURING CONSTRUCTION OF APPURTENANT CONVEYANCE STRUCTURES
 - (d) UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION
- PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTENANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE OR OTHER LEGAL MEASURES PREVENTING ITS NEGLIGENCE, ADVERSE ALTERATIONS AND REMOVAL.
- DURING FIRST YEAR OF OPERATION, INSPECTION FREQUENCY SHOULD BE AFTER EVERY MAJOR STORM AND POORLY ESTABLISHED AREAS RE-VEGETATED.
- THE TOP FEW INCHES OF THE PLANTING SOIL SHOULD BE REMOVED AND REPLACED WHEN WATER PONDS FOR MORE THAN 48 HOURS OR THERE IS ALGAE GROWTH ON THE SURFACE OF THE FACILITY.
- IF STANDING WATER PERSISTS AFTER FILTER MEDIA HAS BEEN MAINTAINED, THE GRAVEL, SOIL AND SAND MAY NEED TO BE CLEANED AND/OR REPLACED.
9. ANNUAL PRUNING AND REPLACEMENT OF DEAD VEGETATION IS NECESSARY. IF SPECIFIC PLANTS ARE NOT SURVIVING, MORE APPROPRIATE SPECIES SHOULD BE USED. WATERING MAY BE REQUIRED DURING PROLONGED DRY PERIODS.

APPROVED: FOR HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION _____ DATE _____

DIRECTOR _____ DATE _____

PROFESSIONAL ENGINEER _____ DATE _____

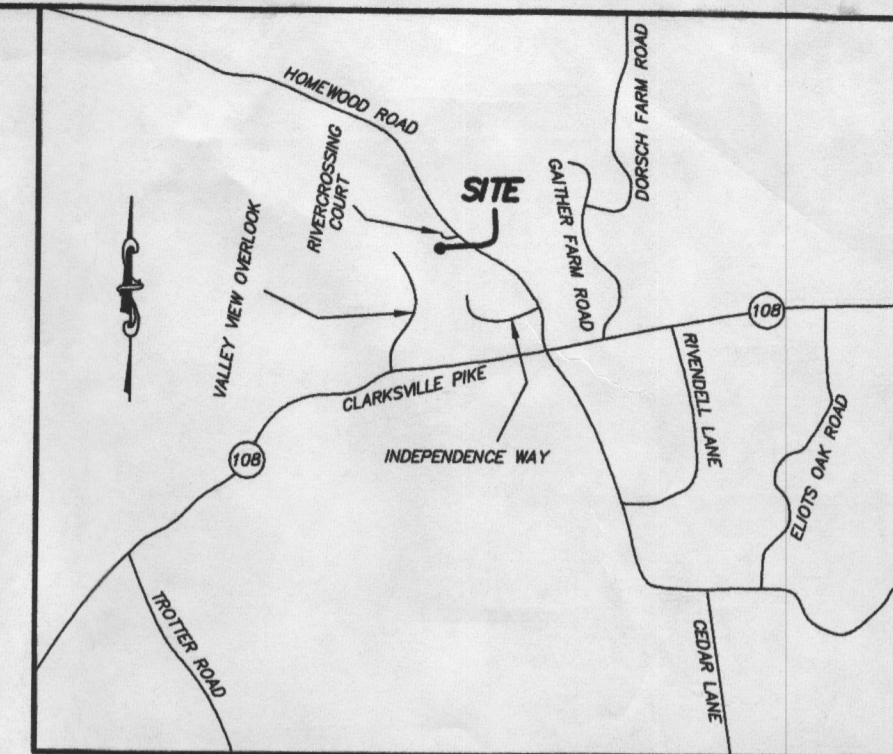
STORMWATER MANAGEMENT
 LANDSCAPE INFILTRATION DESIGN
LOT 77
HOMWOOD CROSSING
 LIBER 9808, FOLIO 204
 PLAT No. 18241
 TAX No. 05-443423
 FIFTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 ADDRESS: 4710 ASHBY COURT
 ELLICOTT CITY, MARYLAND

ESE Land Planning
 Engineering
 Land Surveying

ESE Consultants Inc.
 7164 Columbia Gateway Dr.
 Suite 203
 Columbia, MD 21046
 TEL: 410-872-9105
 FAX: 410-872-4870

