

**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](http://www.hchealth.org)  
 Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

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

RECEIPT DATE: 5/26/16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 558732

APPROVAL DATE: 9/9/16 **PERMIT: CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 5020 Bee Frances Way

SUBDIVISION: Greenberry LOT: 5 TAX ID: 05-598668

CONTRACTOR: South Carroll Backhoe EMAIL: scbackhoe@comcast.net

CONTRACTOR ADDRESS: 4410 Salem Bottom Road PHONE: 410-596-3618

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:  MDE  MANUFACTURER:

PROPERTY OWNER: NVR Inc. EMAIL: \_\_\_\_\_

OWNER ADDRESS: 9720 Patuxent Woods Road PHONE: 410-379-5956

BAT UNIT MODEL: Hoot H-1000 PUMP SIZE: 0.4 PUMP TANK CAPACITY: 2000

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: \_\_\_\_\_ DATE RECORDED: \_\_\_\_\_

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 7 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>182</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4</u>

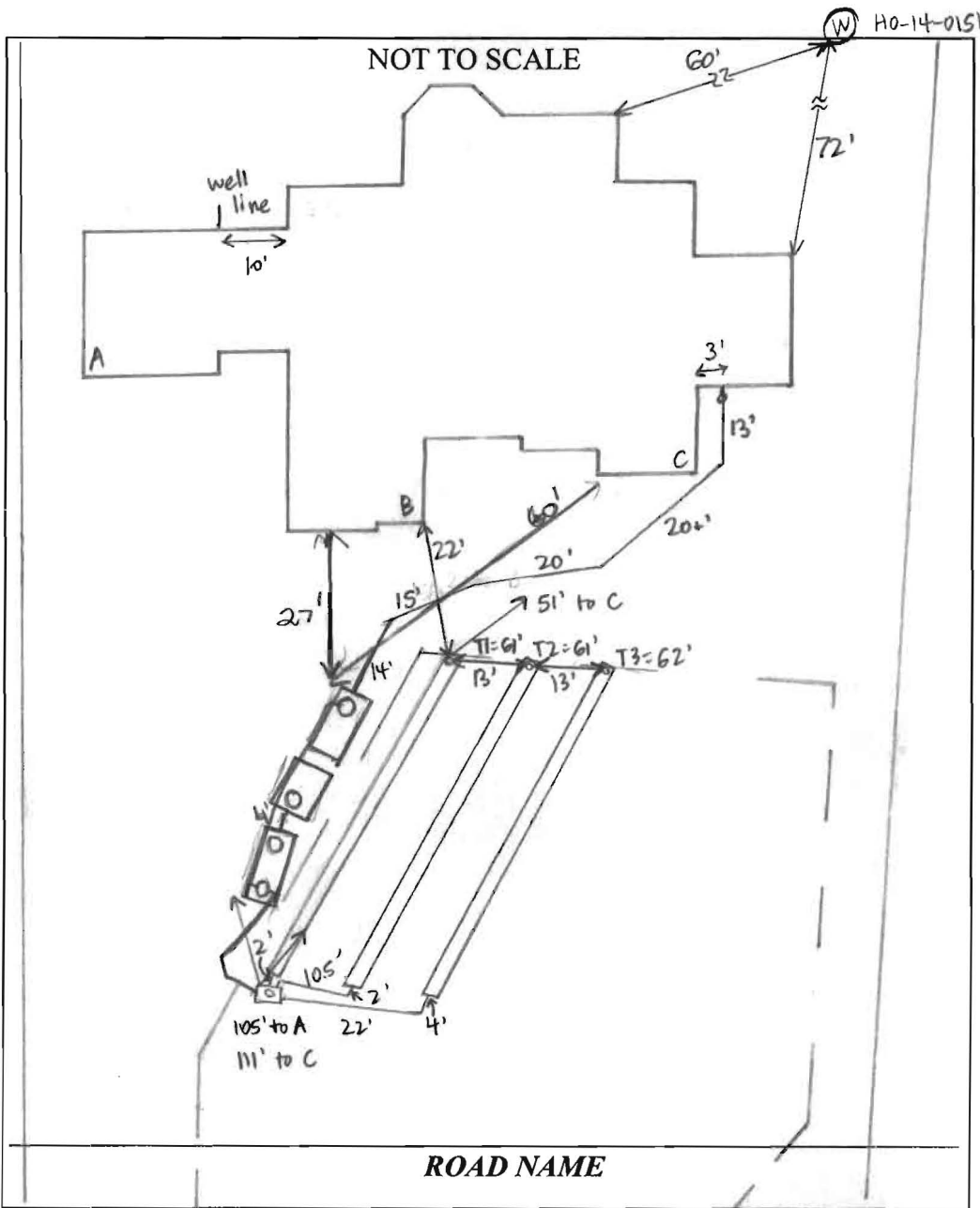
LOCATION: **PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.**

NOTES: Install cleanouts in SHC.  
Install 3 x 61' trenches.

ISSUED BY: Robert Bricker ISSUE DATE: 5/26/16 EXPIRATION DATE: 5/26/17

- 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  
 ELECTRICAL PERMIT ISSUED E \_\_\_\_\_
- 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.**



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	4'	6'
NUMBER OF TRENCHES		3
TOTAL LENGTH		184'
ABSORPTION AREA		552' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA	
SEPTIC TANK I 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:**

7/11/16 On site for layout with South Carroll. Tank stakes present, SDA stakes present with a couple knocked over in place. Shot contour and laid out 3x61' trenches. Observation pipes must be protected + raised to protect from grading near house. (SC)

**INSTALLATION:**

7/20/16 South Carroll starting to dig T3. 3' wide, 6' deep. Using laser to check depth. (SC) 7/21/16 Trenches complete. T1 left open, T2 + T3 open at the end. 3' wide, 3.5' to stone. D-box installed + connected to trenches. (SC) 8/10/16 Hoot 1000 model set w/ 2000g P.T. per plan. Connected F.M. to ea. p-box. Need SHC + start-up. (KW) (Contractor to submit as-built of 4" to tank.) 9/7/16 On site for Hoot startup with Mike Sample. Pump pumps effluent to D-box, alarm sounds. Need BAT startup certification. (SC) 9/9/16 BAT startup certification received. (SC)

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 9/9/16

5020 Bee Frances Way

Greenbury  
Lot 5

LOTS 4, 5, 6, 17

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

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

=====		
LR - Agreement Recording Fee		
1x	20.00	20.00
Grantor/Grantee Name: Desai		
Reference/Control #: 48		
LR - Agreement Surcharge		
1x	40.00	40.00
LR - Agreement Recording Fee		
1x	20.00	20.00
Grantor/Grantee Name: Mendus		
Reference/Control #: 49		
LR - Agreement Surcharge		
1x	40.00	40.00
LR - Agreement Recording Fee		
1x	20.00	20.00
Grantor/Grantee Name: Ahmad		
Reference/Control #: 50		
LR - Agreement Surcharge		
1x	40.00	40.00
LR - Agreement Recording Fee		
1x	20.00	20.00
Grantor/Grantee Name: Lee		
Reference/Control #: 51		
LR - Agreement Surcharge		
1x	40.00	40.00
=====		

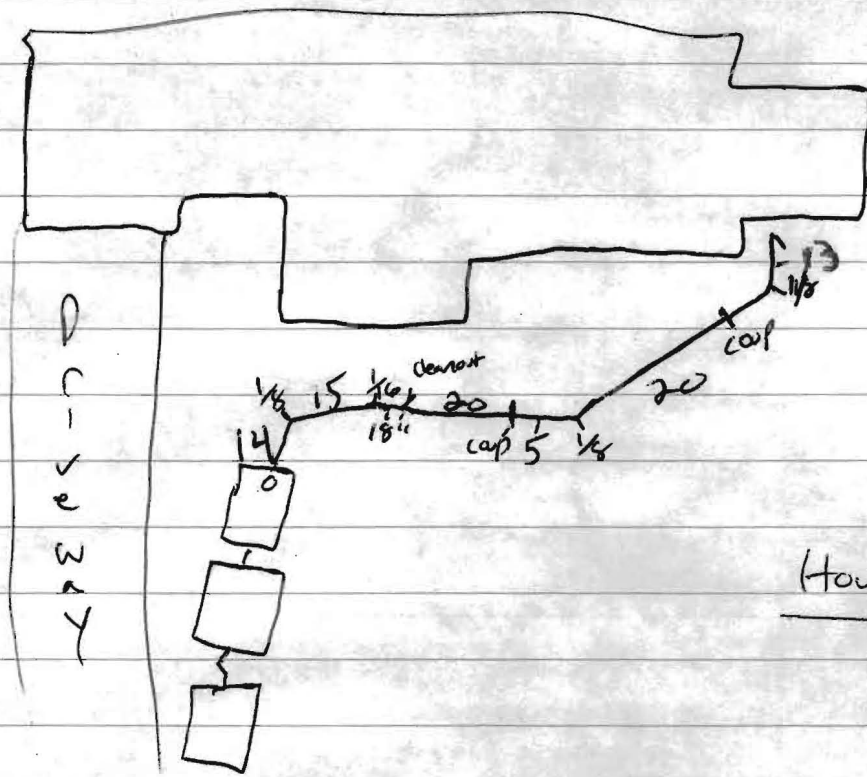
SubTotal:	240.00
Total:	240.00
=====	

REV-Check-BOA	240.00
Number : 3001	
=====	

12/02/2015 10:32 CC13-DS  
 #5240036 /1246/109  
 Thank you for visiting us today~

