

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: 8/2/14

ONSITE SEWAGE DISPOSAL SYSTEM

P SS88/4-B

APPROVAL DATE: 9/23/16 (SEC)

PERMIT: CONSTRUCTION

A _____

PROPERTY ADDRESS: 5027 Altogether Way

SUBDIVISION: Greenberry

LOT: 25

TAX ID: 05-598688

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: 1.0hp

PUMP TANK CAPACITY: 2000

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 4/15/16

DATE RECORDED: 4/15/16

DISTRIBUTION SYSTEM: GRAVITY

PRESSURE DOSED

BEDROOMS: 6

APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>234.25</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:		

ISSUED BY: Robert Bricker

ISSUE DATE: 8/2/16

EXPIRATION DATE: 8/2/17

- 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 16003340
- 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.

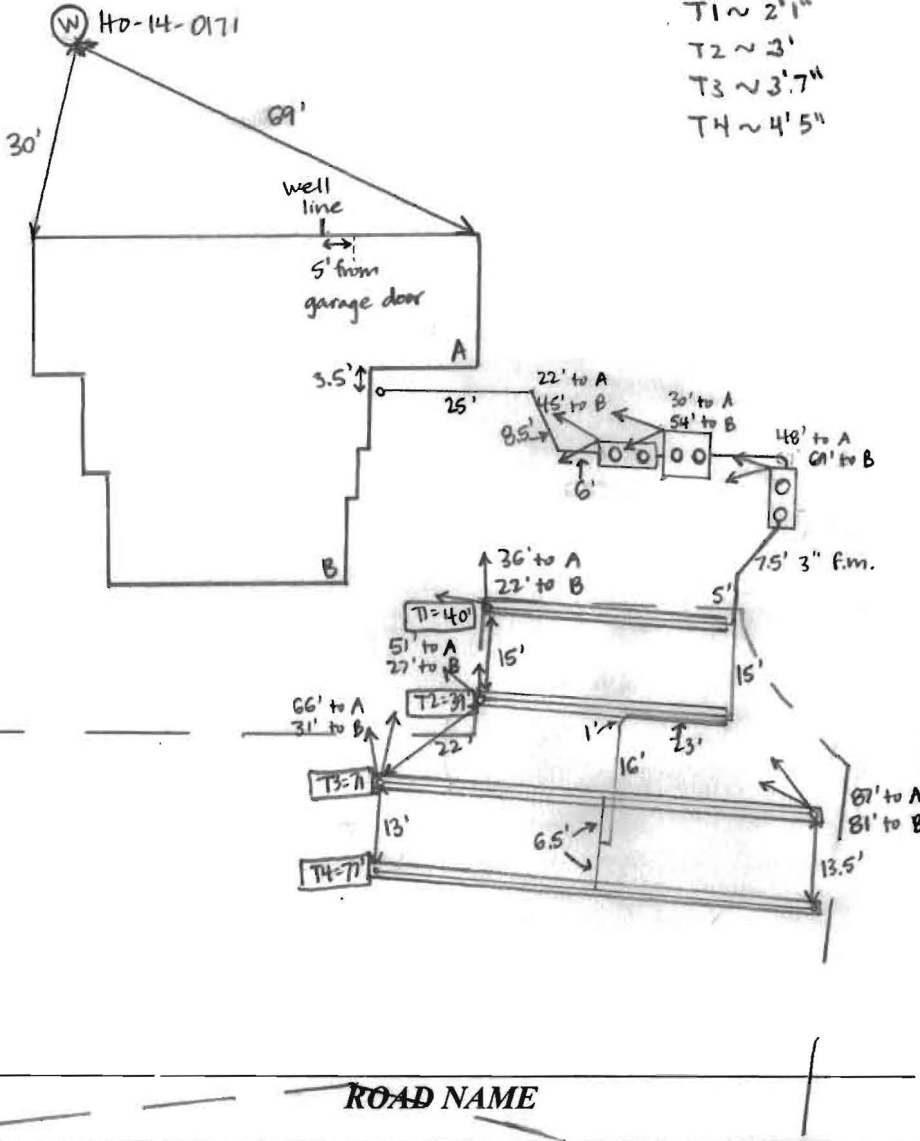
PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

NOT TO SCALE

Lateral Measurements

- T1 ~ 2'1"
- T2 ~ 3'
- T3 ~ 3'7"
- T4 ~ 4'5"



TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	4'	6'
NUMBER OF TRENCHES		4
TOTAL LENGTH		227'
ABSORPTION AREA		681' + SIDEWALL
DISTRIBUTION BOX LEVEL		_____
DISTRIBUTION BOX BAFFLE		_____
DISTRIBUTION BOX PORT		_____

SEPTIC TANK DATA

SEPTIC TANK I LEVEL	YES
MANUFACTURER	MAYER BROS. / HOOT
CAPACITY	1000 GAL
SEAM LOC	TOP
TANK LID DEPTH	2-2.5'
BAFFLES	YES
BAFFLE FILTER	NONE
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	_____
PUMP/SEPTIC TANK LEVEL	YES
MANUFACTURER	MAYER BROS. / HOOT
CAPACITY	2000 @ / 2000 @ GAL
SEAM LOC	TOP
TANK LID DEPTH	2'
BAFFLES	
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	_____

PRE-CONSTRUCTION:

8/16/16 Met S. Carroll on site for layout. All SDA, tank and trench stakes present. Checked contour at starts + ends of trenches - off @ N edge b/c fill in that area. Set depth at end of trench w/o fill when digging. (SC)

INSTALLATION:

