



**Howard County  
Health Department**

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

**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)

RECEIPT DATE: 5/19/21 **ONSITE SEWAGE DISPOSAL SYSTEM** P 569515

APPROVAL DATE: 5/25/21 (ST) **PERMIT: CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 14762 BETULA WAY, DAYTON, MD 21036

SUBDIVISION: KALMIA FARMS, SEC. 2 LOT: 7 TAX ID: 05-391830

CONTRACTOR: Walter Cumberland EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: \_\_\_\_\_ PHONE: 301-252-1122

PROPERTY OWNER: NICHOLAS LASWELL EMAIL: \_\_\_\_\_

OWNER ADDRESS: 319 VIOLET COURT, MT AIRY, MD 21771 PHONE: (443)401-7681

SEPTIC TANK SIZE (GALLONS): 2000 TANK MANUFACTURER: BABYLON

PUMP MODEL: n.a. PUMP SIZE n.a. PUMP TANK CAPACITY: n.a.

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>130</u>	INLET DEPTH: <u>2.0</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6.0</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4.0</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	INSTALL A CLEANOUT IN SHC; NO CLEANOUTS IN SEPTIC TANK 'BACK LINE'.	

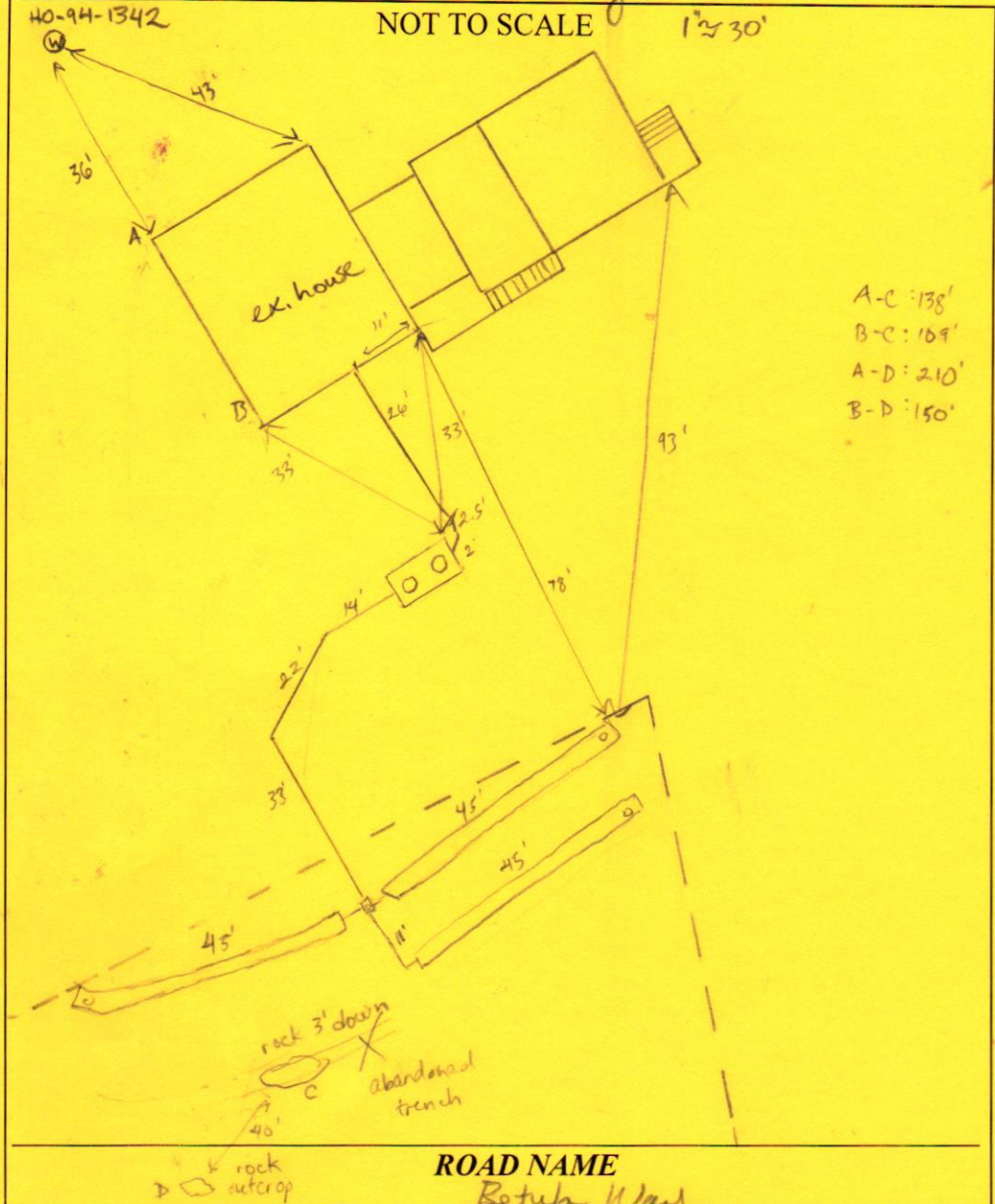
ISSUED BY: R BRICKER ISSUE DATE: 5/19/21 EXPIRATION DATE: 5/17/22

- 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 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 n.a.
- 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.**