5020 Bee Frances way

Lot 5 Greenberry W/Homes

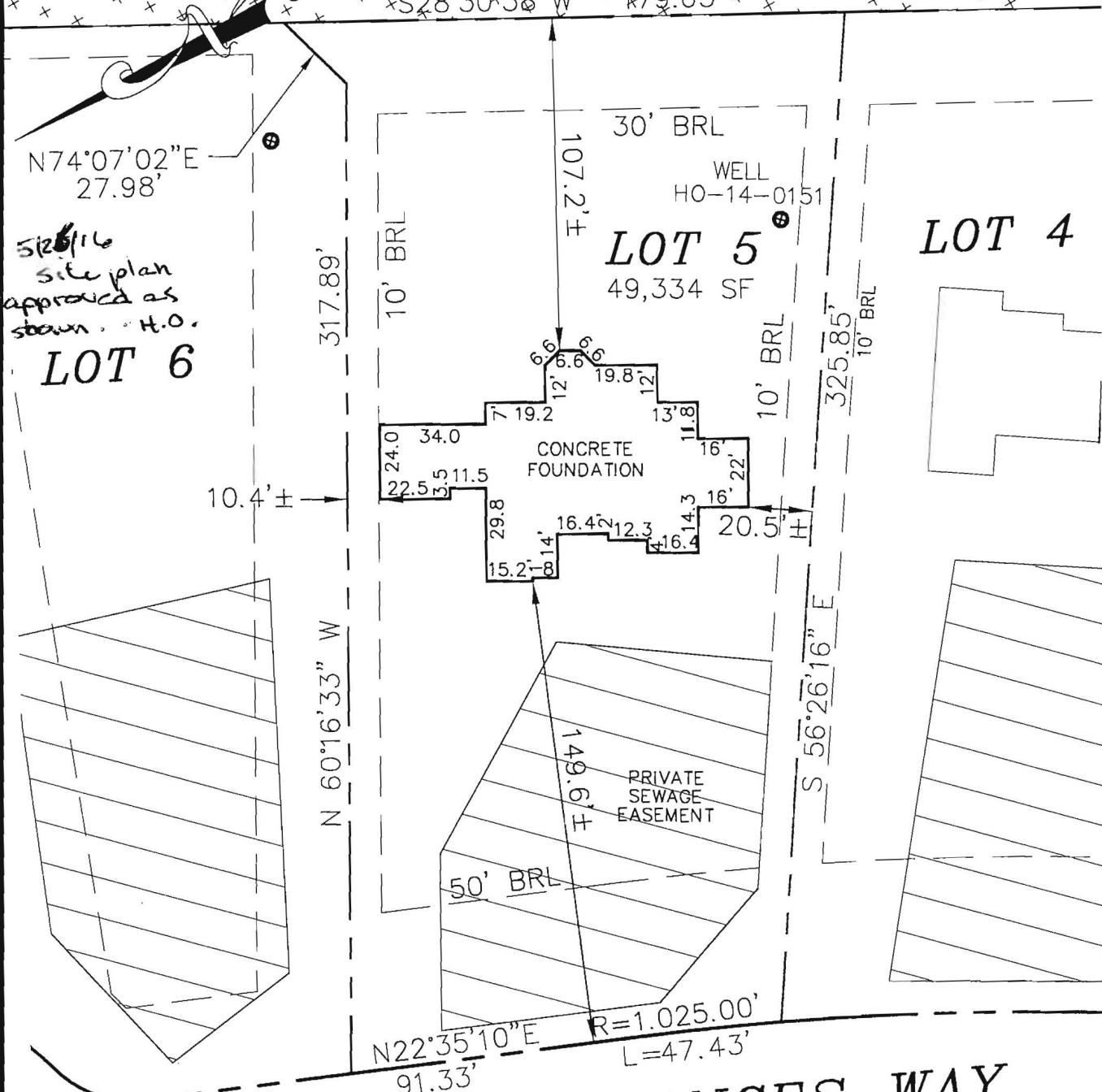


As  
Built

House Sewer

**PRESERVATION PARCEL 'A'**

S28°30'38"W x 179.65'



5/26/16  
site plan  
approved as  
shown. H.O.  
**LOT 6**

**LOT 5**  
49,334 SF

**LOT 4**

CONCRETE FOUNDATION

PRIVATE SEWAGE EASEMENT

**BEE FRANCES WAY**  
(PUBLIC - 50' R/W)

ADDRESS: 5020 BEE FRANCES WAY  
TOP OF WALL ELEV. = 571.8±  
FIRST FLOOR ELEV. = N/A

**LOT 5**  
**GREENBERRY**  
PLATS 23453-23461  
ELECTION DISTRICT No. 5  
HOWARD COUNTY, MARYLAND

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 574, EXPIRATION DATE: 03/21/17.

THE INFORMATION SHOWN HAS BEEN ESTABLISHED BY CURRENT ACCEPTABLE SURVEY PROCEDURES AND FROM AVAILABLE RECORD INFORMATION. THIS DRAWING IS TO BE USED FOR TITLE TRANSFER FINANCING, OR REFINANCING ONLY AND IS NOT TO BE USED FOR THE ESTABLISHMENT OF PROPERTY LINES, LOCATION OF FENCES, GARAGES, BUILDINGS, OR OTHER EXISTING OR FUTURE IMPROVEMENTS.

**MILDENBERG BOENDER, & ASSOC., INC.**

Engineers Planners Surveyors  
7350-B Grace Drive, Columbia, MD 21044  
(410) 997-0296 Balt. (410) 997-0298 Fax.



FOUNDATION	DATE: 05/10/16	FINAL LOCATION	DATE: N/A
DRAWN BY: MES	CHECKED BY: GEL	SCALE: 1"=50'	
PROJECT NO.: 15-005	LOCATION DRAWING		

GARY E. LANE  
PROP. LINE SURVEYOR  
MARYLAND No. 574



**MAYER BROS., INC.**  
*Precast Concrete Products*  
6264 Race Rd. Elkridge, MD 21075

## Letter of Satisfaction Hoot System Installation

Address of Property: 5020 Bee Frances Way  
Clarksville, m.d. 21024

Date of Final Inspection: 9/7/16

Installer: South Carroll Backhoe Service

Hoot Technician/Inspector: Mike Sampli

I hereby certify that the Hoot system installed at the property listed above has been installed according to proper Hoot installation practices. I have also verified the startup of the system and it is in proper working order.

Sincerely,

H. Mickel Day  
Name of Inspector  
Mayer Bros., Inc.

PH: 410-796-1434  
FX: 410-796-1438

**WBE**

[www.mayerbrosprecast.com](http://www.mayerbrosprecast.com)

Grease Interceptors, Grease Solutions, Aerobic Treatment Units, Septic Tanks, Holding Tanks, Storm Water Structures, Hydroceptors, Bench Barrier, Water Meter Vaults, Sectional Valve Vaults, Top Slabs, Curb Heads, Curb Bumpers, Custom Precast Products

## Bricker, Robert

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**From:** Faris, Taylor <tfaris@nvrinc.com>  
**Sent:** Thursday, December 31, 2015 12:20 PM  
**To:** Bricker, Robert  
**Subject:** RE: Greenberry Lot 5

Robert,

We'd like to stay consistent with the rest of the community, and design our BAT system for what we are building. This home was sold with 5 bedrooms, so we would like to proceed with the original BAT design for 5 bedrooms.

Thanks and have a happy New Year  
Taylor

**Taylor Faris**  
**Construction Cost Manager**  
**Maryland East Division**



P: 410-379-5956  
C: 443-864-3479  
F: 410-379-2430

9720 Patuxent Woods Drive  
Columbia, MD 21046

[tfaris@nvrinc.com](mailto:tfaris@nvrinc.com)  
[www.nvhomes.com](http://www.nvhomes.com)  
Follow us on [Facebook](#)

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**From:** Bricker, Robert [<mailto:RBricker@howardcountymd.gov>]  
**Sent:** Thursday, December 31, 2015 10:22 AM  
**To:** Faris, Taylor  
**Subject:** Greenberry Lot 5

Taylor,

The proposal for construction of a 'Monticello II' at 5020 Bee Frances Way (Lot 5) includes a "finished lower level". It appears that the Bath will be installed. This creates a situation whereby a sixth (6<sup>th</sup>) bedroom may easily be created with construction of interior walls, enclosing an area where there is a window.

Do you want to install a septic system with adequate capacity to serve a six-bedroom SFD on Lot 5?

ROBERT BRICKER, REHS/R.S., L.E.H.S.

ENVIRONMENTAL SANITARIAN II  
BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM  
8930 STANFORD BLVD., COLUMBIA, MD 21045

Phone: Desk, 410-313-2691; Program, 410-313-1771; Bureau, 410-313-1774  
Fax: 410-313-2648

E-mail: [rbricker@howardcountymd.gov](mailto:rbricker@howardcountymd.gov)

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**SOILS TABLE (WITHIN LOD)**

SYMBOL	RATING	NAME	K FACTOR
GgB	(B)	GLENELG LOAM, 3-8% SLOPES.	.20

**PRIMARY TRENCH DATA**

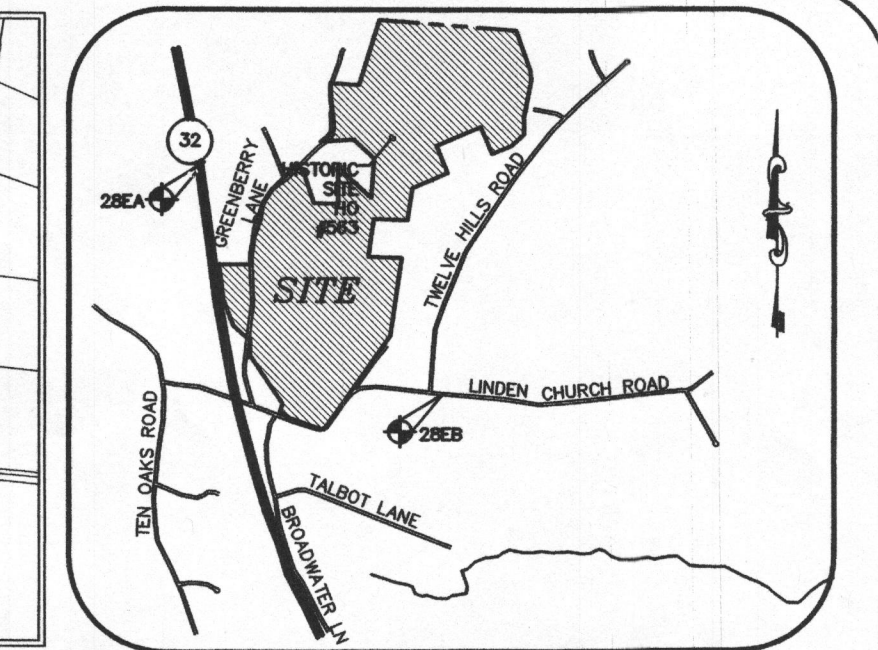
TRENCH	EX. GROUND ELEVATION	INVERT ELEVATION	BOTTOM OF TRENCH EL.
1	555.8	551.8	549.8
2	554.9	550.9	548.9