DATE: 07/08/14 SCALE: 1"=40' FILE: SWM LOT 77_rev 1
 CHK'D: G.V.S. JOB NO: 1214 DRAWN: R.C.K

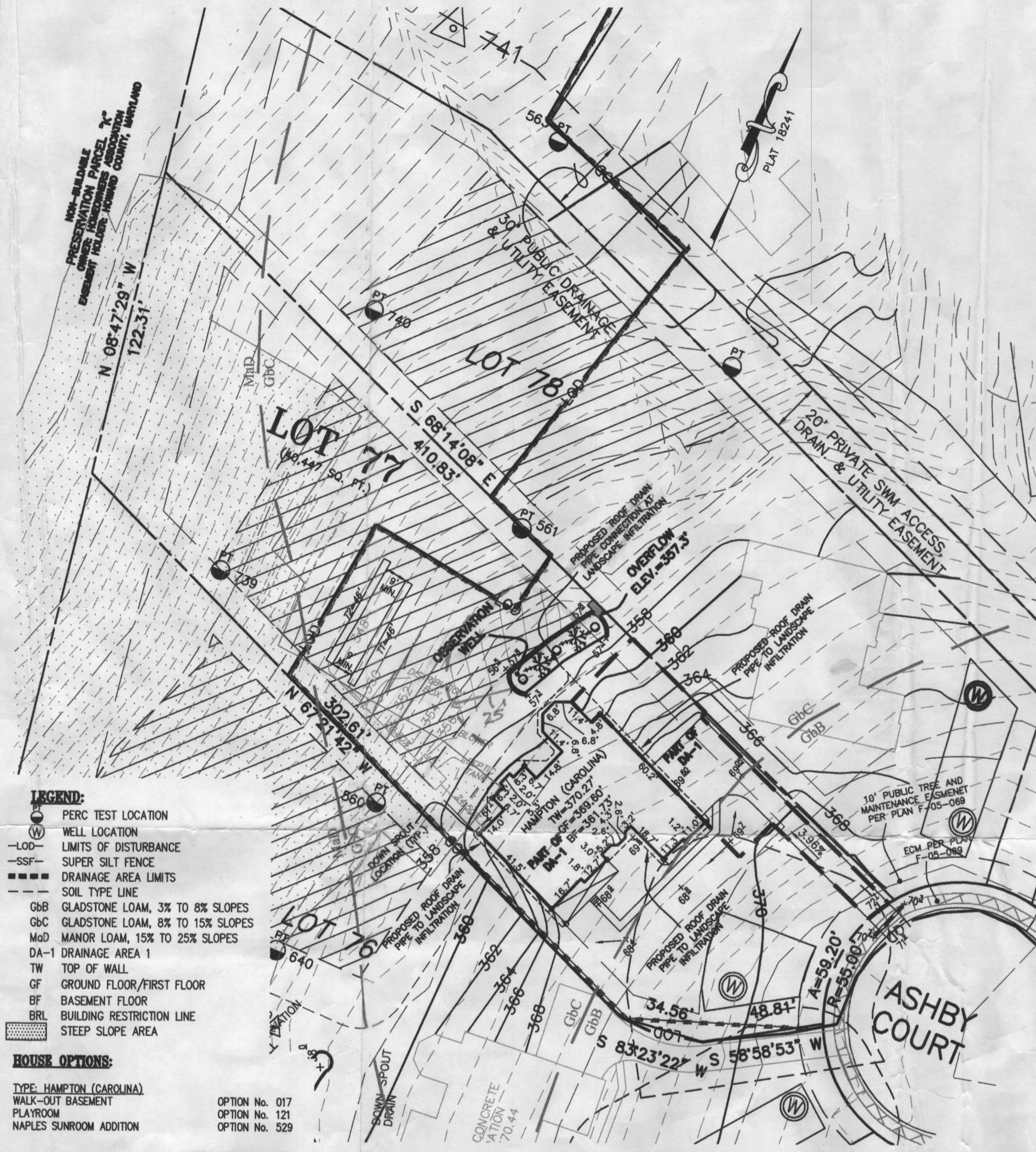
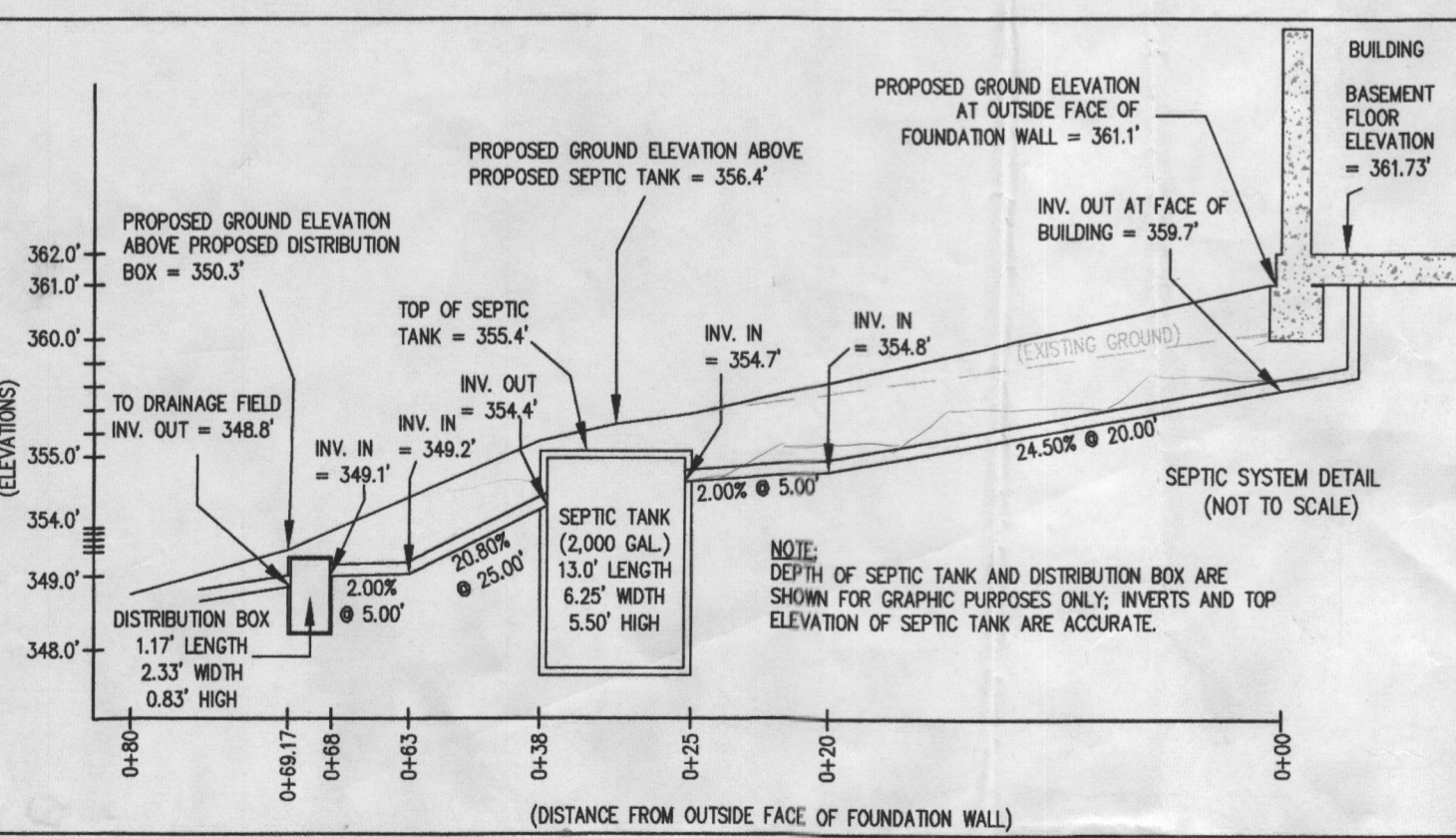