14762 Betula Way



A-C: 138'  
B-C: 169'  
A-D: 210'  
B-D: 150'

TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	2'	6'
NUMBER OF TRENCHES		3
TOTAL LENGTH		135'
ABSORPTION AREA		405 sq ft + sidewalk
DISTRIBUTION BOX LEVEL		yes
DISTRIBUTION BOX BAFFLE		yes
DISTRIBUTION BOX PORT		yes

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	
MANUFACTURER	Babylon
CAPACITY	2000 GAL
SEAM LOC	top
TANK LID DEPTH	2'-3'
BAFFLES	inlet + outlet
BAFFLE FILTER	-
MANHOLE LOC	inlet + outlet
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	yes
DATE ON LID	2-26-21
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: 5/20/21 Laid out 3x45' trenches. Moved bottom trench down by about 4' to accommodate tree - should be enough room in SDA still for future systems (SD)

INSTALLATION: 5/25/21 Tank set and first two trenches constructed. 10' into beginning of third trench, 100% rock found 3' down. May be a vein connected to a rock outcrop 40' down hill. Abandoned this trench and laid out trench to the right in area planned for 1st replacement. Should be enough room in SDA to accommodate more trenches (SD) 5/25/21 PM: 3rd trench complete, STC complete, d-box leveled. Well unapproachable b/c of foliage (SD) 6/29/21 Well triangulated (SD)

FINAL INSPECTOR Susan Thomas DATE OF APPROVAL 7/25/21

# Howard County Health Department

Bureau of Environmental Health, Columbia, MD 21045 - 410-313-1771

SEWAGE DISPOSAL PERMIT NO. A- \_\_\_\_\_ P- \_\_\_\_\_

RESIDENTIAL PERMIT   
(NUMBER OF BEDROOMS: \_\_\_\_\_)

COMMERCIAL PERMIT   
(DESIGN FLOW: \_\_\_\_\_ GPD)

PERMITEE: \_\_\_\_\_

LOCATION: \_\_\_\_\_

*14762 Betula Way Keltia Farms Sec 2 Lot 7*

**\*\*POST THIS CARD WHERE IT CAN BE SEEN FROM ROAD\*\***

STOP ALL CONSTRUCTION ON SEWAGE DISPOSAL SYSTEM AND CONTACT HEALTH DEPARTMENT BEFORE CONTINUING

\_\_\_\_\_  
Inspector

\_\_\_\_\_  
Date

WORK IS SATISFACTORY, OK TO CONTINUE

\_\_\_\_\_  
Inspector

\_\_\_\_\_  
Date

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FINAL INSPECTION MADE, OK TO COVER ALL WORK

\_\_\_\_\_  
Inspector

\_\_\_\_\_  
Date

EX. WELL  
HO-94-1342  
453.27

30' WELL  
RADIUS

PROP. HOUSE  
FF=446.0  
BE=436.0

GARAGE

PORCH

PROP. SEPTIC  
TANK

SEPTIC

INITIAL

SYSTEM

SYSTEM

REPLACEMENT

REPLACEMENT

Existing  
Private Sewerage  
Easement  
(Plat No. 5083)

2ND

SYSTEM

MICRO-BIO-RETENTION FACILITY #1 (M-6)