**SEPTIC TRENCH SIZING**

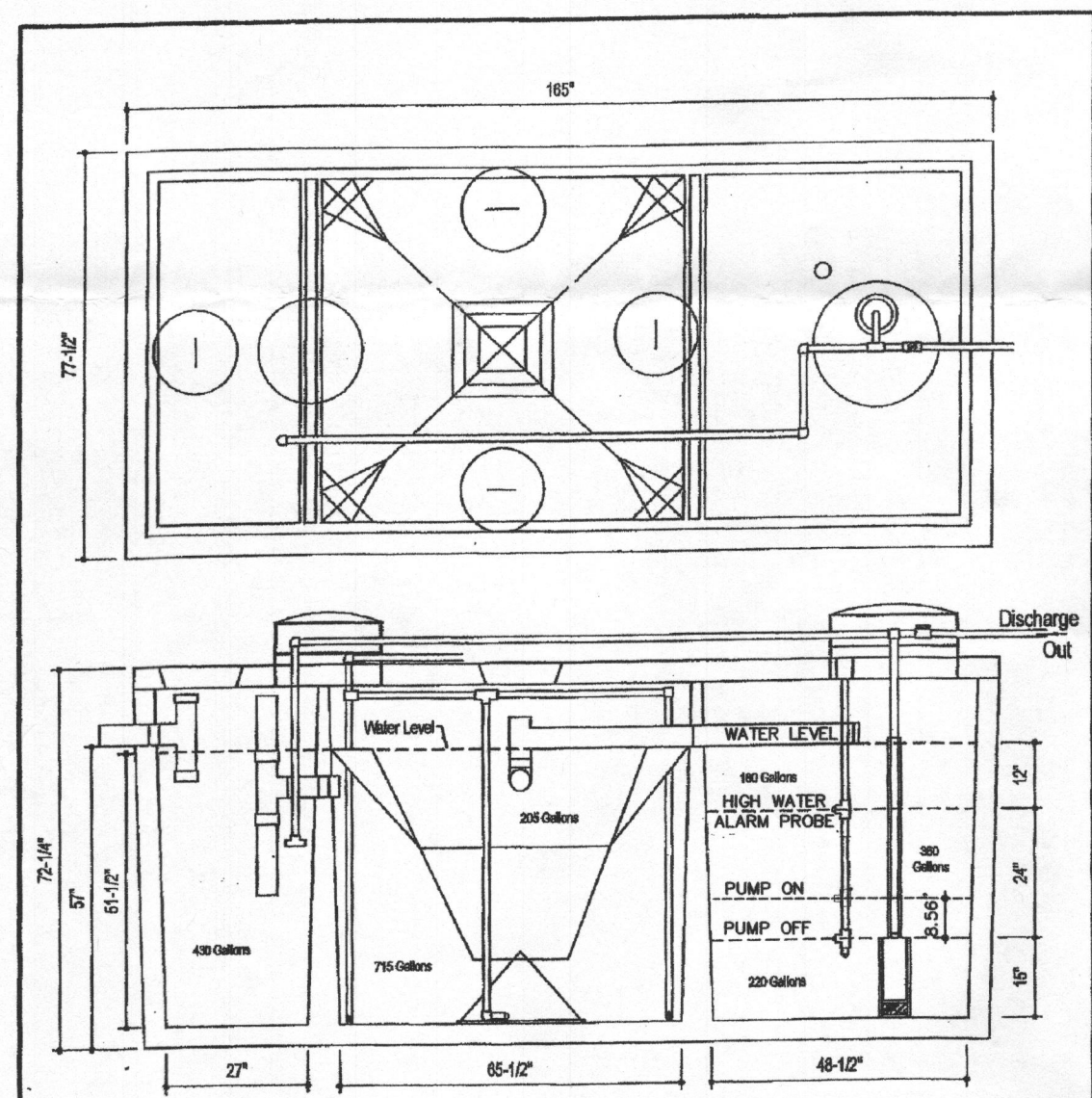
SYSTEM	APPLICATION RATE (GPD / SF)	MAXIMUM FLOW RATE (GPD)	AREA OF REQUIRED TRENCH (SF)	TRENCH WIDTH (FT)	LENGTH OF REQUIRED TRENCH (LF)	EFFECTIVE DEPTH (FT)	TRENCH BOTTOM DEPTH (FT)	TRENCH REDUCTION FACTOR**	ADJUSTED LENGTH OF REQUIRED TRENCH (LF)	MINIMUM TRENCH SPACING (FT)	NUMBER OF TRENCHES	PROVIDED TRENCH LENGTH (FT)
PRIMARY	1.2	750	625	3	208.3	4.0	6.0	0.62	129.2	10.0'	2	65
SECONDARY	1.2	750	625	3	208.3	3.5	5.5	0.62	129.2	10.0'	2	65
TERTIARY	1.2	750	625	3	208.3	5.0	7.0	0.62	129.2	10.0'	2	65



LOCATION PLAN  
SCALE: 1"=600'



VICINITY MAP  
SCALE: 1"=2000'  
ADC MAP 24 GRID F6



**DESIGN DATA & GENERAL NOTES**

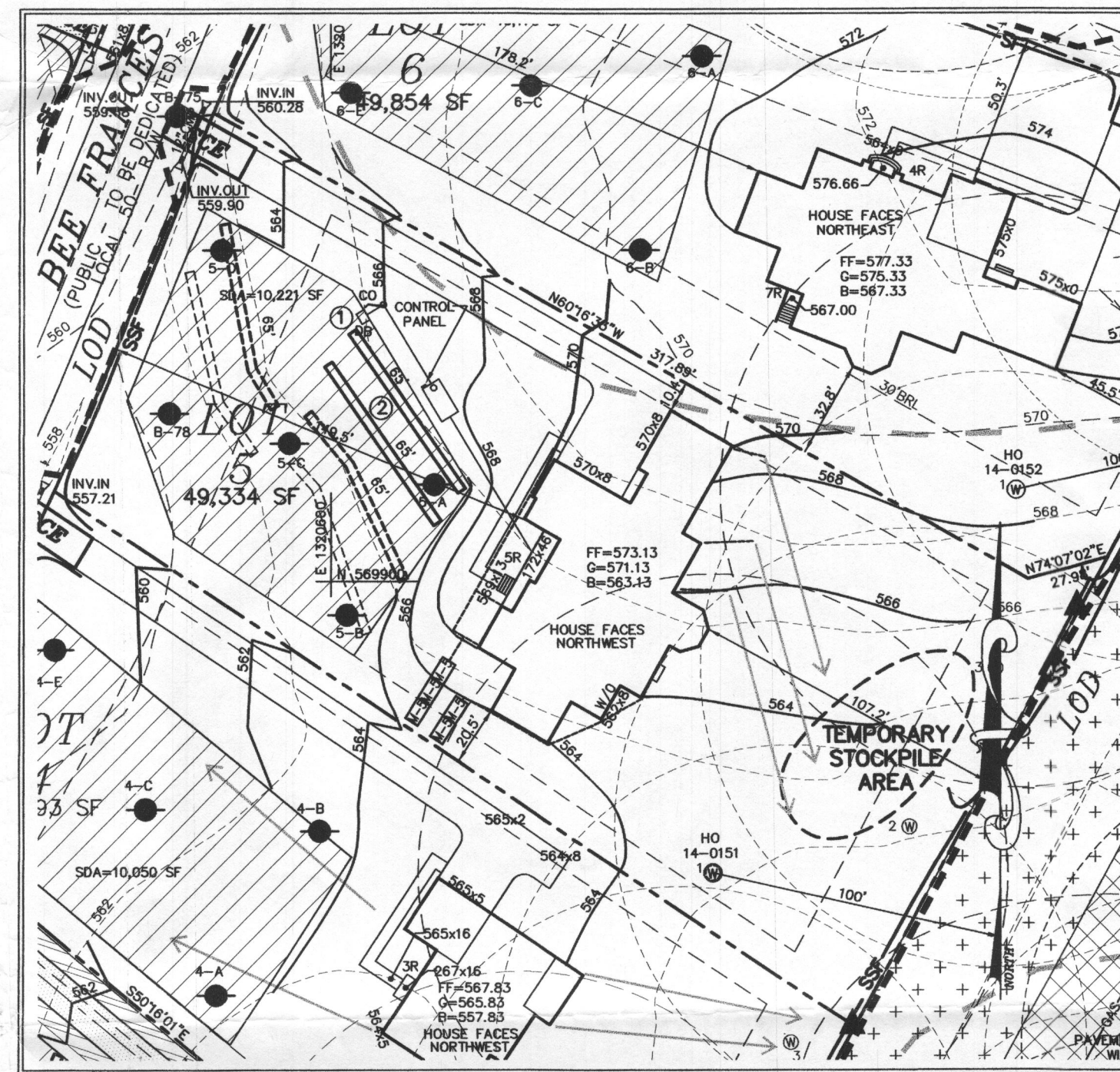
- 1) Corrosion strength Form 400 g.p.a. @ 30 days. Density = 150 pcf.
- 2) Control: Panel per 2001 NEC Article 410.25.
- 3) Adhesives & sealants per ASTM C 920-04 & C 644-02.
- 4) Reinforcing per ASTM A 601, Min. 1/2" cover.