8/17/16 Trash and Hoot tanks set. S. Carroll digging hole for pump tank - using laser to check level. On site while pump tank being set. No obvious cracks on tank bottom or sides (SC) 8/18/16 S. Carroll notified me that they filled Hoot tank with water and it leaks. They will replace tank on 8/30/16. (SC) 8/19/16 Pipe laid from house to trash tank. Need house connection. (SC) 8/30/16 Replacing Hoot tank. Ad tank likely leaking from bottom. Now want make fall to pump tank - S. Carroll will reset. (SC) 9/2/16 T1-T3 dug + stone added. S. Carroll digging T4 3' wide, 4' inlet. Using laser to check depths. (SC) 9/2/16 Manifold + laterals installed OK to cover. Need pump + alarm and BAT startup certification. (SC) 9/9/16 Reset pump tank to make fall. New connection from Hoot tank. (SC) 9/21/16 - pump + alarm test

FINAL INSPECTOR

Sarah Collins

DATE OF APPROVAL

9/23/16

Contractors (South Carroll & HOOT) onsite. Hoot Alarm good, pump alarm initially only on 120V - half speed - electrician on site to change to 240V which kicked the pump on and I was able to get lateral water level measurements. - BAT cert still needed (Mike said he'd email it), System looks good - can be finalized. (SC)

Letter of Satisfaction

Hoot System Installation

Address of Property: 5027 Altogether Way
Clarksville, MD. 21029

Date of Final Inspection: 9/21/16

Installer: South Carroll Backhoe Service

Hoot Technician/Inspector: Mike Sample

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,

N. Michael Dayer

Name of Inspector
Mayer Bros., Inc.

PH: 410-796-1434

FX: 410-796-1438

WB

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

65-25



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Facebook: www.facebook.com/hochealth
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 15th day of APRIL 2016 among Jonathan Murrell and NVR, 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 5027 Altogether Way, Clarksville, MD, in the 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 [redacted] Folio [redacted] PLAT # 23453

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 [redacted]

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

JW R/8/2014

LR - Agreement
Recording Fee 20.00
Grantor/Grantee Name:
murrell
Reference/Control #: 40
LR - Agreement
Discharge 40.00
Total: 60.00
180.00
APR 15 2016 12:32
CC13-15
55036 CC0503 -
Howard Co
Columbia/CO05.03.08 -
08

HOWARD COUNTY CIRCUIT COURT (Land Records) WAR 16794, p. 0426, MSA_CE53_16785. Date available 05/02/2016. P.1111111111

20
40
72

10040

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.

Paul Ripon 4/15/2016
Howard County Health Department

Phil [Signature] 4/14/16
Owner #1 Signature Date

NVR ROBERT C. GROTHMAN
Owner #1 Print Name

Owner#2 Signature Date

Owner #2 Print Name

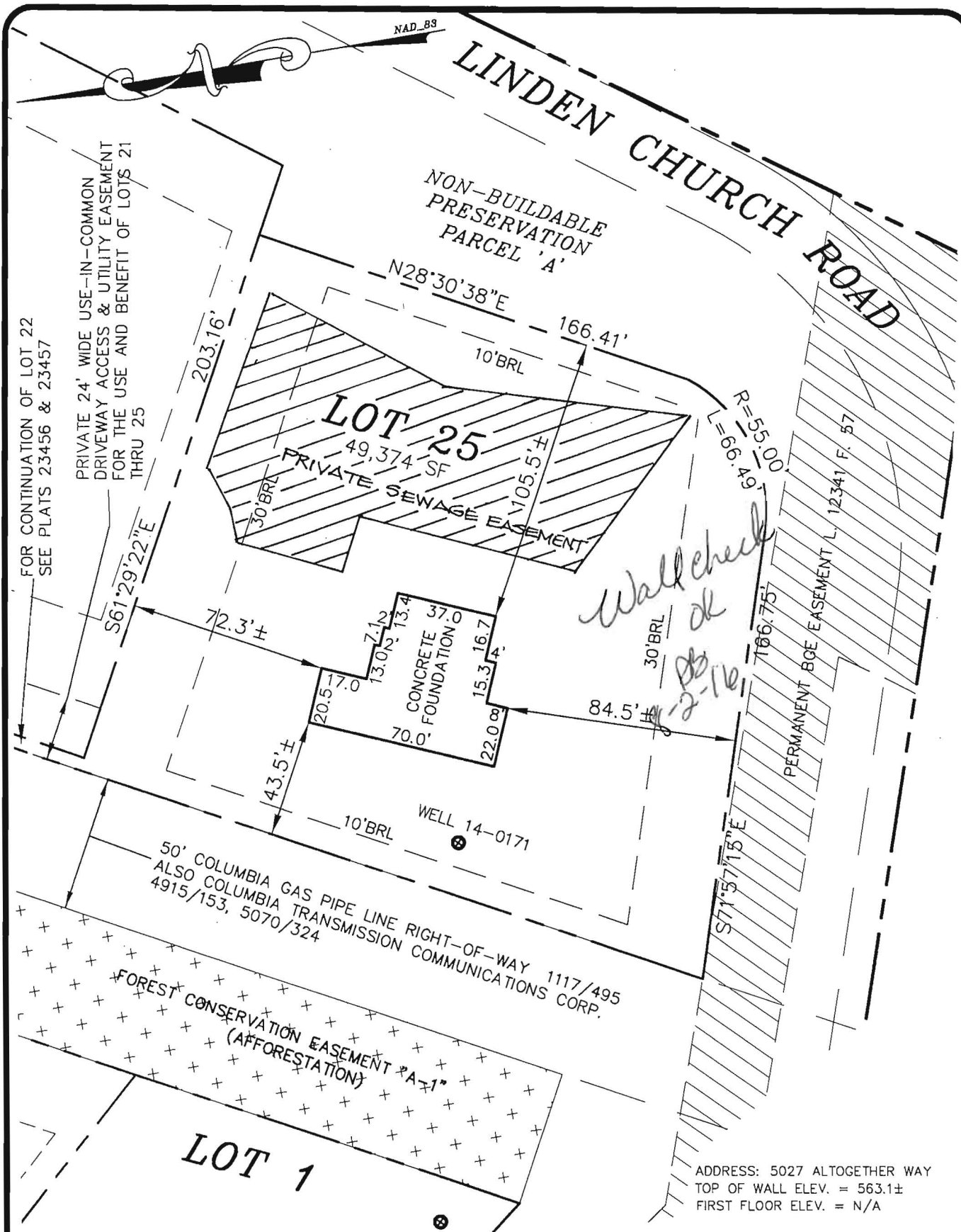
Jonathan Murrell 3-31-16
Buyer #1 Signature Date