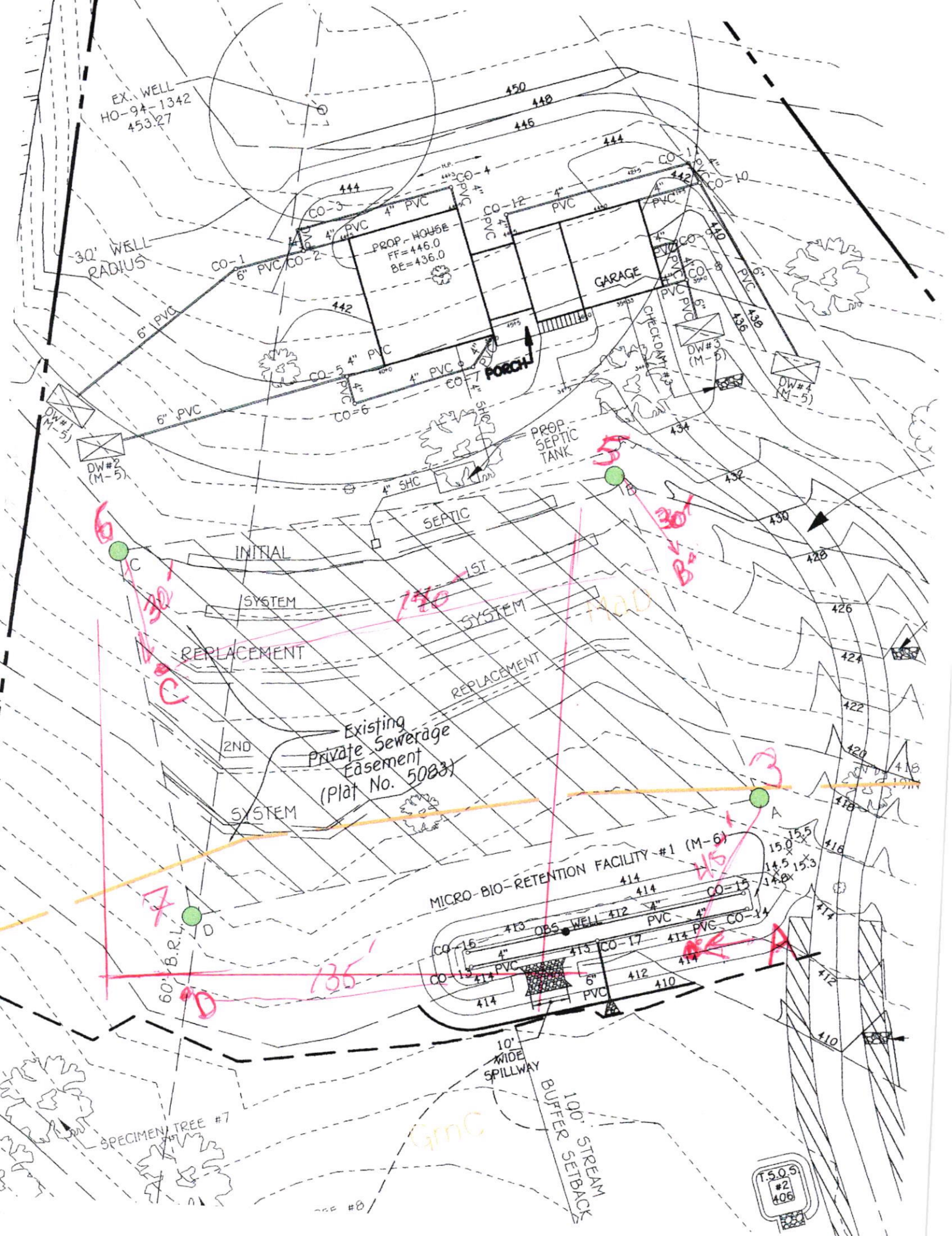
SPECIMEN TREE #7

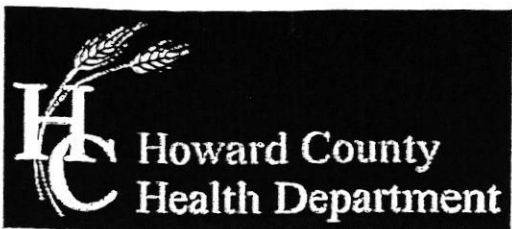
GMC

10' WIDE  
SPILLWAY

100' STREAM  
BUFFER SETBACK

15.05  
#2  
406





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Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

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

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 14762 Betula Way

Subdivision: Kalmia Farms Lot: 7

Initial system: Application rate: 1.2 Effective area beginning depth: 4 Bottom maximum depth: 6
1st Replacement: Application rate: 1.2 Effective area beginning depth: 4.5 Bottom maximum depth: 6
2nd Replacement: Application rate: 1.2 Effective area beginning depth: 5 Bottom maximum depth: 6

Design Flow = 150 gallons per day per bedroom
Design flow ÷ application rate = square footage of drainfield required
Linear length of trench required = drainfield square footage x sidewall reduction percentage ÷ trench width

Sidewall reduction credit formula:

(W + 2) / (W + 1 + 2D) x 100 = Percent of length of standard trench where W=trench width and D= depth between effective area beginning depth and trench bottom.

Standard design requirements:

- Trenches must be located to provide room for 3 systems in the disposal area
All trenches must be equal length unless low pressure dosed
All trenches must be on contour
Tank and trenches must be placed as shallow as possible while maintaining 2% fall in pipe from house and at least 18" cover over trenches. If 2% fall from house is not possible, the minimum allowable fall is 1%.
Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit. Additional spacing may be necessary for any trench using over 3.5' of effective sidewall. In those cases, the spacing formula is 2D + W up to a maximum spacing of 18'.
Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)
Maximum trench length is 100'
Maximum pipe depth is 4'

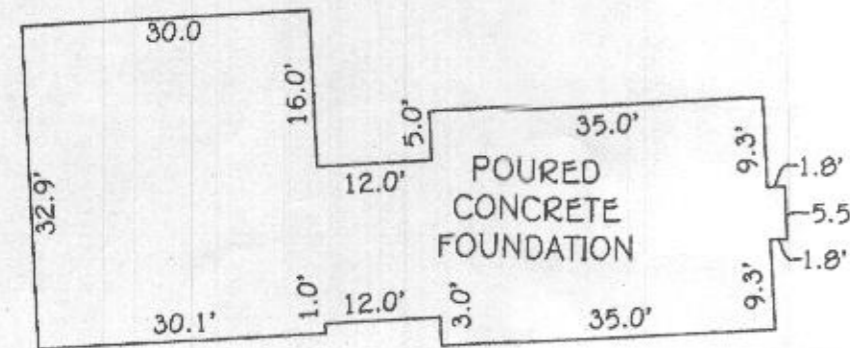
Additional requirements:

Approved: R Bricker Date: 10/14/2020

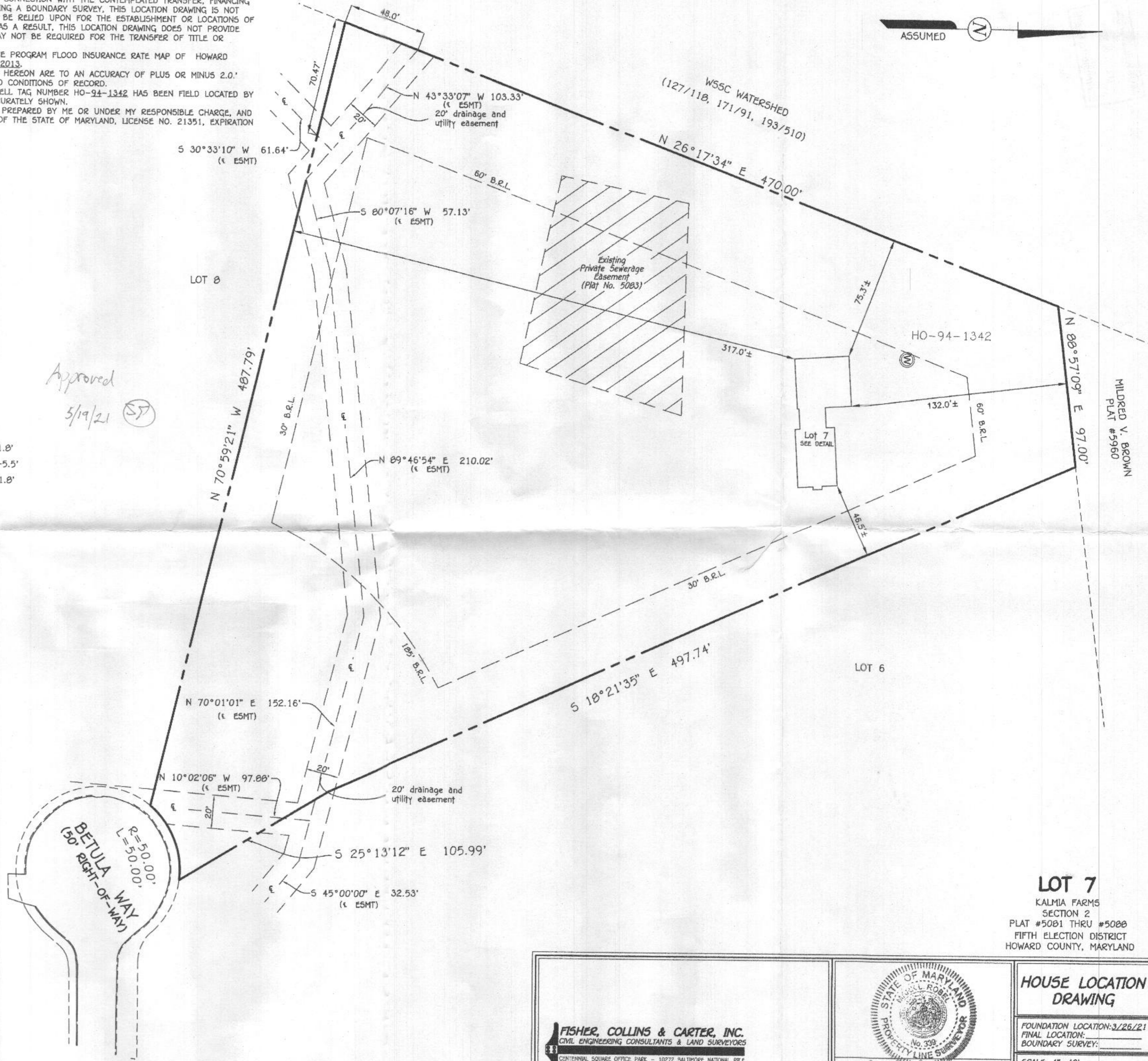
**GENERAL NOTES:**

- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INsofar AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- 2) SUBJECT PROPERTY IS SHOWN IN ZONE X ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C01100 EFFECTIVE NOV. 6, 2013.
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 2.0'.
- 4) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- 5) THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-94-1342 HAS BEEN FIELD LOCATED BY FISHER, COLLINS AND CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- 6) 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. 21351, EXPIRATION DATE 10/04/2020.
- 9) BUILDING PERMIT #B-20003596

ASSUMED



Approved  
5/19/21 (57)



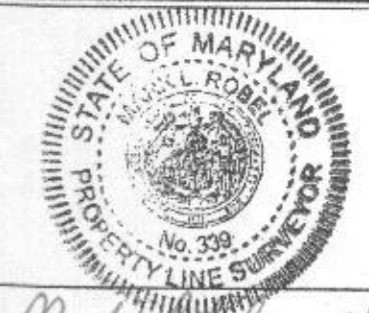
DETAIL:  
1"=20'