**Mayer Brothers, Inc.**  
600 GPD BNR SYSTEM  
H-600 BNR  
with 750 GALLON PUMP CHAMBER  
M.B.I. logo  
March 18, 2009

**BAT SYSTEM ELEVATIONS**

DESCRIPTION	VALUE
FINISHED GRADE AT SEPTIC TANK	566.40
INVERT INTO TANK	564.90
EXTERIOR BOTTOM OF TANK	559.65
INTERIOR BOTTOM OF TANK	559.98
PUMP OFF	561.23
PUMP ON	561.94
HIGH WATER ALARM	563.94
WATER LEVEL	564.94
INVERT OUT OF TANK	565.98
TOTAL HEAD	6.25'
DOSED RATE	50 GPM
PUMP RUNTIME	2.0 MIN.

**NOTE:**  
BASEMENT WILL NOT SEWER BY GRAVITY

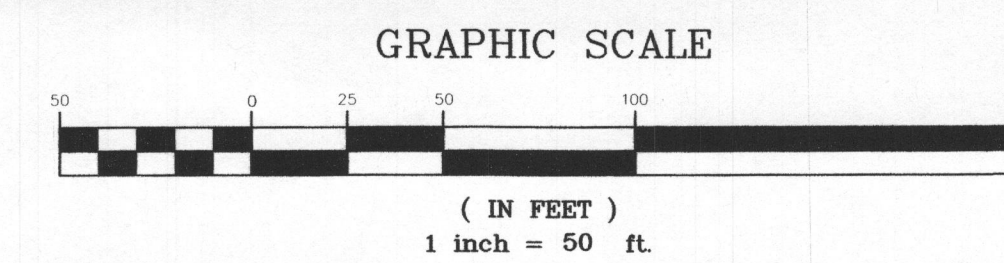


**GENERAL NOTES:**

- THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- PARCEL BACKGROUND:**  
TAX MAP : 28  
GRID : 9  
PARCEL : 48  
LOT : 5  
DEED REFERENCE: LIBER 5891 FOLIO 307  
ELECTION DISTRICT : FIFTH  
ZONING : RR-DEO.  
AREA : 49,334 S.F.  
DPZ FILES: ECP-13-025, SP-13-010, F-14-095, GP-15-081
- 2' TOPOGRAPHY FOR THE DEVELOPED AREAS IS BASED ON AERIAL SURVEY FLOWN BY WINGS TOPOGRAPHY INC. ON OR ABOUT MARCH 2007.
- PRIVATE WELL AND SEPTIC WILL BE UTILIZED.
- SOILS DATA BASED ON THE USDA SOIL SURVEY OF HOWARD COUNTY, MD, DATED MAY, 2008.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
- ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
- EXISTING WELLS, SEPTIC SYSTEMS, AND SEWERAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWERAGE DISPOSAL AREAS HAVE BEEN SHOWN.

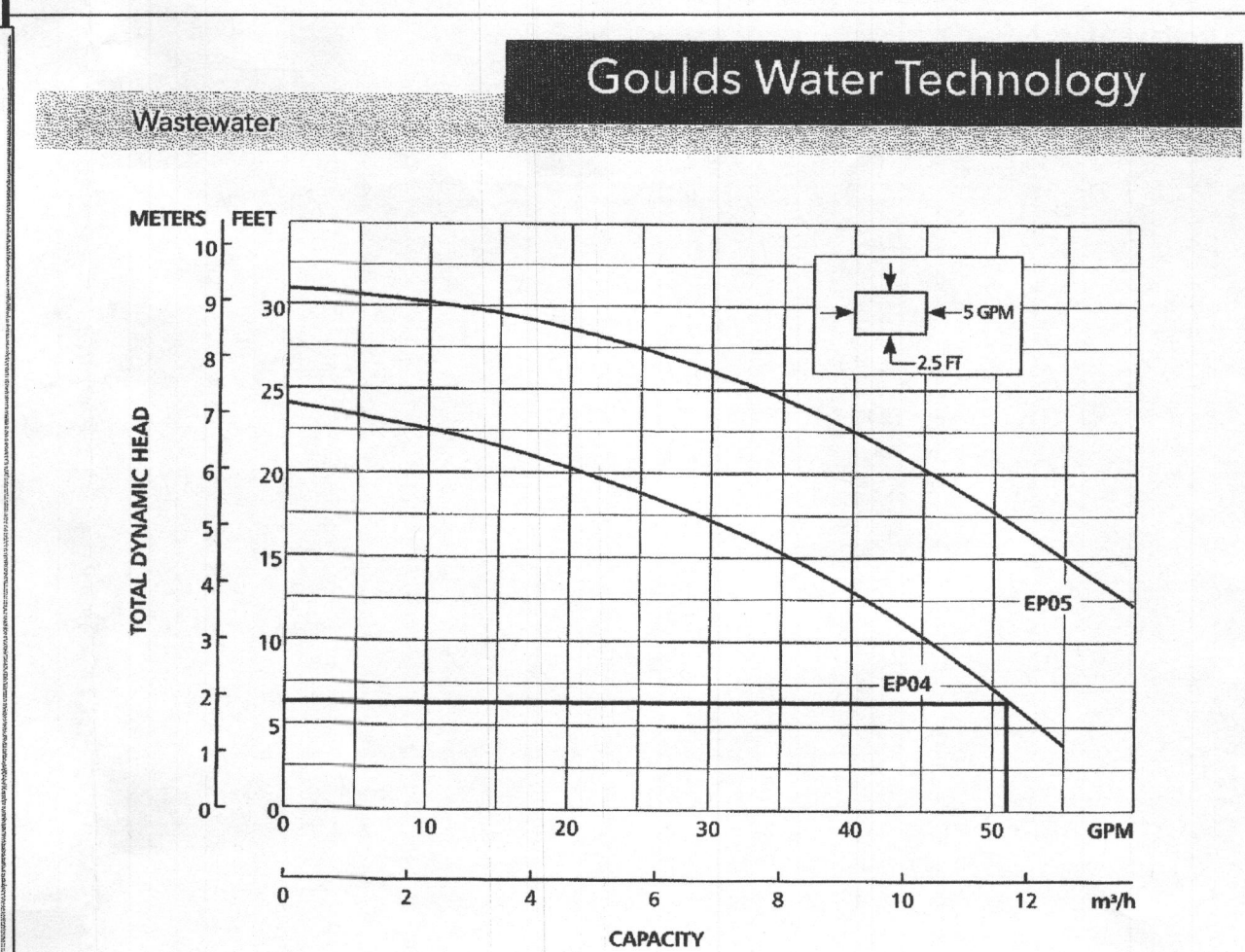
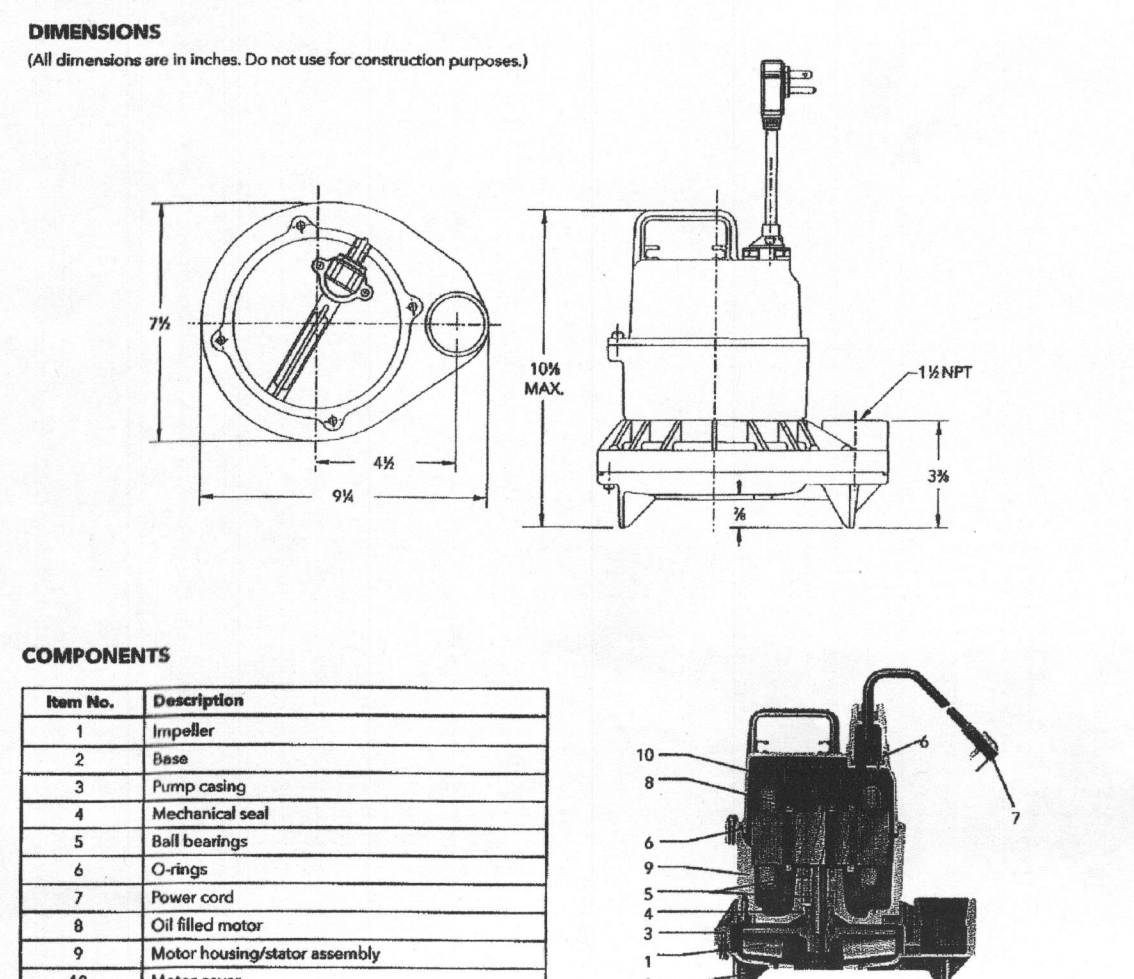
**BEST AVAILABLE TECHNOLOGY SITE PLAN NOTES**

- 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 3.0' FEET.
- THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON 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 (1) 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.