Buyer #2 Signature Date

Jonathan Murrell 3-31-16
Buyer #1 Print Name

Buyer #2 Print Name

... COUNTY CIRCUIT COURT (Land Records) WAR 16794, p. 0427, MSA_CE53_16785. Date available 05/02/2016. Printed 07/08/2016.



LOT 25
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.



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

FOUNDATION	DATE: 06/15/16	FINAL LOCATION	DATE: N/A
DRAWN BY: MES	CHECKED BY: GEL	SCALE: 1"=50'	
PROJECT NO.: 15-005	LOCATION DRAWING		

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	0.8	900	1,125	3	375	4.0	6.0	0.62	232.5	10.0'	4	234.0
SECONDARY	0.8	900	1,125	3	375	3.0	6.0	0.50	187.5	10.0'	3	187.5
TERTIARY	0.6	900	1,500	3	500	4.0	6.0	0.62	310	10.0'	5	310.0

SOILS TABLE (WITHIN LOD)

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

ON-SITE SEWAGE DISPOSAL SYSTEM:

RESIDENTIAL SYSTEM DESIGN: HOOT 1000 BPR
 6 BEDROOM HOUSE (LIVING AREA = 2,288 SQ.FT.)
 150 GALLONS X # OF BEDROOMS = VOLUME OF WASTEWATER /DAY
 150 X 6 = 900 GPD
 PERC RATE = 6-15 MINUTES/INCH
 APPLICATION RATE = 0.8 GPD/SQ.FT.
 DESIGN FLOW + APPLICATION RATE = SQ.FT. OF TRENCH REQUIRED
 900 + 0.8 = 1,125 SQ.FT.
 SQ.FT. REQUIRED + WIDTH OF TRENCH = LENGTH OF TRENCH
 1,125 + 3.0' = 375 FT.
 USE 24" OF GRAVEL BELOW DRAIN PIPE
 375 X 0.62 = 232.5
 USE FOUR (4) TRENCHES (#1-42', #2-43', #3-72', #4-77')
 A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDEWALL REDUCTION CREDITS
 MINIMUM TANK CAPACITY = 1000 GALLONS

NOTE:
 BASEMENT WILL NOT SEWER BY GRAVITY

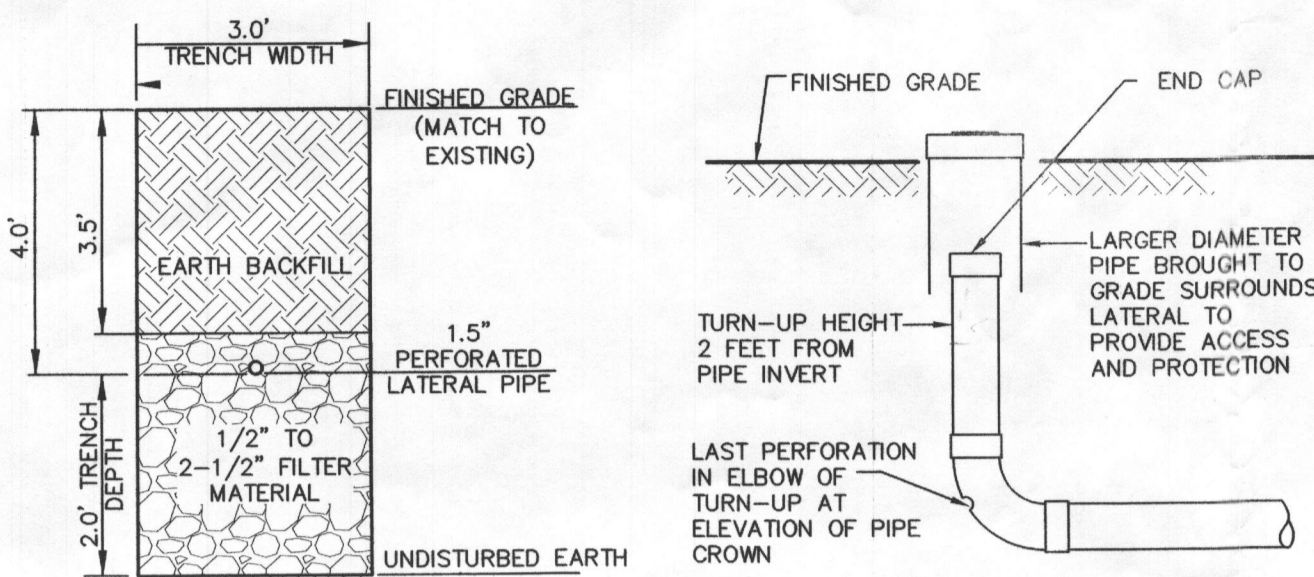
PRIMARY TRENCH DATA

TRENCH	EX. GROUND ELEVATION	INVERT ELEVATION	BOTTOM OF TRENCH EL.
1	555.7	551.7	549.7
2	555.0	551.0	549.0
3	554.2	550.2	548.2
4	553.3	549.3	547.3