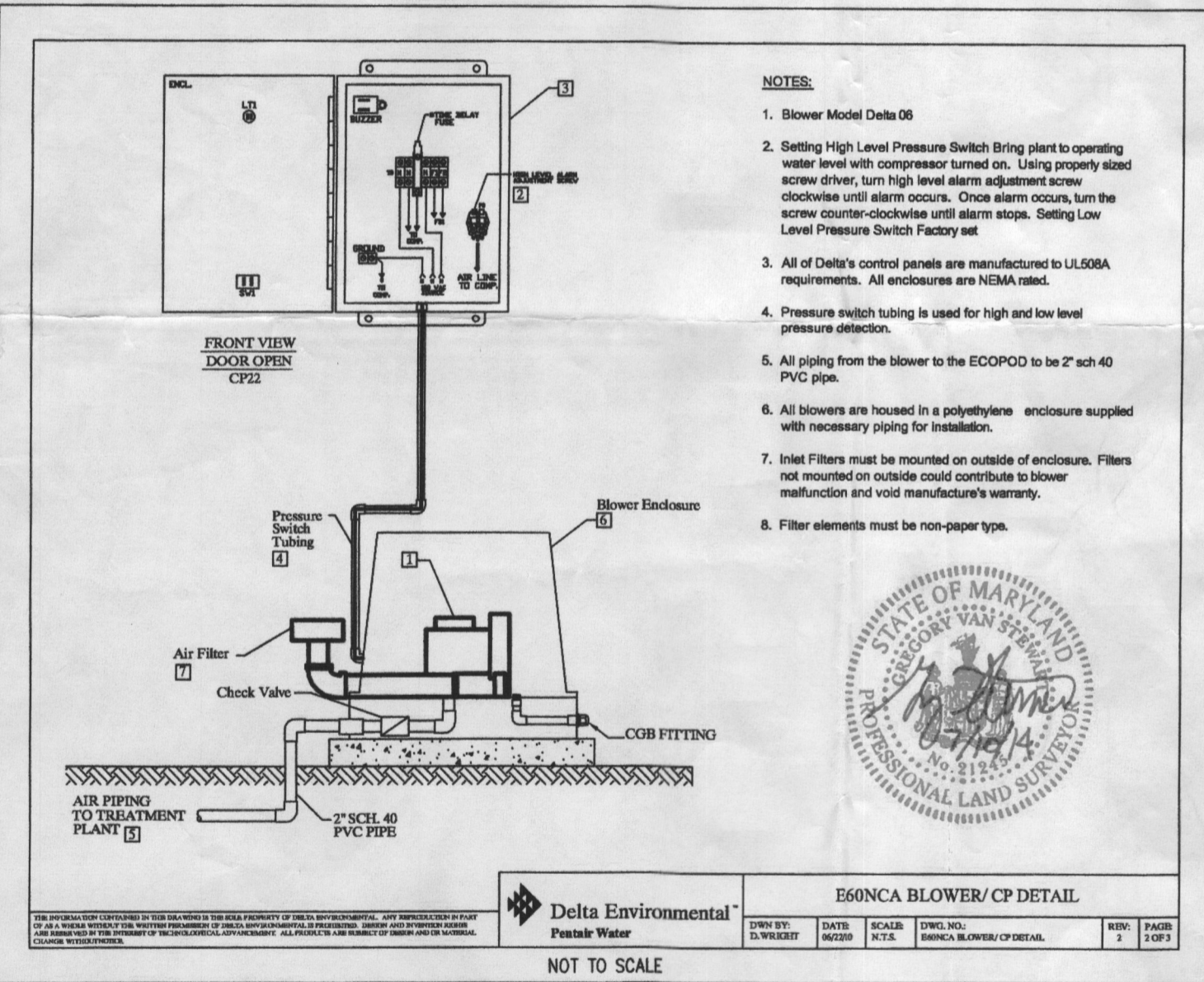
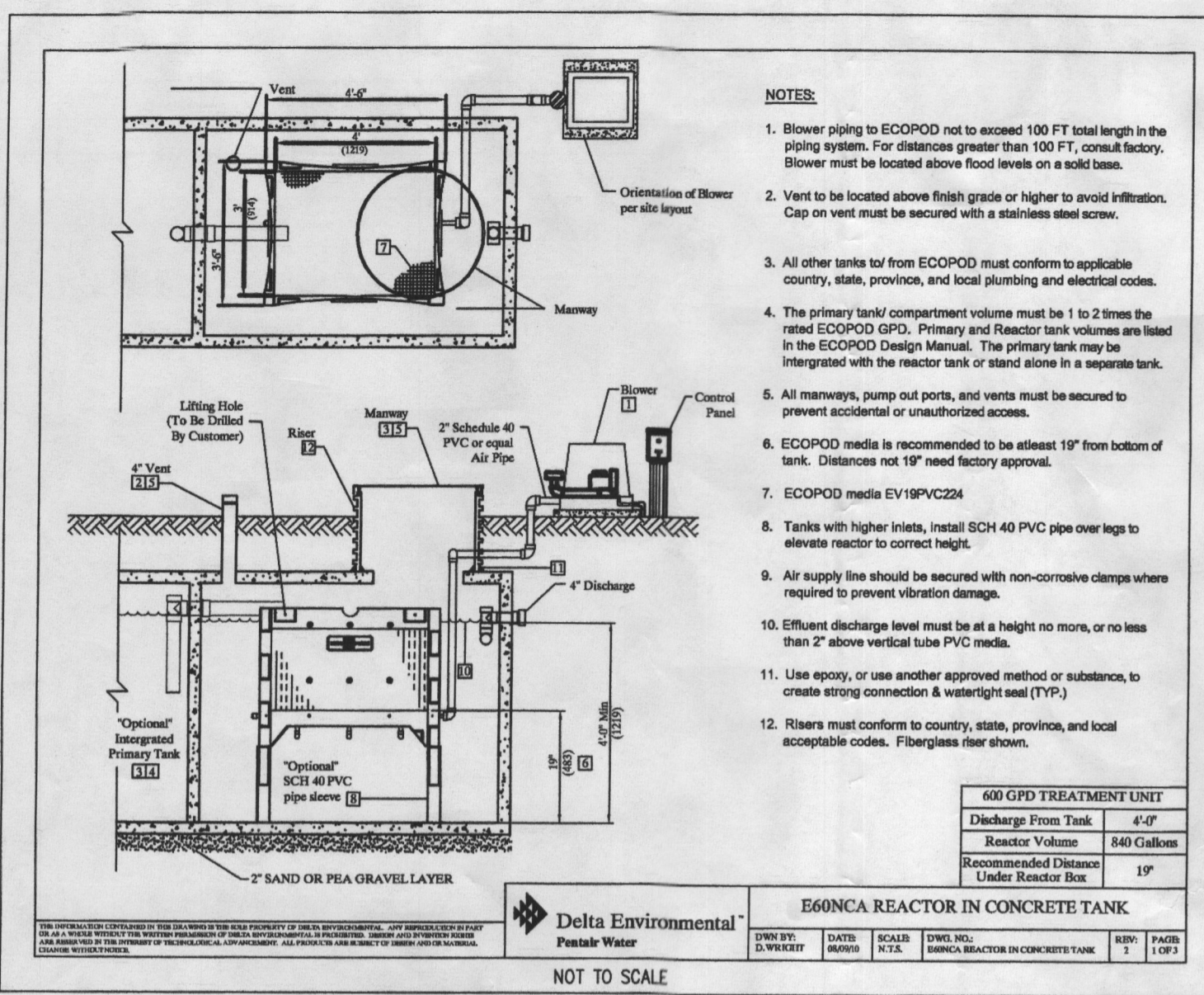
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21245, EXPIRATION DATE 1/27/15.