**ON-SITE SEWAGE DISPOSAL SYSTEM:**

RESIDENTIAL SYSTEM DESIGN: HOOT 600 BNR  
5 BEDROOM HOUSE (LIVING AREA = 2,288 SQ.FT.)  
150 GALLONS X # OF BEDROOMS = VOLUME OF WASTEWATER / DAY  
150 X 5 = 750 GPD  
PERC RATE = 2-5 MINUTES/INCH  
APPLICATION RATE = 1.2 GPD/SQ.FT.  
DESIGN FLOW + APPLICATION RATE = SQ.FT. OF TRENCH REQUIRED  
750 + 1.2 = 625 SQ.FT.  
SQ.FT. REQUIRED + WIDTH OF TRENCH = LENGTH OF TRENCH  
625 + 3.0' = 208.3 FT  
USE 24" OF GRAVEL BELOW DRAIN PIPE  
208.3 X 0.62 = 129.2  
USE TWO (2) TRENCHES (65')  
A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDEWALL REDUCTION CREDIT.  
MINIMUM TANK CAPACITY = 750 GALLONS  
PUMP: GOULDS MODEL 3871, EP04 SERIES



**MODEL INFORMATION**

Order No.	HP	Volts	Amperes	Minimum Circuit Breaker	Phase	Float Switch Style	Cord Length	Discharge Connection	Minimum On Level	Minimum Off Level	Minimum Basin Diameter	Maximum Basin Diameter	Shipping Weight
EP0411						Plug / No Switch	10'	1 1/2"	Manual	Manual	15"		20 / 9.1
EP0411A						Plugback / Wide-Angle	10'	1 1/2"	Manual	Manual	15"		21 / 9.5
EP0411F	1/2	115	12	20		Plug / No Switch	20'	1 1/2"	Manual	Manual	15"		20 / 9.1
EP0411AC	1/2	115	12	20		Plugback / Wide-Angle	20'	1 1/2"	Manual	Manual	15"		21 / 9.5
EP0412	1/2	230	6	10	1	Plug / No Switch	10'	1 1/2"	Manual	Manual	15"		20 / 9.1
EP0412F	1/2	230	6	10	1	Plugback / Wide-Angle	20'	1 1/2"	Manual	Manual	15"		21 / 9.5
EP0511F	1/2	115	13	20		Plug / No Switch	20'	1 1/2"	Manual	Manual	15"		22 / 10
EP0511AC	1/2	115	13	20		Plugback / Wide-Angle	20'	1 1/2"	Manual	Manual	15"		23 / 10.4
EP0512F	1/2	230	6.5	10		Plug / No Switch	20'	1 1/2"	Manual	Manual	15"		22 / 10

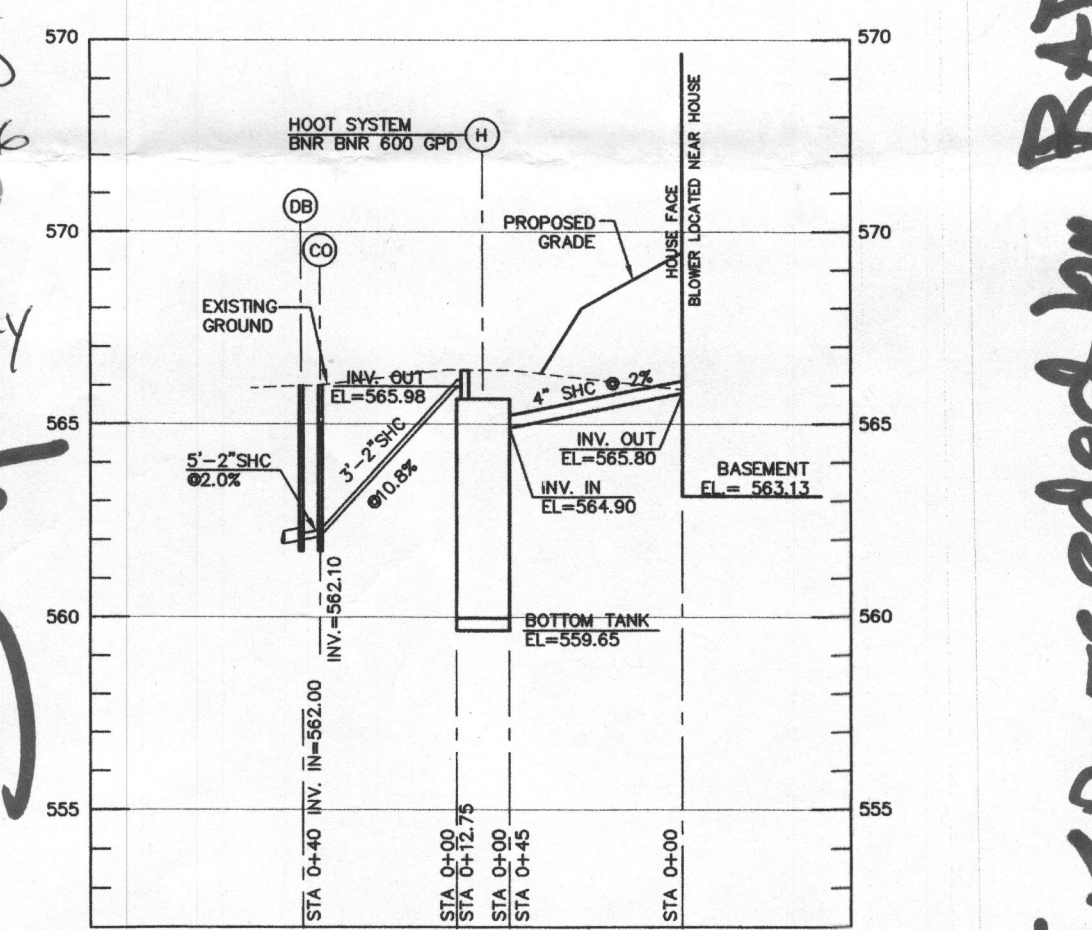
**xylem**  
Let's Solve Water  
Xylem, Inc.  
2881 East Bayard Street Ext., Suite A  
Simsco, PA, NY 13148  
Phone: (844) 325-4210  
Fax: (888) 322-5877  
www.gouldswatertechnology.com  
Goulds is a registered trademark of Goulds Pumps, Inc. and is used under license.  
© 2012 Xylem Inc. 030711 01 April 2012

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
COUNTY HEALTH OFFICER  
HOWARD COUNTY HEALTH DEPARTMENT  
DATE



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/2016.  
R. JACOB HIKMAT, P.E.  
DATE: 01/04/16

**WELL CERTIFICATION:**  
THE EXISTING WELL, TAG NO. HO-14-0151, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN



PROFILE - PRIVATE SEWER  
SCALE: 1"=50' HOR  
1"=5' VER

Superseded by BNT Plan Signed 3/16/16  
Approved 1/19/2016  
Approved Septic System Plan  
Howard County Health Department  
HOOT H-600 BNR  
for Bedroom  
Signature  
R15005326  
2020 Bee Frances Way  
Superceded

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
7850-B Grace Drive, Columbia, Maryland 21044  
(410) 997-0296 Fax

5020 BEE FRANCES WAY, CLARKSVILLE MD  
GREENBERRY LOT 5  
HOWARD COUNTY  
FIFTH ELECTION DISTRICT  
SITE PLAN FOR BAT INSTALLATION

date	NOV 2015	engineering	MMH	approval	RJH
project	15-005	illustration	MMH	scale	1"=50'

date		description	revisions
no.			

**SOILS TABLE (WITHIN LOD)**

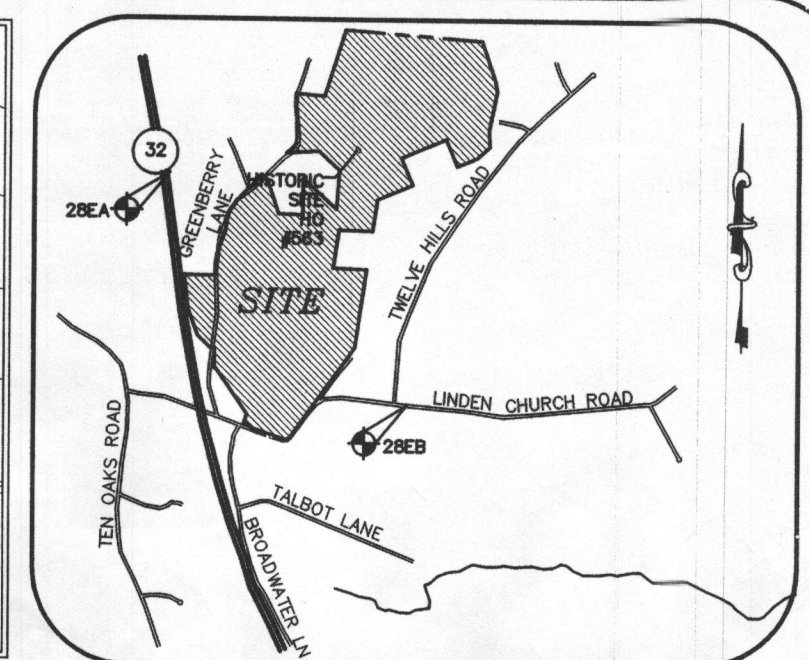
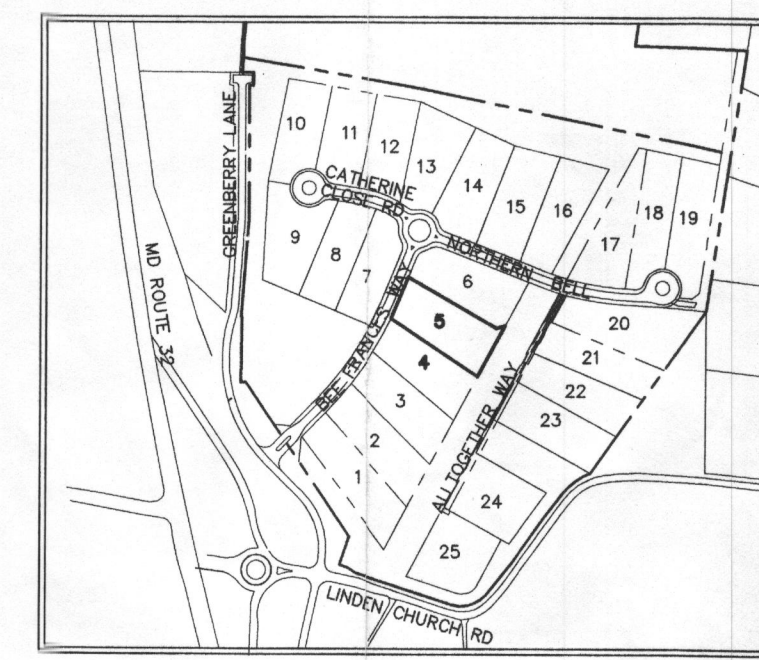
SYMBOL	RATING	NAME	K FACTOR
GgB	(B)	GLENELG LOAM, 3-8% SLOPES.	.20