LOW PRESSURE DOSING SYSTEM - INITIAL INSTALLATION

TRENCH	GROUND ELEVATION	PIPE INV. ELEVATION	TRENCH LENGTH (FT)	LATERAL LENGTH (FT)	PERFORATION DIAMETER (IN)	PRESSURE HEAD (FT)	PERFORATION FLOW RATE (GPM)	PERFORATION SPACING (FT)	NUMBER OF PERFORATIONS	TRENCH FLOW RATE (GPM)
1	555.70	551.70	42.00'	38.00'	5/16	2.0	1.63	4.0	10	16.30
2	555.00	551.00	42.75	38.25'	5/16	2.7	1.89	4.5	9	17.01
3	554.20	550.20	72.00'	67.50'	5/16	3.5	2.15	4.5	16	34.40
4	553.30	549.30	77.00'	72.50'	5/16	4.4	2.41	5.5	14	33.74

Lateral Flow Rate
 16.30
 17.01
 34.40
 33.74



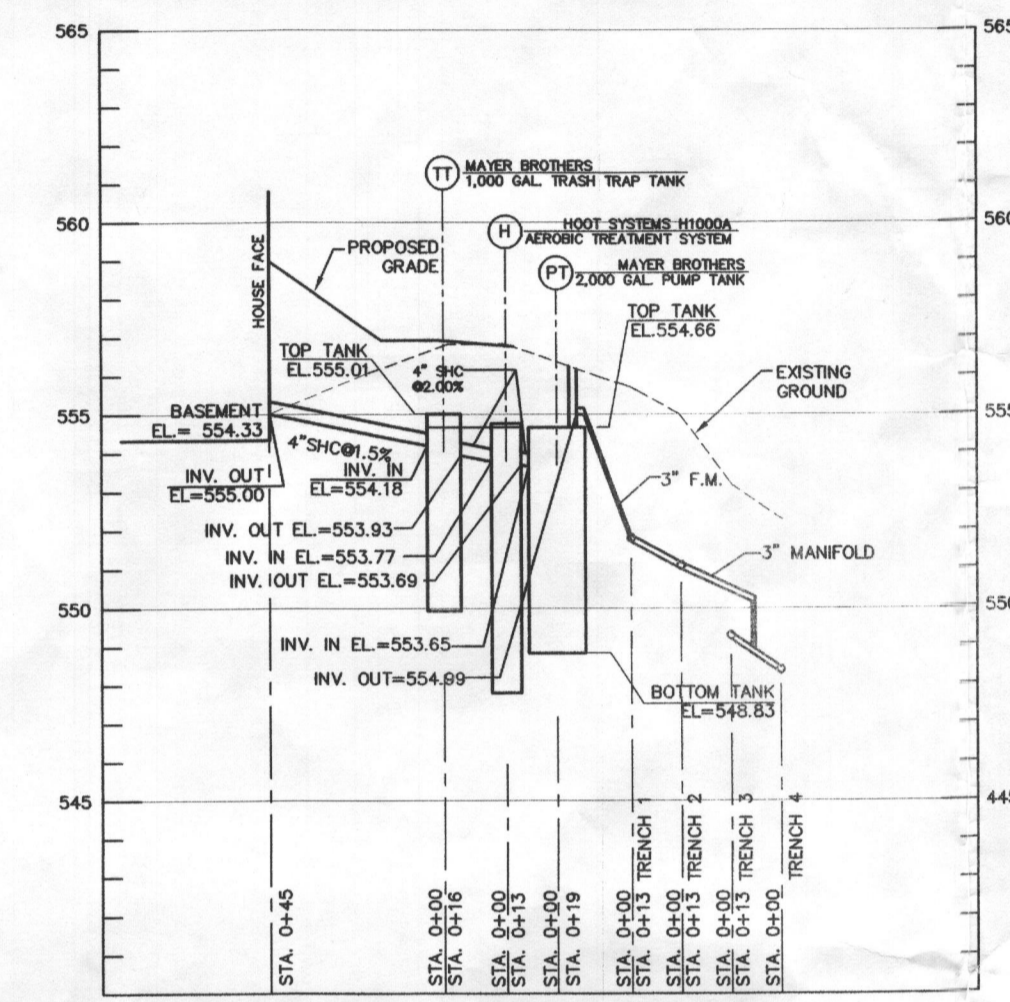
TRENCH DETAIL
 NOT TO SCALE

TURN-UP DETAIL
 NOT TO SCALE

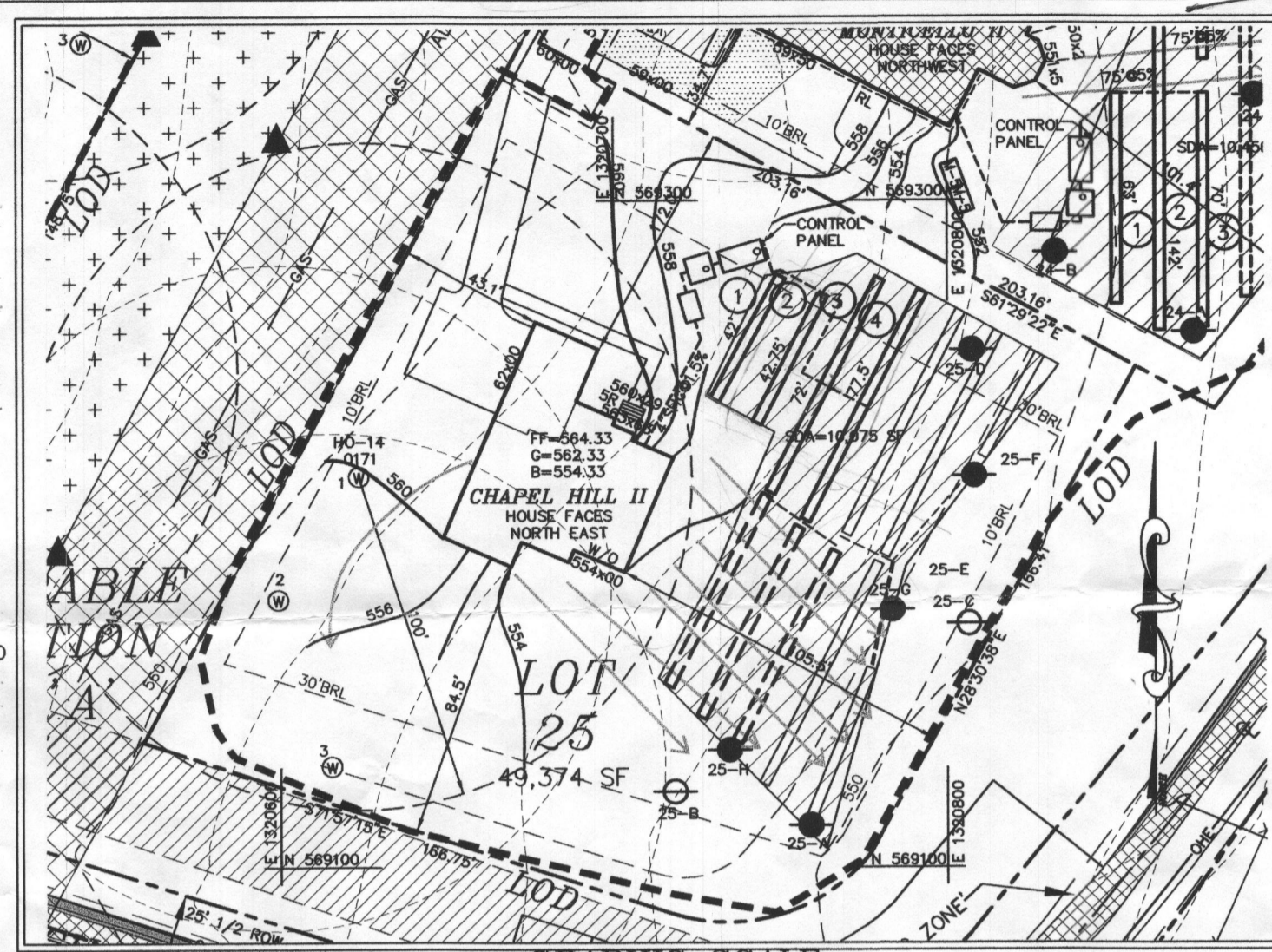
NOTE: PLACE AN OBSERVATION PIPE IN THE GRAVEL BED AT DISTAL END OF EACH TRENCH SEGMENT

SEWER SYSTEM CHART

DESCRIPTION	VALUE
BASEMENT ELEVATION	554.33
INVERT OUT OF THE HOUSE	555.00
FINISHED GRADE AT SEPTIC TANK	557.00
INVERT INTO SEPTIC TANK	554.18
INVERT OUT OF SEPTIC TANK	553.93
FINISHED GRADE AT HOOT SYSTEM	556.80
INVERT INTO HOOT SYSTEM	553.77
INVERT OUT OF HOOT SYSTEM	553.69
FINISHED GRADE AT PUMP TANK	556.20
TOP OF TANK	554.66
INVERT INTO PUMP TANK	553.65
INVERT OUT OF PUMP TANK	554.66
PUMP TANK FLOOR	549.16
PUMP OFF	550.49
PUMP ON	550.82
HIGH WATER ALARM	551.32
TOTAL DYNAMIC HEAD	12.97
DOSED RATE	150 GPM
PUMP RUNTIME	1.5 MIN.



PROFILE - PRIVATE SEWER
 SCALE: 1"=30' HOR, 1"=3' VER



LOCATION PLAN
 SCALE: 1"=600'

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

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: 25
 DEED REFERENCE: LIBER 5891 FOLIO 307
 ELECTION DISTRICT: FIFTH
 ZONING: RR-DEO
 AREA: 49,374 S.F.
 DPZ FILES: ECP-13-025, SP-13-010, F-14-095, GP-15-081
- 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 IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS EASEMENT SHALL BE 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