MILDRED V. BROWN  
PLAT #5960

**LOT 7**  
KALMIA FARMS  
SECTION 2  
PLAT #5081 THRU #5088  
FIFTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

#14762 BETULA WAY  
B.R.L. = BUILDING RESTRICTION LINE  
TOP OF FOUNDATION ELEVATION = 444.9'

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 SALTPIPER NATIONAL PIKE  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2855



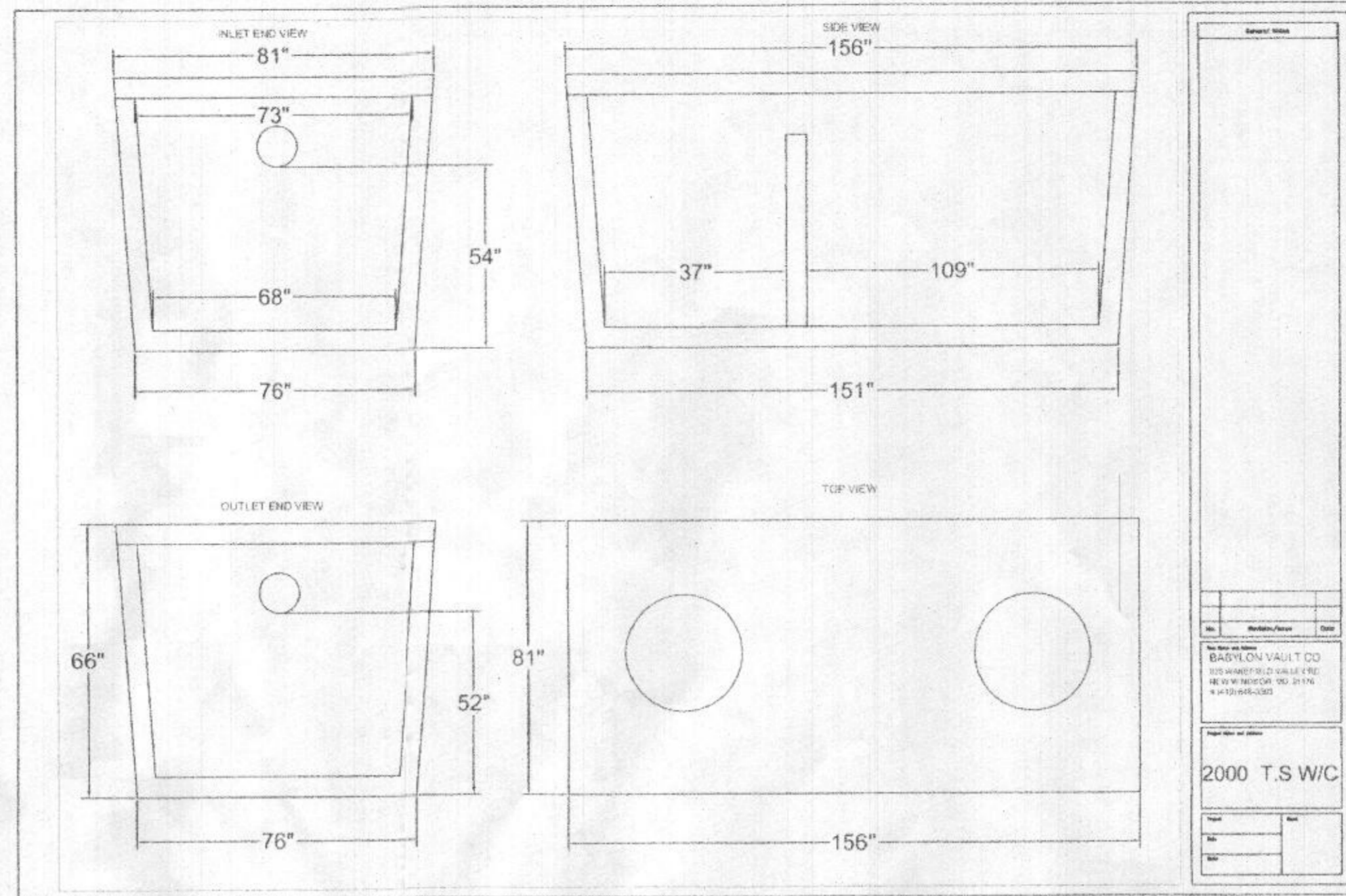
Mark A. Hines  
PROPERTY LINE SURVEYOR  
REG. #339  
3/31/21  
DATE

**HOUSE LOCATION DRAWING**  
FOUNDATION LOCATION: 3/26/21  
FINAL LOCATION:  
BOUNDARY SURVEY:  
SCALE: 1"=40'  
DATE: 3/31/2021  
DRAWN BY: HD  
CHECKED BY: MLC  
PROJECT No.: 20207-3001

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2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
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4. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.