VICINITY MAP
1" = 100'

GENERAL NOTES:

- THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE 2/2/04 COMPREHENSIVE ZONING PLAN AND PER COMP-LITE ZONING REGULATIONS DATED 7/28/06.
- PLAT REFERENCE: PLAT No. 18241.
- THE EXISTING TOPOGRAPHY WITHIN THE AREA OF PROPOSED WORK IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM ONE FOOT CONTOUR INTERVALS PREPARED BY ESE. DATED 5/11/11.
- SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS AND DESIGN DETAILS. PRIOR TO STAKEOUT FOR CONSTRUCTION, IT SHALL BE THE OWNER/BUILDERS RESPONSIBILITY TO PROVIDE ESE CONSULTANTS INC. WITH THE MOST RECENT SET OF HOUSE PLANS.
- THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410-313-1881) AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TOTAL LIMIT OF DISTURBANCE: 23,688 SQ. FT. / 0.54 AC.±
- STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED BY PREVIOUSLY APPROVED PLAN F-05-069 AND ENVIRONMENTAL SITE DESIGN AS SHOWN HEREON.
- ANY DAMAGE TO PUBLIC "RIGHT-OF-WAYS" OR PAVED PUBLIC ROADS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
- DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE CIVIL ENGINEER (ESE) MAY CAUSE THE WORK TO BE UNACCEPTABLE.
- THE DIMENSIONED DISTANCES SHALL GOVERN IF SCALED AND DIMENSIONED DISTANCES ON THIS PLAN ARE FOUND TO BE IN DISAGREEMENT.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM LOT AREA AND OWNERSHIP WIDTH AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- THESE AREAS DESIGNATE A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS UNTO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
- EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
- ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- UPON BUILDING PERMIT REVIEW THE SEPTIC SYSTEMS FOR ALL PROPOSED STRUCTURES AND/OR EXISTING STRUCTURE EXPANSIONS SHALL BE RE-EVALUATED TO DETERMINE SUFFICIENT SYSTEM CAPACITY.
- THE DEVELOPMENT OF THIS LOT DOES NOT REQUIRE AN ENVIRONMENTAL CONCEPT PLAN SINCE STORMWATER MANAGEMENT WAS PREVIOUSLY APPROVED UNDER F-05-069 AND ENVIRONMENTAL SITE DESIGN AS SHOWN.
- A STANDARD SEDIMENT CONTROL PLAN MAY BE USED FOR DEVELOPMENT OF THIS LOT. REFERENCE GRADING PLAN GP-14-034 DATED 10/30/13.
- THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-0143 HAS BEEN FIELD LOCATED BY ESE CONSULTANTS - PROFESSIONAL LAND SURVEYOR(S), AND IS ACCURATELY SHOWN.
- BUILDING SETBACKS (B.R.L.'s) SHOWN HEREON PER SITE DEVELOPMENT PLAN SETBACK DISTANCES SHOWN HEREON AS "±" HAVE AN ACCURACY OF ±0.1' FOOT.
- CULVERT FOR DRIVEWAY PER F-05-069.



SEPTIC SYSTEM/BEST AVAILABLE TECHNOLOGY (BAT) NOTES:

- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET COVER.
- THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON THE MANUFACTURER'S SPECIFICATIONS.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE), IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.

SEWAGE DISPOSAL SYSTEM DATA (4 BDRM):

- PROPOSED INVERT AT FOUNDATION WALL: 359.7'
- EGO ECOPOD SYSTEM
EX. GRADE OVER TANK: 356.4'
PROPOSED GRADE OVER TANK: 356.4'
INVERT IN: 354.7' INVERT OUT: 354.4'
 - DISTRIBUTION BOX
EXISTING GRADE OVER TANK: 350.3'
PROPOSED GRADE OVER TANK: 350.3'
INVERT IN: 349.1' INVERT OUT: 348.8'
 - TRENCH DESIGN (4 BDRM x 150 GPD/BDRM = 600 GPD)
600 GPD + 1.2 APP. RATE = 500 SF
USE 3' WIDE TRENCH WITH 30" GRAVEL BELOW PIPE
9' MIN. SPACING BETWEEN TRENCH EDGES
500 SF + 3' WIDTH = 166.67 LF x 0.55 = 91.67 LF MIN. TRENCH
USE 2 46" LONG TRENCHES = 92 LF

TRENCH DATA:

- BOTTOM MAX. DEPTH (7')
- TRENCH 1 (T1):**
GROUND ABOVE = 349.0'
INV. IN = 345.0'
BOTTOM TRENCH = 342.5'
- TRENCH 2 (T2):**
GROUND ABOVE = 347.4'
INV. IN = 343.4'
BOTTOM TRENCH = 340.9'

* Possible Rain Garden = 25' setback to sRA

APPROVED: FOR HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DIRECTOR

PROFESSIONAL ENGINEER

DATE

DATE

DATE

DATE

PLAT PLAN FOR BAT INSTALLATION
LOT 77
HOMWOOD CROSSING
LIBER 9808, FOLIO 204
PLAT No. 18241
TAX No. 05-443423
FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ADDRESS: 4710 ASHBY COURT
ELLCOTT CITY, MARYLAND

ESE Land Planning
Engineering
Land Surveying

ESE Consultants Inc.
7164 Columbia Gateway Dr.
Suite 203
Columbia, MD 21046
TEL: 410-872-9105
FAX: 410-872-4870

DATE: 07/08/14
SCALE: 1"=40'
CHK'D: G.V.S.
JOB NO: 1214
FILE: PP LOT 77_rev 1
DRAWN: R.C.K.