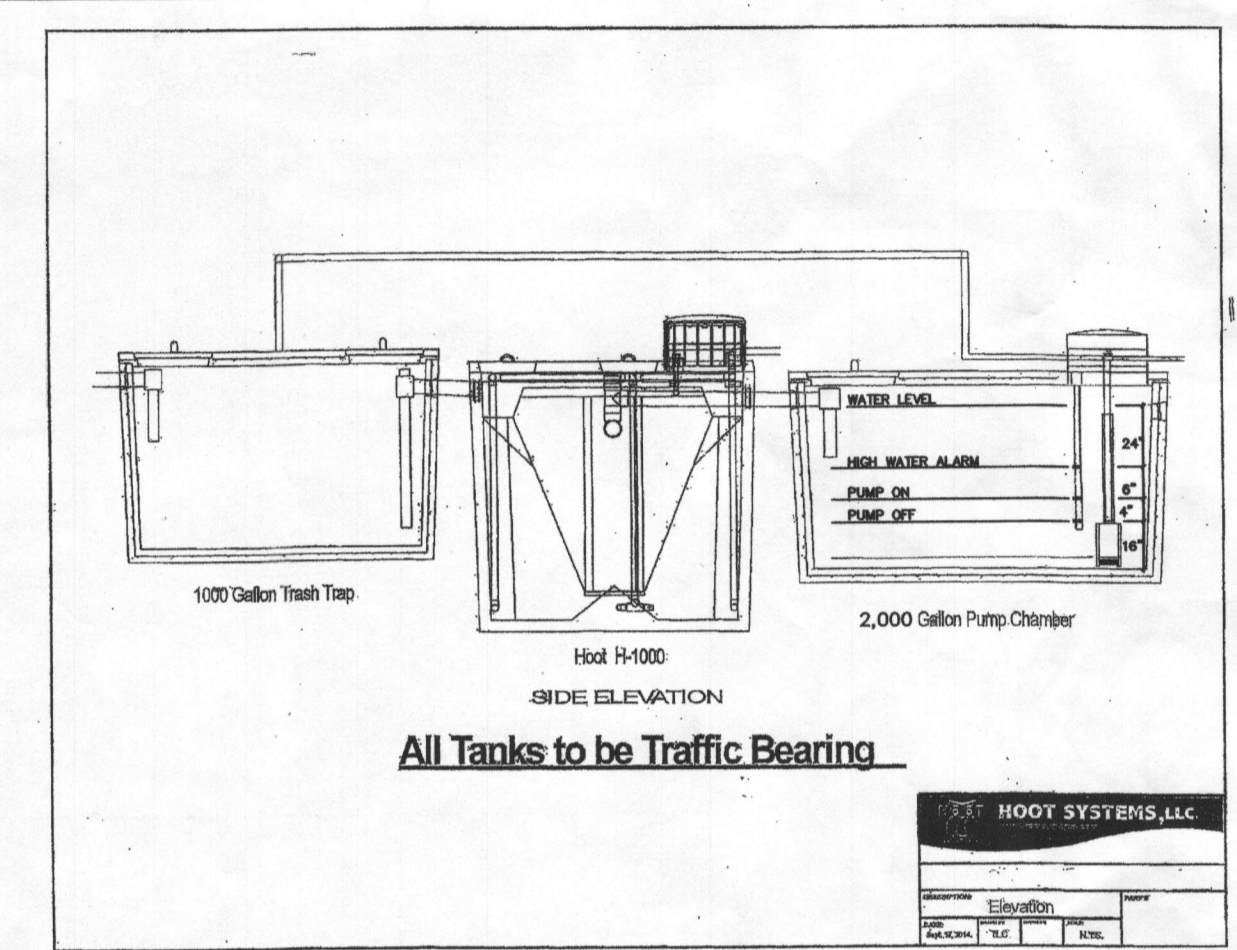
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3.0' FEET.
- THE BLOWER MAY NOT BE LOCATED 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.