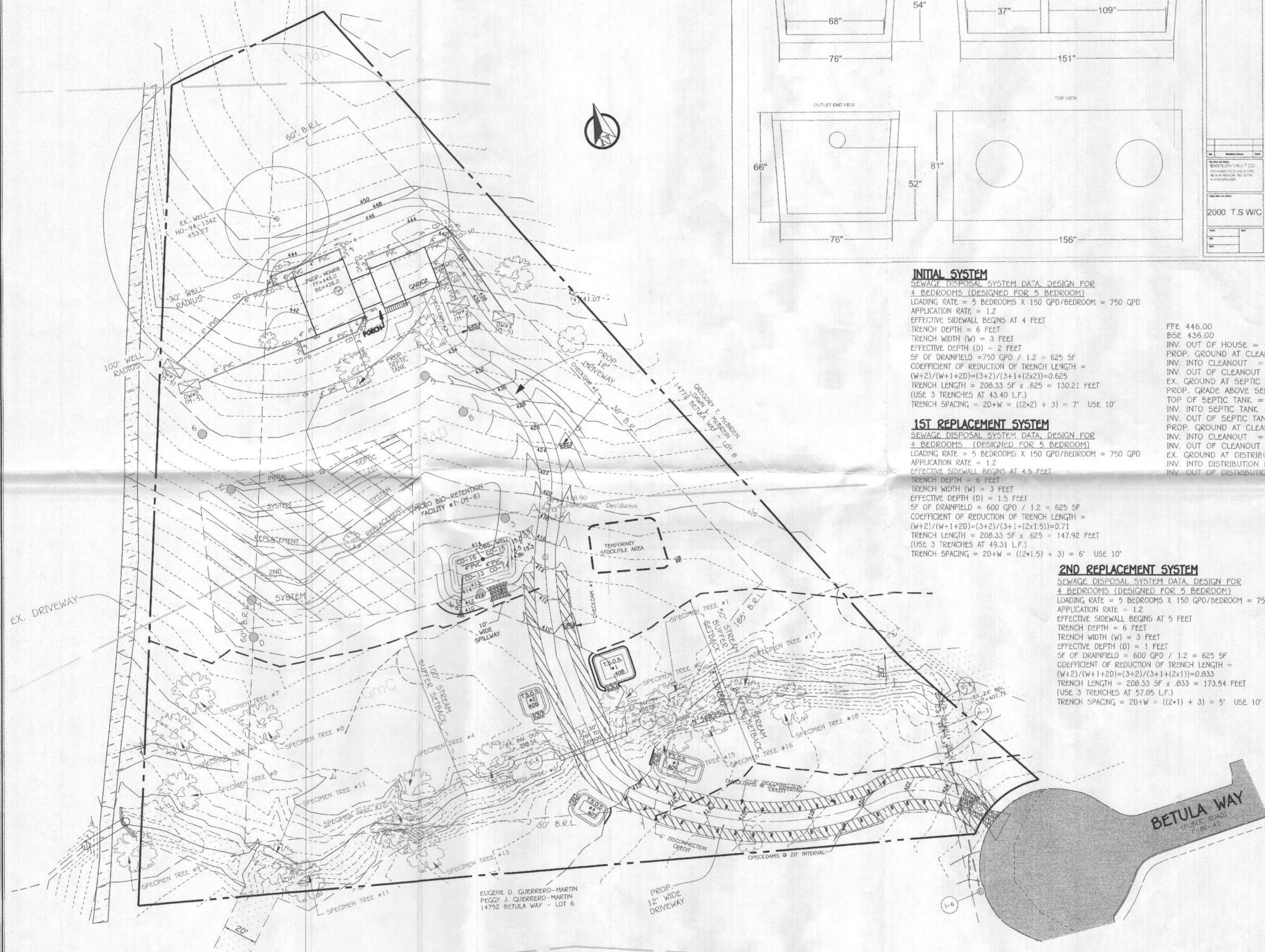
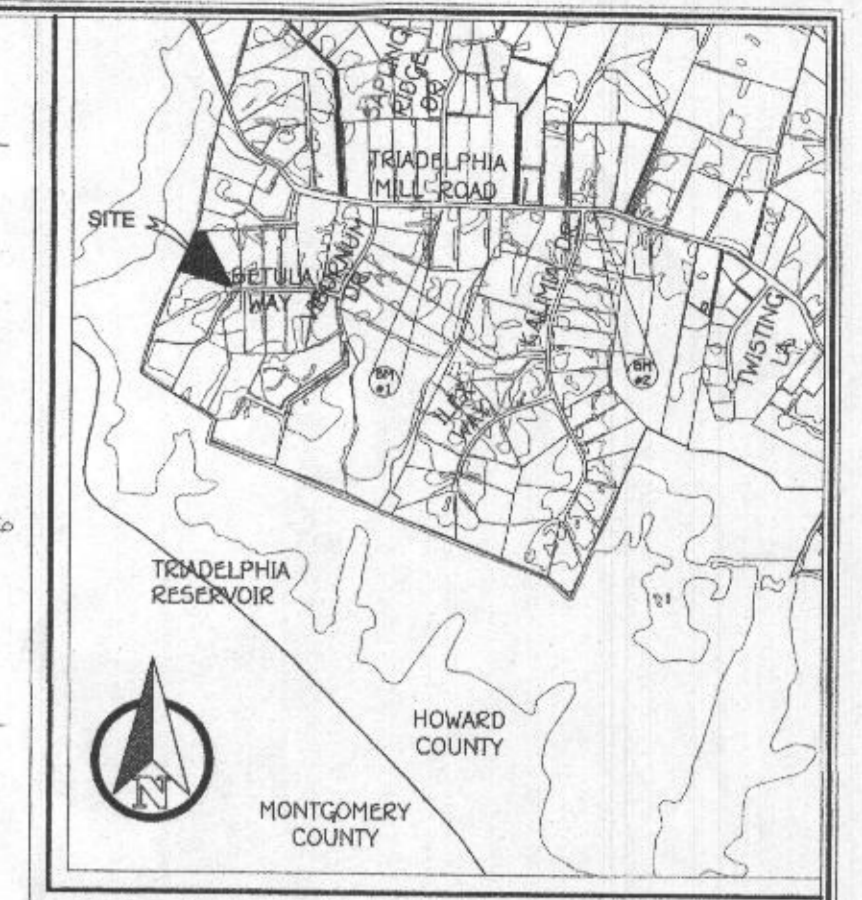
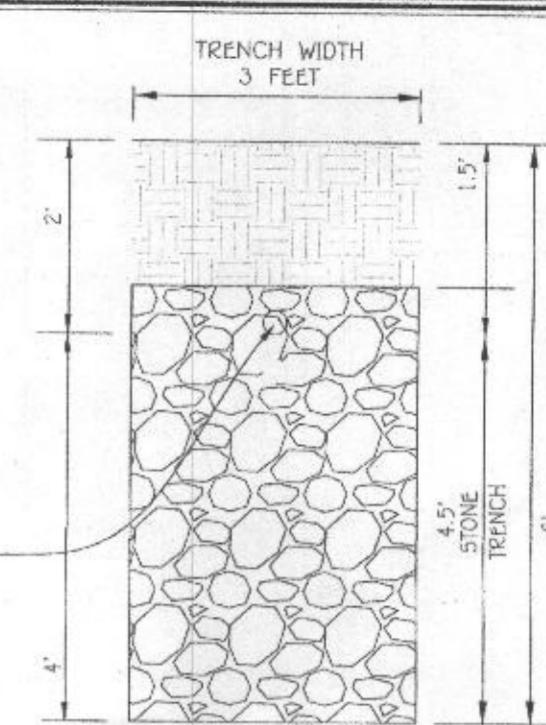