**PRIMARY TRENCH DATA**

TRENCH	EX. GROUND ELEVATION	INVERT ELEVATION	BOTTOM OF TRENCH EL.
1	565.5	561.5	559.5
2	564.7	560.7	558.7

**SEPTIC TRENCH SIZING**

SYSTEM	APPLICATION RATE (GPD / SF)	MAXIMUM FLOW RATE (GPD)	AREA OF REQUIRED TRENCH (SF)	TRENCH WIDTH (FT)	LENGTH OF TRENCH (LF)	EFFECTIVE DEPTH BEGINS (FT)	TRENCH BOTTOM DEPTH (FT)	TRENCH REDUCTION FACTOR**	ADJUSTED LENGTH OF TRENCH (LF)	MINIMUM TRENCH SPACING (FT)	NUMBER OF TRENCHES	PROVIDED TRENCH LENGTH (FT)
PRIMARY	1.2	1,050	875	3	292	4.0	6.0	0.62	181.0	10.0'	2	91
SECONDARY	1.2	1,050	875	3	292	3.5	5.5	0.62	181.0	10.0'	2	91
TERTIARY	1.2	1,050	875	3	292	5.0	7.0	0.62	181.0	10.0'	2	91



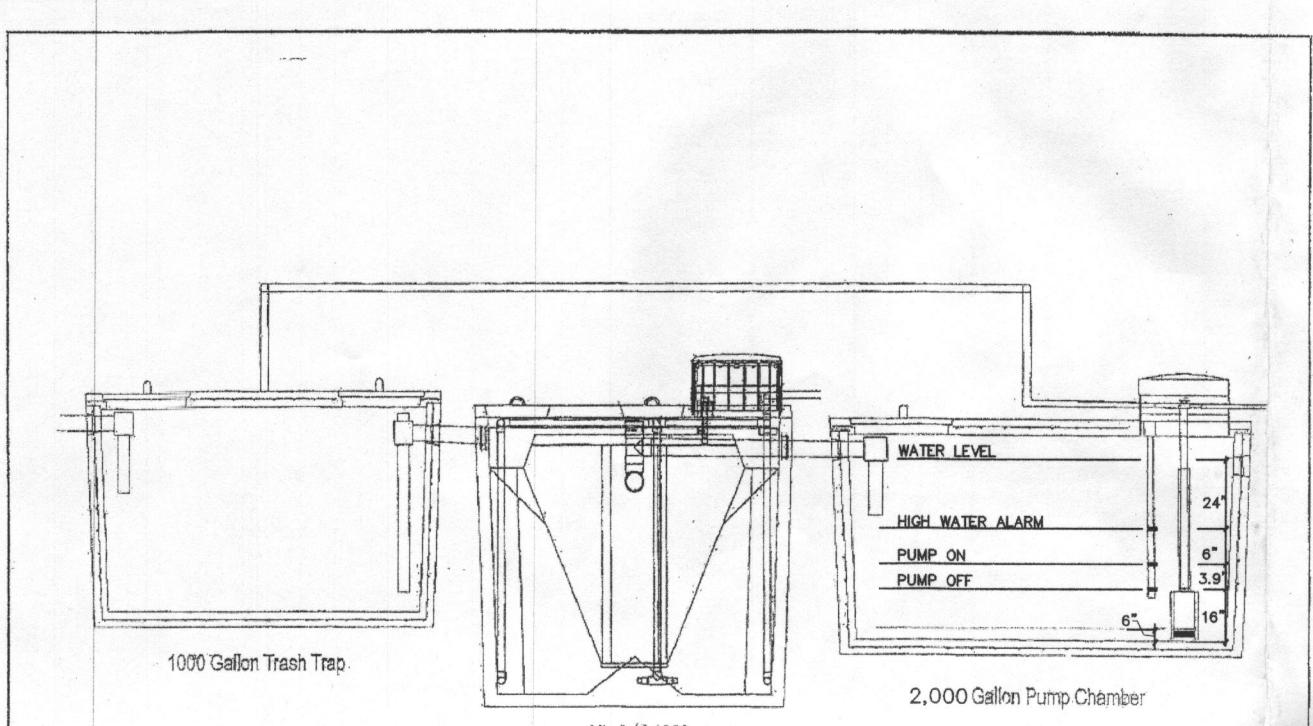
**LOCATION PLAN**  
SCALE: 1"=600'

**VICINITY MAP**  
SCALE: 1"=2000'  
ADC MAP 24 GRID F6

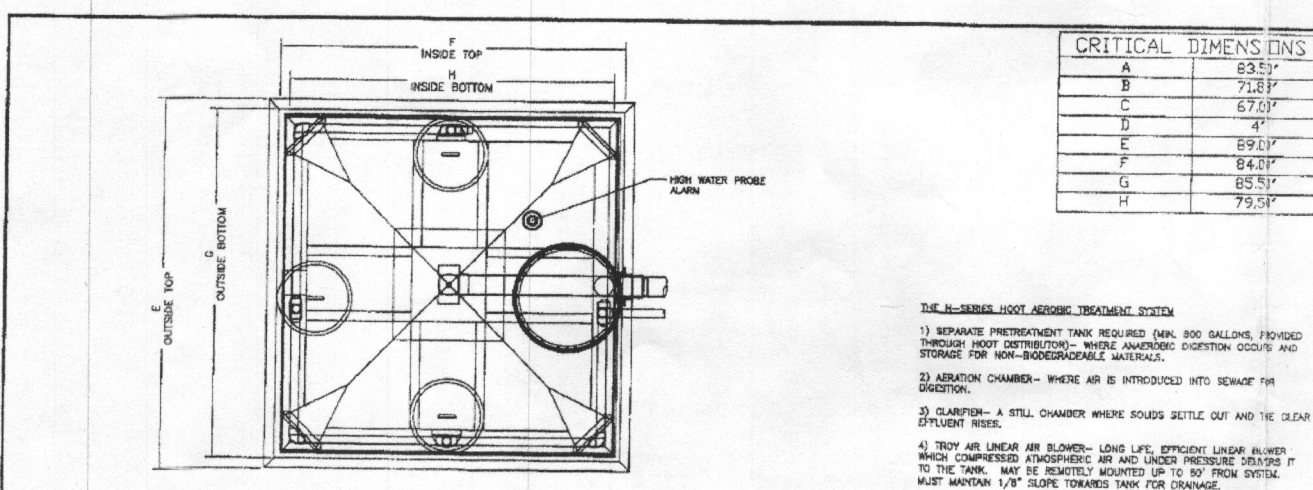
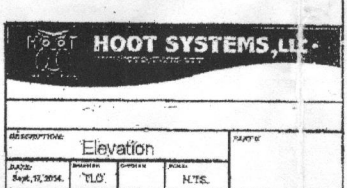
Approved Septic System Plan  
 Howard County Health Department  
 HOOT H-1000 w/ 2000-gal Pump Tank & 94hp Pump  
 Supercedes BAT Plan signed 1/19/2016  
 3/10/2016  
 315005326

**GENERAL NOTES:**

- THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- PARCEL BACKGROUND:  
 TAX MAP: 28  
 GRID: 9  
 PARCEL: 48  
 LOT: 5  
 DEED REFERENCE: LIBER 5991 FOLIO 307  
 ELECTION DISTRICT: FIFTH  
 ZONING: RR-DEO  
 AREA: 49,334 S.F.  
 DPZ FILES: EOP-13-025, SP-13-010, F-14-095, GP-15-081
- 2' TOPOGRAPHY FOR THE DEVELOPED AREAS IS BASED ON AERIAL SURVEY FLOWN BY WMSO TOPOGRAPHY INC. ON OR ABOUT MARCH 2007.
- PRIVATE WELL AND SEPTIC WILL BE UTILIZED.
- SOILS DATA BASED ON THE USDA SOIL SURVEY OF HOWARD COUNTY, MD, DATED MAY, 2008.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
- ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
- EXISTING WELLS, SEPTIC SYSTEMS, AND SEWERAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWERAGE DISPOSAL AREAS HAVE BEEN SHOWN.