LOW PRESSURE DOSING SYSTEM

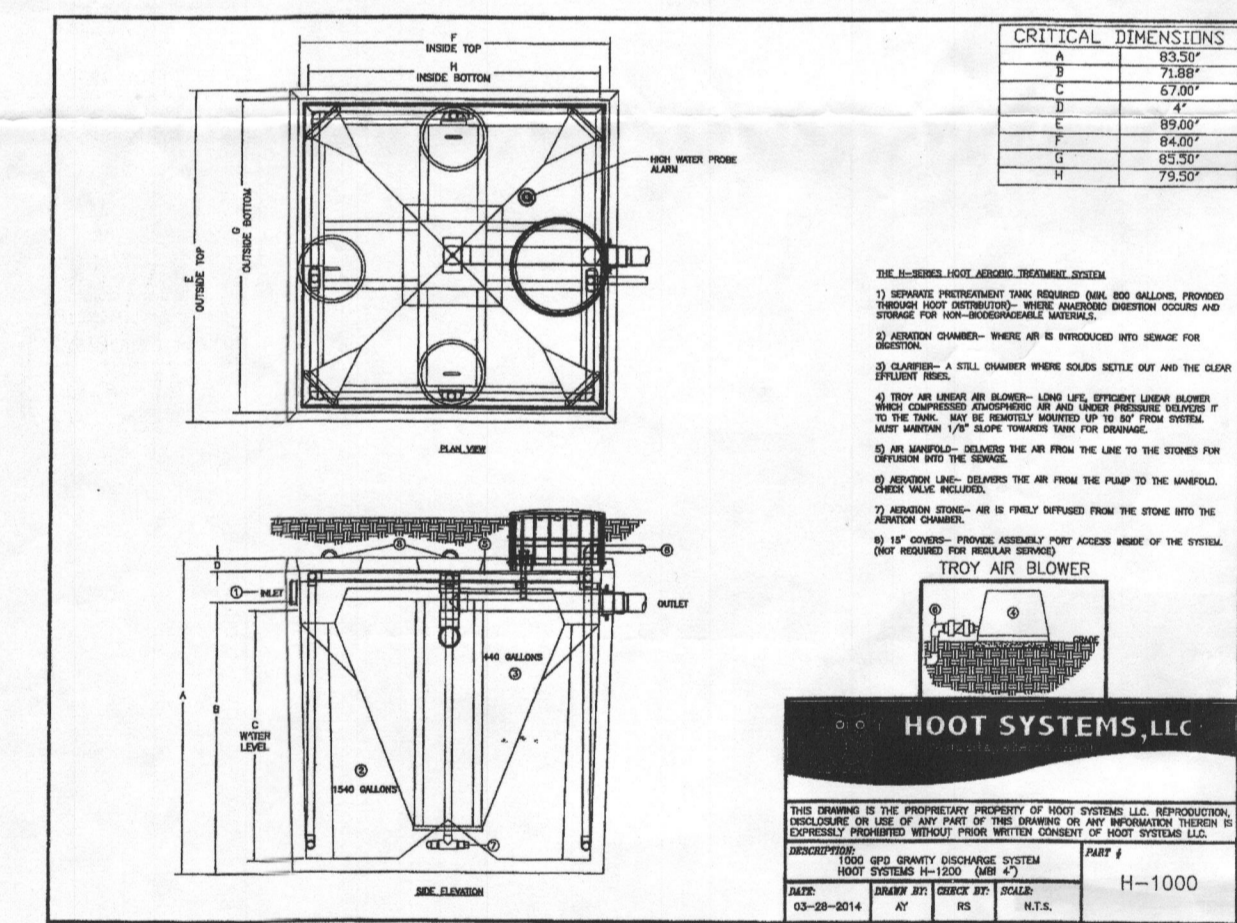
NO. OF BEDROOMS: 6
 TRENCH LENGTH: TRENCH #1 = 42.0', TRENCH #2 = 42.75', TRENCH #3 = 72.0', TRENCH #4 = 77.0'
 FLOW METHOD: MANIFOLD TYPE: CENTER FEED MANIFOLD (TRENCH #1 & #2)
 END FEED MANIFOLD (TRENCH #3 & #4)
 HOLE DIAMETER: 5/16"
 HOLE SPACING: LATERAL #1 = 4.0' (FIGURE 4.4), LATERAL #2 = 4.5', LATERAL #3 = 5.5', LATERAL #4 = 5.5', LATERAL #1 = 38.00', LATERAL #2 = 38.25', LATERAL #3 = 67.50', LATERAL #4 = 71.50'
 HOLES NO./LATERAL: LATERAL #1 = 10, LATERAL #2 = 9, LATERAL #3 = 16, LATERAL #4 = 14
 LATERAL DIAMETER: 1.5" (FIGURE 4.4)
 PRESSURE HEAD: LATERAL #1 = 2.0'; LATERAL #2 = 2.7', LATERAL #3 = 3.5', LATERAL #4 = 4.4'
 ORIFICE DISCHARGE: LATERAL #1 = 1.63 GPM; LATERAL #2 = 1.89 GPM; LATERAL #3 = 2.15 GPM; LATERAL #4 = 2.41 GPM
 LATERAL DISCHARGE: (NO. OF HOLES X ORIFICE DISCHARGE)
 LATERAL #1 = 16.30; LATERAL #2 = 17.01; LATERAL #3 = 34.40; LATERAL #4 = 33.74
 101.45 GPM

SYSTEM DISCHARGE:
 5xLATERAL VOL.+MANIFOLD VOL.+FORCE MAIN VOL.
 FORCE MAIN DIAMETER: 3" (TABLE 4.4)
 MANIFOLD DIAMETER: 3"
 LATERAL VOLUME: 22.8 GAL. (38.00+38.25+67.50+71.50)(10.6)(100)
 MANIFOLD VOLUME: 25.3 GAL. (69.38x4)(100)
 FORCE MAIN VOLUME: 6.14 GAL. (16x38.4)(100)
 MINIMUM DOSE: 145.44 GAL. (5x22.8+25.3+6.14)
 6 DISCHARGES PER DAY
 VOLUME PER DISCHARGE (900/6) 150 GAL. > 145.44 GAL.

TOTAL HEAD:
 DYNAMIC HEAD+STATIC HEAD+OPERATING HEAD
 F. M. FRICTION LOSS: 0.33 (TABLE 4.4)
 MANIFOLD FRICTION LOSS: 1.37 (TABLE 4.4)
 FITTINGS FRICTION LOSS: 3.02 (7x90° ELBOW, 10' PER FITTING=70' OF PIPE)+
 5x90° TEE, 15' PER FITTING=75' OF PIPE (TABLE 4.4)
 LATERAL SAFETY FACTOR: 1.50
 STATIC HEAD: 4.75'
 DISTAL HEAD: 2.0'
 TOTAL DYNAMIC HEAD: 12.97' (0.33+1.37+3.02+1.5+4.75+2.0)
 USE GOULDS PUMP WE10.