**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20748, EXPIRATION DATE: 02/22/2021.  
 Signature: *Michael J. Williams* DATE: 11/2/2020  
 Signature Of Professional Engineer



**TRENCH DATA:**

- TRENCH 1:  
 EX. GROUND ABOVE = 426.0  
 INV. IN = 424.1  
 BOTTOM TRENCH = 420.0
- TRENCH 2:  
 EX. GROUND ABOVE = 426.0  
 INV. IN = 424.1  
 BOTTOM TRENCH = 420.0
- TRENCH 3:  
 EX. GROUND ABOVE = 423.8  
 INV. IN = 421.8  
 BOTTOM TRENCH = 417.8



**INITIAL SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA DESIGN FOR 4 BEDROOMS (DESIGNED FOR 5 BEDROOM)  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 2 FEET  
 SF OF DRAINFIELD = 750 GPD / 1.2 = 625 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2)) = 0.625  
 TRENCH LENGTH = 208.33 SF x .625 = 130.21 FEET  
 (USE 3 TRENCHES AT 43.40 L.F.)  
 TRENCH SPACING = 20+W = ((2x2) + 3) = 7' USE 10'

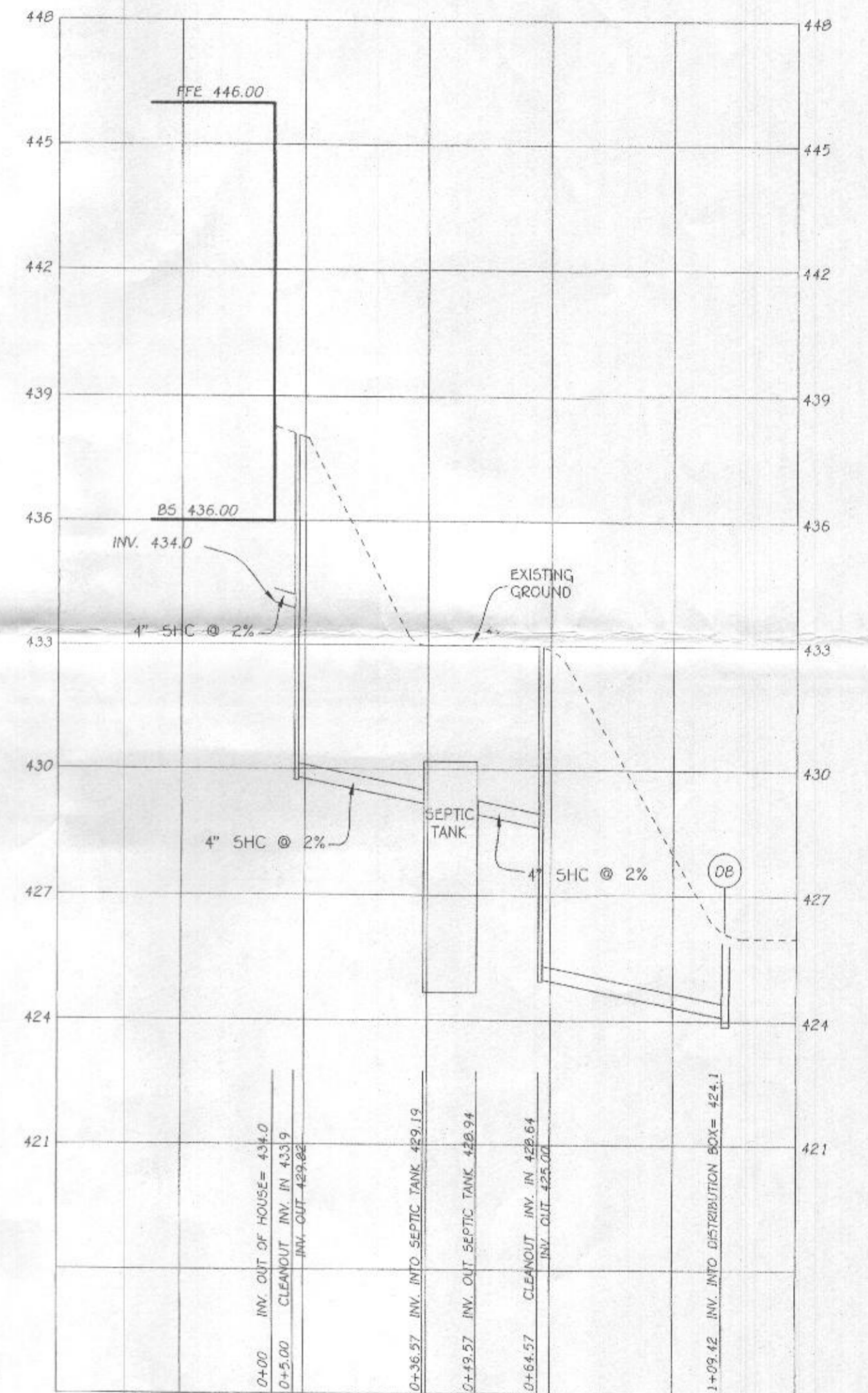
**1ST REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA DESIGN FOR 4 BEDROOMS (DESIGNED FOR 5 BEDROOM)  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 4.5 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 1.5 FEET  
 SF OF DRAINFIELD = 600 GPD / 1.2 = 500 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1.5)) = 0.71  
 TRENCH LENGTH = 208.33 SF x .625 = 147.92 FEET  
 (USE 3 TRENCHES AT 49.31 L.F.)  
 TRENCH SPACING = 20+W = ((2x1.5) + 3) = 6' USE 10'