**All Tanks to be Traffic Bearing**



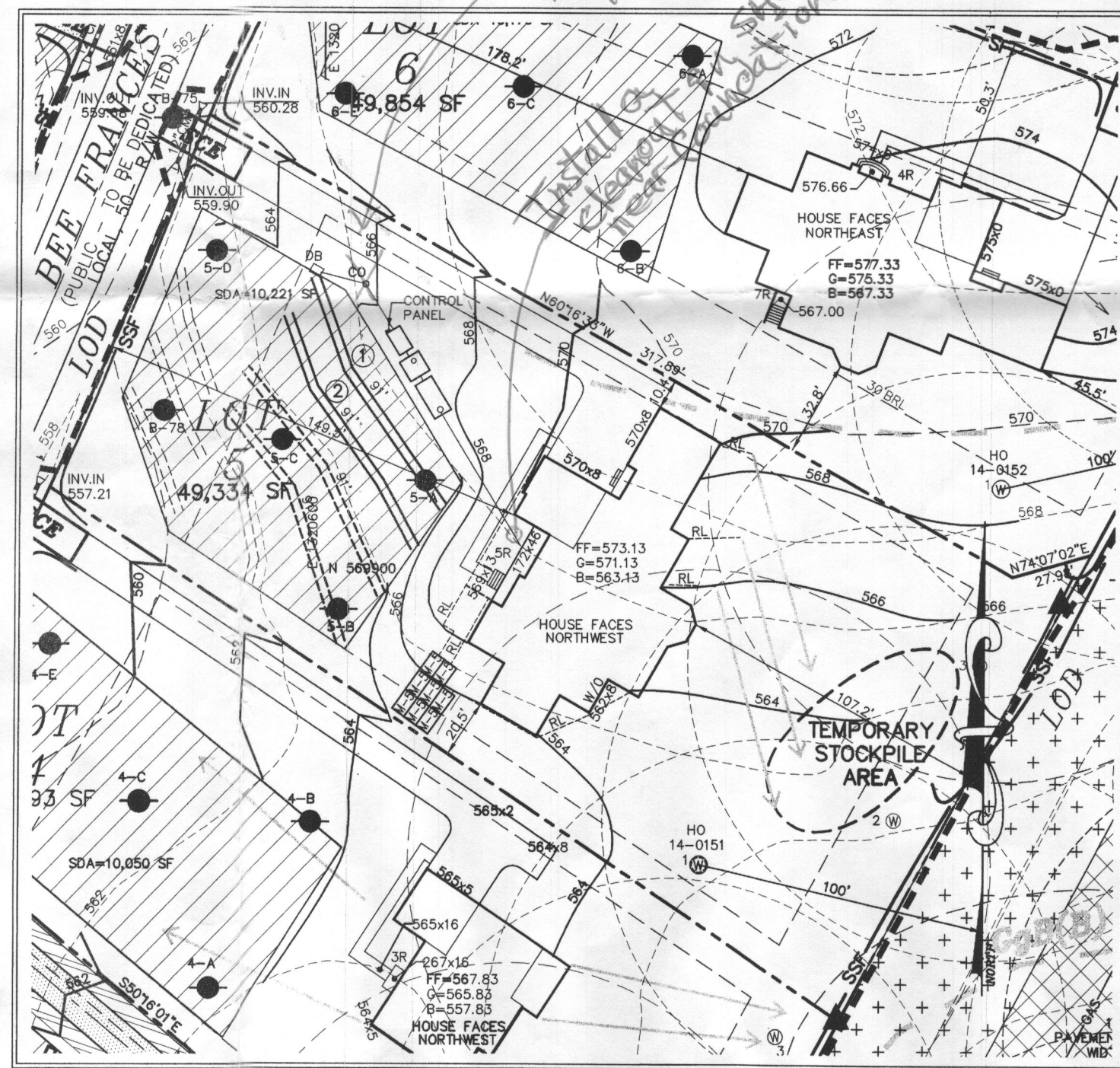
**SEWER SYSTEM CHART**

DESCRIPTION	ELEVATION
BASEMENT ELEVATION	563.13
INVERT OUT OF THE HOUSE	565.80
FINISHED GRADE AT SEPTIC TANK	566.30
INVERT INTO SEPTIC TANK	564.45
INVERT OUT OF SEPTIC TANK	564.20
FINISHED GRADE AT HOOT SYSTEM	566.30
INVERT INTO HOOT SYSTEM	564.16
INVERT OUT OF HOOT SYSTEM	564.08
FINISHED GRADE AT PUMP TANK	566.20
TOP OF TANK	565.13
INVERT INTO PUMP TANK	564.02
INVERT OUT OF PUMP TANK	565.46
PUMP TANK FLOOR	559.63
FINISHED GRADE AT DISTRIBUTION BOX	565.50
INVERT INTO DISTRIBUTION BOX	551.50
PUMP OFF	560.96
PUMP ON	561.29
HIGH WATER ALARM	561.79
DOSED RATE	50 GPM
PUMP RUNTIME	3.5 MIN.

**ON-SITE SEWAGE DISPOSAL SYSTEM:**

RESIDENTIAL DESIGN: HOOT 1000 BNR  
 7 BEDROOM HOUSE (LIVING AREA = 2,288 SQ.FT.)  
 150 GALLONS X # OF BEDROOMS = VOLUME OF WASTEWATER /DAY  
 150 X 7 = 1,050 GPD  
 PERC RATE = 2-5 MINUTES/INCH  
 APPLICATION RATE = 1.2 GPD/SQ.FT.  
 DESIGN FLOW x APPLICATION RATE = SQ.FT. OF TRENCH REQUIRED  
 1,050 x 1.2 = 875 SQ.FT.  
 SQ.FT. REQUIRED x WIDTH OF TRENCH = LENGTH OF TRENCH  
 875 x 3.0' = 292 FT  
 USE 24" OF GRAVEL BELOW DRAIN PIPE  
 291.7 X 0.62 = 181  
 USE TWO (2) TRENCHES (90.5')  
 A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDEWALL REDUCTION CREDIT.  
 MINIMUM TANK CAPACITY = 2000 GALLONS  
 PUMP: GOULDS MODEL 3871, EP04 SERIES

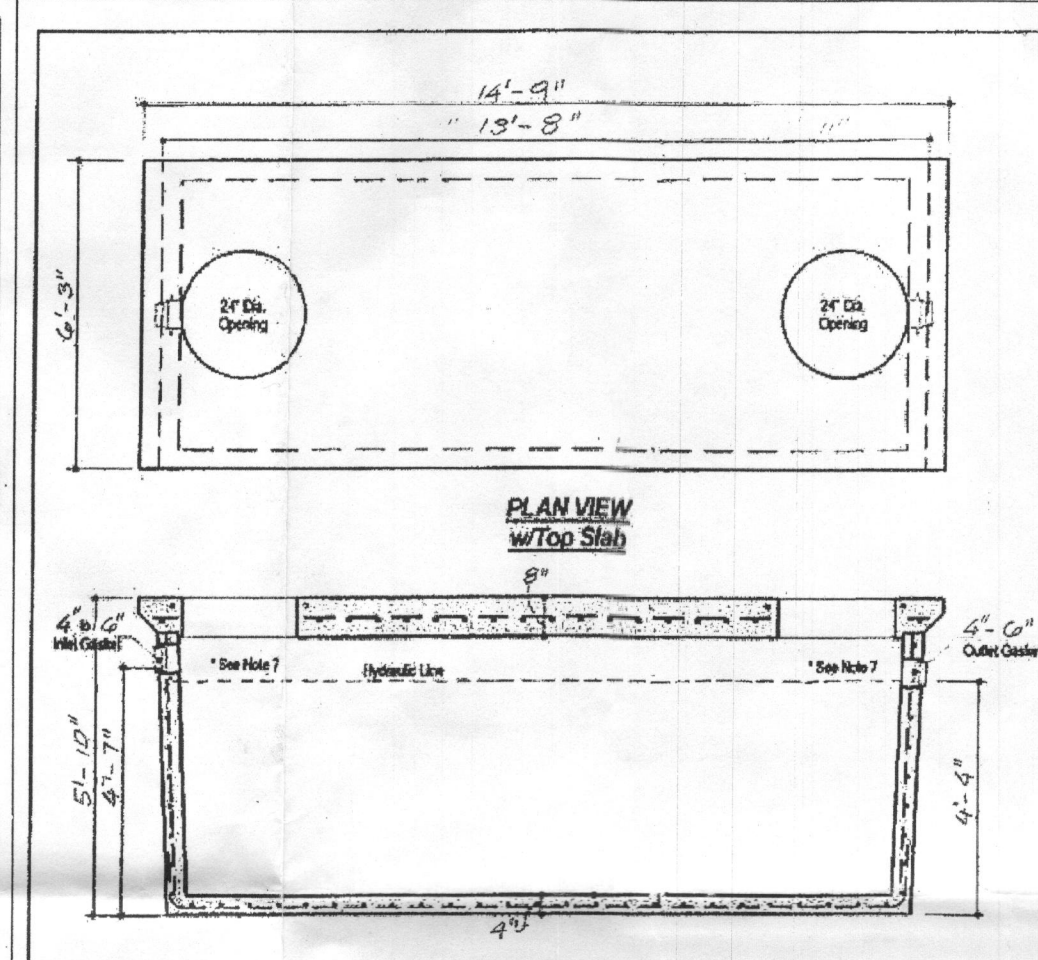
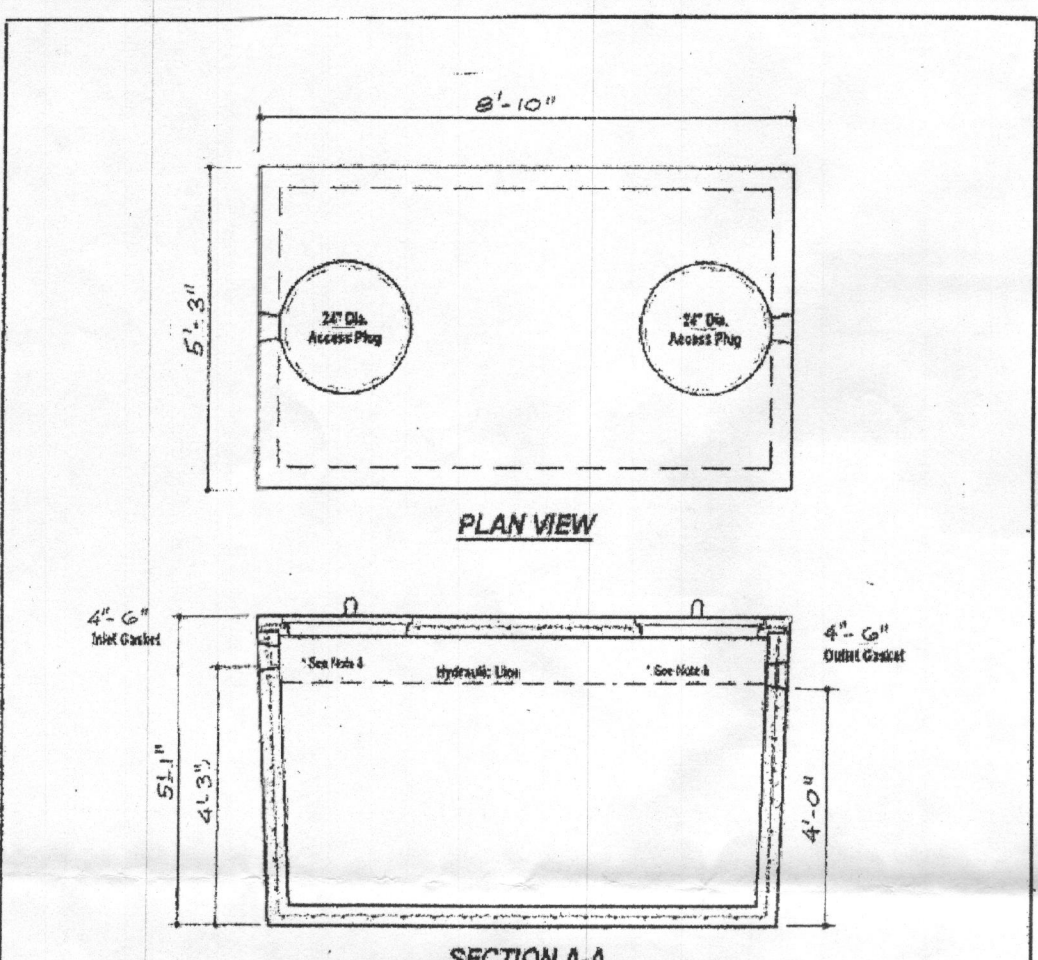
**NOTE:**  
 BASEMENT WILL NOT SEWER BY GRAVITY