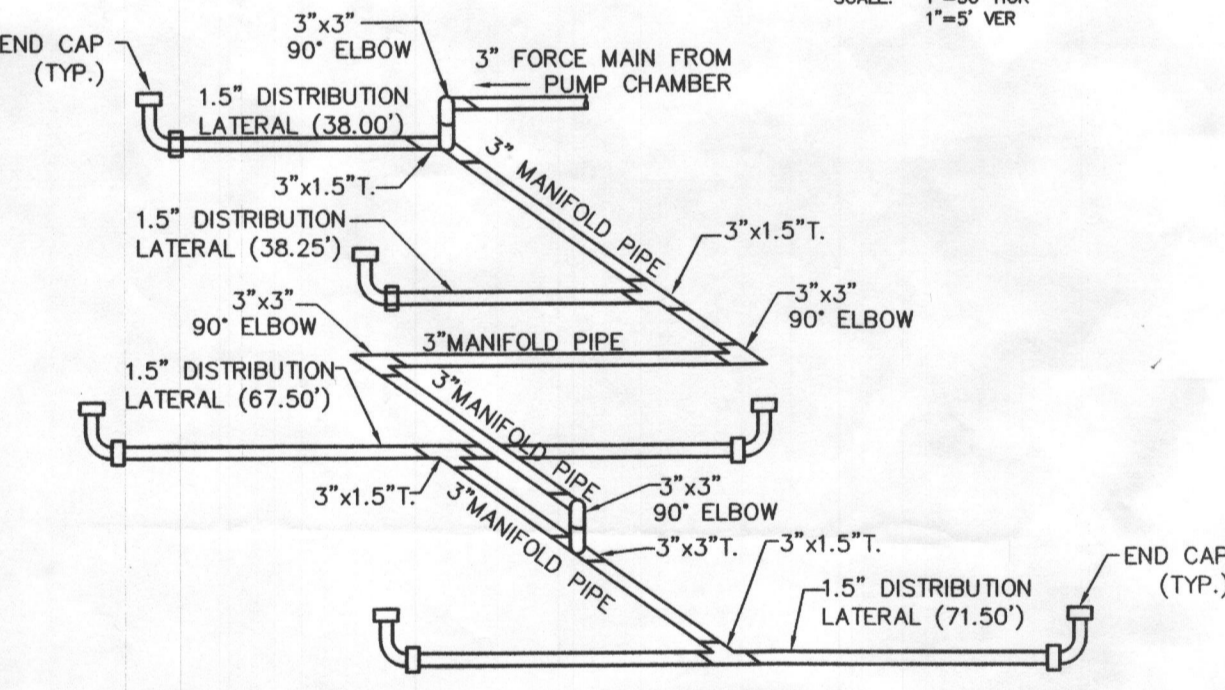
All Tanks to be Traffic Bearing



CRITICAL DIMENSIONS

ITEM	SIZE
A	72.00"
B	72.00"
C	72.00"
D	72.00"
E	72.00"
F	72.00"
G	72.00"
H	72.00"
I	72.00"
J	72.00"
K	72.00"
L	72.00"
M	72.00"
N	72.00"
O	72.00"
P	72.00"
Q	72.00"
R	72.00"
S	72.00"
T	72.00"
U	72.00"
V	72.00"
W	72.00"
X	72.00"
Y	72.00"
Z	72.00"

HOOT SYSTEMS, LLC



END AND CENTER FEED MANIFOLD DISTRIBUTION NETWORK SCHEMATIC
 NOT TO SCALE

NOTE: ALL PIPE ARE SCH. 40 PVC ROGED PIPE

1,000 GALLON SEPTIC TANK 1-Compartment
 Stock Item
 Weight = 11,260 lbs.
 Mayer Bros., Inc.
 888 West 10th Street, Dept. 2000
 Columbia, MD 21046
 Tel: 410-273-2222
 Fax: 410-273-2222
 Dep. No. 1000-12
 10 Boxes
 Aug. 11, 2008

2,000 GALLON TANK Heavy Traffic Rated
 Stock Item (Approx. Wt. 22,000 lbs.)
 Mayer Bros., Inc.
 888 West 10th Street, Dept. 2000
 Columbia, MD 21046
 Tel: 410-273-2222
 Fax: 410-273-2222
 Dep. No. 2000T-12
 10 Boxes
 Aug. 11, 2008

Goolds Water Technology
 Wastewater
APPLICATIONS
 Specifically designed for the following uses:
 • Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems
SPECIFICATIONS
 • Pump
 • Solids handling capabilities: 3" maximum.
 • Discharge size: 2" NPT.
 • Capacities up to 140 GPM.
 • Total heads: up to 128 feet TDH.
 • Temperature:
 • 50°F (10°C) continuous, 140°F (60°C) intermittent.
 • See order numbers on reverse side for specific HP, voltage, phase and RPM's available.
MOTORS
 • Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
 • Class III insulation on 5" 1/8 HP models.
 • Class F insulation on 2 HP models.
Single phase (60 Hz)
 • Capable start motors for maximum starting torque.
 • Built-in overload with automatic reset.

PERFORMANCE RATINGS (gpm per rating)

Order No.	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
10	150	170	190	210	230	250
15	160	180	200	220	240	260
20	170	190	210	230	250	270
25	180	200	220	240	260	280
30	190	210	230	250	270	290
35	200	220	240	260	280	300
40	210	230	250	270	290	310
45	220	240	260	280	300	320
50	230	250	270	290	310	330
55	240	260	280	300	320	340
60	250	270	290	310	330	350
65	260	280	300	320	340	360
70	270	290	310	330	350	370
75	280	300	320	340	360	380
80	290	310	330	350	370	390
85	300	320	340	360	380	400
90	310	330	350	370	390	410
95	320	340	360	380	400	420
100	330	350	370	390	410	430

COMPONENTS
 1. Impeller
 2. Motor
 3. Mechanical Seal
 4. Motor Shaft
 5. Motor
 6. Ball Bearings
 7. Power Cable
 8. Control Cable

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

WELL CERTIFICATION:
 THE EXISTING WELL, TAG NO. HO-14-171, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN

APPROVED SEPTIC SYSTEM PLAN
 Howard County Health Department
 HOOT H-1000
 \$2000 gal Pump tank
 w/Goolds WE10 H Pump
 w/Goolds WE10 H Pump structure
 As Illustrated
 \$1600/1418

5027 ALTOGETHER WAY, CLARKSVILLE MD
GRENBERRY LOT 25
 HOWARD COUNTY
 FIFTH ELECTION DISTRICT
 SITE PLAN FOR BAT INSTALLATION

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

description: revisions
 date: _____
 no.: _____

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7850-B Grace Drive, Columbia, Maryland 21044
 (410) 997-0298 Fax
 (410) 997-0298 Fax

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