**GRAPHIC SCALE**  
1 inch = 50 feet

**BEST AVAILABLE TECHNOLOGY SITE PLAN 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 3.0' FEET.
- THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON 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 (1) 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 STARTUP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.



**DESIGN DATA & GENERAL NOTES**

- Concrete strength: 3000 psi (30 days). Density = 150 pcf.
- Concrete: Reinforced with #4 bars @ 12" o.c.
- Reinforcement: #4 bars @ 12" o.c.
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- Reinforcement: #4 bars @ 12" o.c.
- Reinforcement: #4 bars @ 12" o.c.

**WEIGHT = 11,250 lbs.**

**MBI**  
 Mayer Bros., Inc.  
 2881 New Road  
 Columbia, Maryland 21044  
 Tel: 410.736.1424  
 Fax: 410.736.1424

**1,000 GALLON SEPTIC TANK 1-Compartment**  
 Stock Item  
 Dep. No. 2007R No Scale Aug. 11, 2009

**DESIGN DATA & GENERAL NOTES**

- Concrete strength: 3000 psi (30 days). Density = 150 pcf.
- Concrete: Reinforced with #4 bars @ 12" o.c.
- Reinforcement: #4 bars @ 12" o.c.
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- Reinforcement: #4 bars @ 12" o.c.
- Reinforcement: #4 bars @ 12" o.c.
- Reinforcement: #4 bars @ 12" o.c.

**WEIGHT = 22,500 lbs.**

**MBI**  
 Mayer Bros., Inc.  
 2881 New Road  
 Columbia, Maryland 21044  
 Tel: 410.736.1424  
 Fax: 410.736.1424

**2,000 GALLON TANK Heavy Traffic Rated**  
 Stock Item (Approx. Wt. - 22,500 lbs.)  
 Dep. No. 2007R No Scale Aug. 11, 2009

**GOULDS WATER TECHNOLOGY**

**Wastewater**

**MODEL INFORMATION**

Order No.	HP	Volts	Amps	Minimum Circuit Breaker	Phase	Floater Switch Style	Cord Length	Discharge Length	Minimum On Level	Minimum Off Level	Minimum Basin Diameter	Maximum Basin Size	Shipping Weight	Shipping Box Size
EP0411	115	12	20	20	1	Plug / No Switch	10'	15'	Manual	Manual	15"	20' x 9.1'	21' x 9.5'	21' x 9.5'
EP0411A	115	12	20	20	1	Plug / No Switch	10'	15'	Manual	Manual	15"	20' x 9.1'	21' x 9.5'	21' x 9.5'
EP0411F	115	12	20	20	1	Plug / No Switch	10'	15'	Manual	Manual	15"	20' x 9.1'	21' x 9.5'	21' x 9.5'
EP0411AC	115	12	20	20	1	Plug / No Switch	10'	15'	Manual	Manual	15"	20' x 9.1'	21' x 9.5'	21' x 9.5'
EP0412	230	6	10	10	1	Plug / No Switch	10'	15'	Manual	Manual	15"	20' x 9.1'	21' x 9.5'	21' x 9.5'
EP0412F	230	6	10	10	1	Plug / No Switch	10'	15'	Manual	Manual	15"	20' x 9.1'	21' x 9.5'	21' x 9.5'
EP0511F	115	13	20	20	1	Plug / No Switch	20'	19'	Manual	Manual	15"	20' x 9.1'	22' x 10.4'	22' x 10.4'
EP0511AC	115	13	20	20	1	Plug / No Switch	20'	19'	Manual	Manual	15"	20' x 9.1'	22' x 10.4'	22' x 10.4'
EP0512F	230	6.5	10	10	1	Plug / No Switch	20'	19'	Manual	Manual	15"	20' x 9.1'	22' x 10.4'	22' x 10.4'

**COMPONENTS**

Item No.	Description
1	Impeller
2	Base
3	Pump casing
4	Mechanical seal
5	Ball bearings
6	Chimney
7	Power cord
8	Oil filled motor
9	Motor housing/stator assembly
10	Motor cover

**xylem**  
 Let's Solve Water

Xylem, Inc.  
 2581 East Bayard Street Ext., Suite A  
 Seneca Falls, NY 13148  
 Phone: (866) 325-4210  
 Fax: (866) 325-5877  
 www.gouldswatertechnology.com  
 Goulds is a registered trademark of Goulds Pumps, Inc. and is used under license.  
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APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

DATE

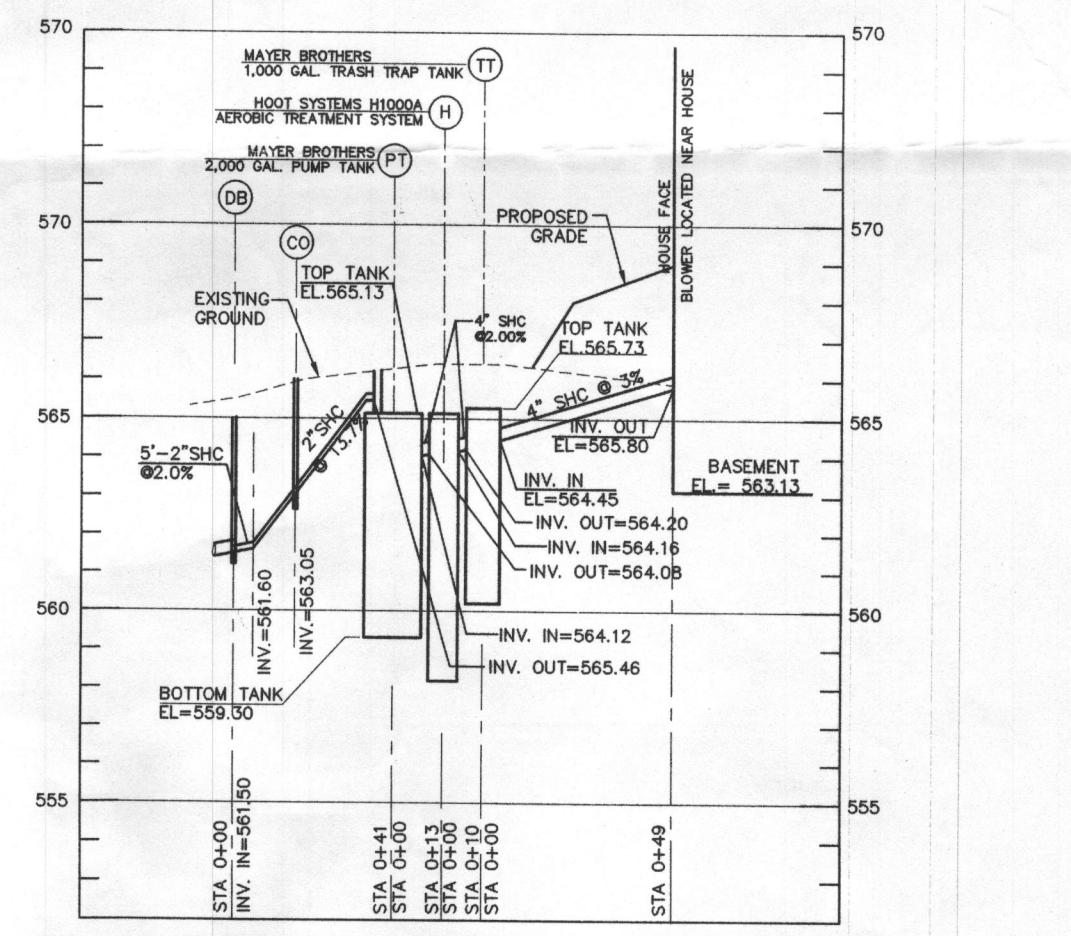


I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/2016.

R. JACOB HIKMAT, P.E.  
 DATE: 03/01/13

**DEVELOPER**  
 NV HOMES  
 9720 PATUXENT WOODS DRIVE  
 COLUMBIA, MARYLAND 21046  
 (410)379-5956

**WELL CERTIFICATION:**  
 THE EXISTING WELL, TAG NO. HO-14-0151, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN



**PROFILE - PRIVATE SEWER**  
 SCALE: 1"=50' HOR  
 1"=5' VER

project: 15-005  
 date: MAR 2016  
 illustration: MAM  
 engineering: MAM  
 scale: 1"=50'  
 approval: RHJ

description: SITE PLAN FOR BAT INSTALLATION  
 revisions:

5020 BEE FRANCES WAY, CLARKSVILLE MD  
**GREENBERRY LOT 5**  
 HOWARD COUNTY  
 FIFTH ELECTION DISTRICT  
 SITE PLAN FOR BAT INSTALLATION

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Surveyors  
 Planners  
 Engineers  
 7050-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Fax  
 (410) 997-0298 Fax