**2ND REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA DESIGN FOR 4 BEDROOMS (DESIGNED FOR 5 BEDROOM)  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 5 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 1 FEET  
 SF OF DRAINFIELD = 600 GPD / 1.2 = 500 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833  
 TRENCH LENGTH = 208.33 SF x .833 = 173.54 FEET  
 (USE 3 TRENCHES AT 57.85 L.F.)  
 TRENCH SPACING = 20+W = ((2x1) + 3) = 5' USE 10'

FFE 446.00  
 BSE 436.00  
 INV. OUT OF HOUSE = 434.00  
 PROP. GROUND AT CLEANOUT #1 = 439.00  
 INV. INTO CLEANOUT = 433.9  
 INV. OUT OF CLEANOUT = 429.82  
 EX. GROUND AT SEPTIC TANK = 433.0  
 PROP. GRADE ABOVE SEPTIC TANK = 433.0  
 TOP OF SEPTIC TANK = 430.19  
 INV. INTO SEPTIC TANK = 429.19  
 INV. OUT OF SEPTIC TANK = 428.94  
 PROP. GROUND AT CLEANOUT #2 = 439.00  
 INV. INTO CLEANOUT = 433.9  
 INV. OUT OF CLEANOUT = 429.82  
 EX. GROUND AT DISTRIBUTION BOX = 430.4  
 INV. INTO DISTRIBUTION BOX = 428.5  
 INV. OUT OF DISTRIBUTION BOX = 528.4



**SEPTIC PROFILE**  
 SCALE: 1"=30'

**PLAN**  
 SCALE: 1"=30'

Approved Septic System Plan  
 Howard County Health Department  
 2000-gal Septic Tank  
 To Gravity Distribution  
 For 4-Bedroom SFD  
 Signature: *[Signature]* DATE: 11/16/2020

**SEPTIC SYSTEM  
 INSTALLATION SITE PLAN  
 KALMIA FARMS**

14762 BETULA WAY  
 KALMIA FARMS  
 PLAT #5083 ZONED: RR-DEO  
 TAX MAP No. 27 GRID No. 16 PARCEL No. 22  
 FIFTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: OCTOBER 15, 2020

**OWNER & DEVELOPER**  
 MR. NICHOLAS LASWELL  
 319 VIOLET CT.  
 MT. AIRY, MARYLAND 21771  
 443-401-7681

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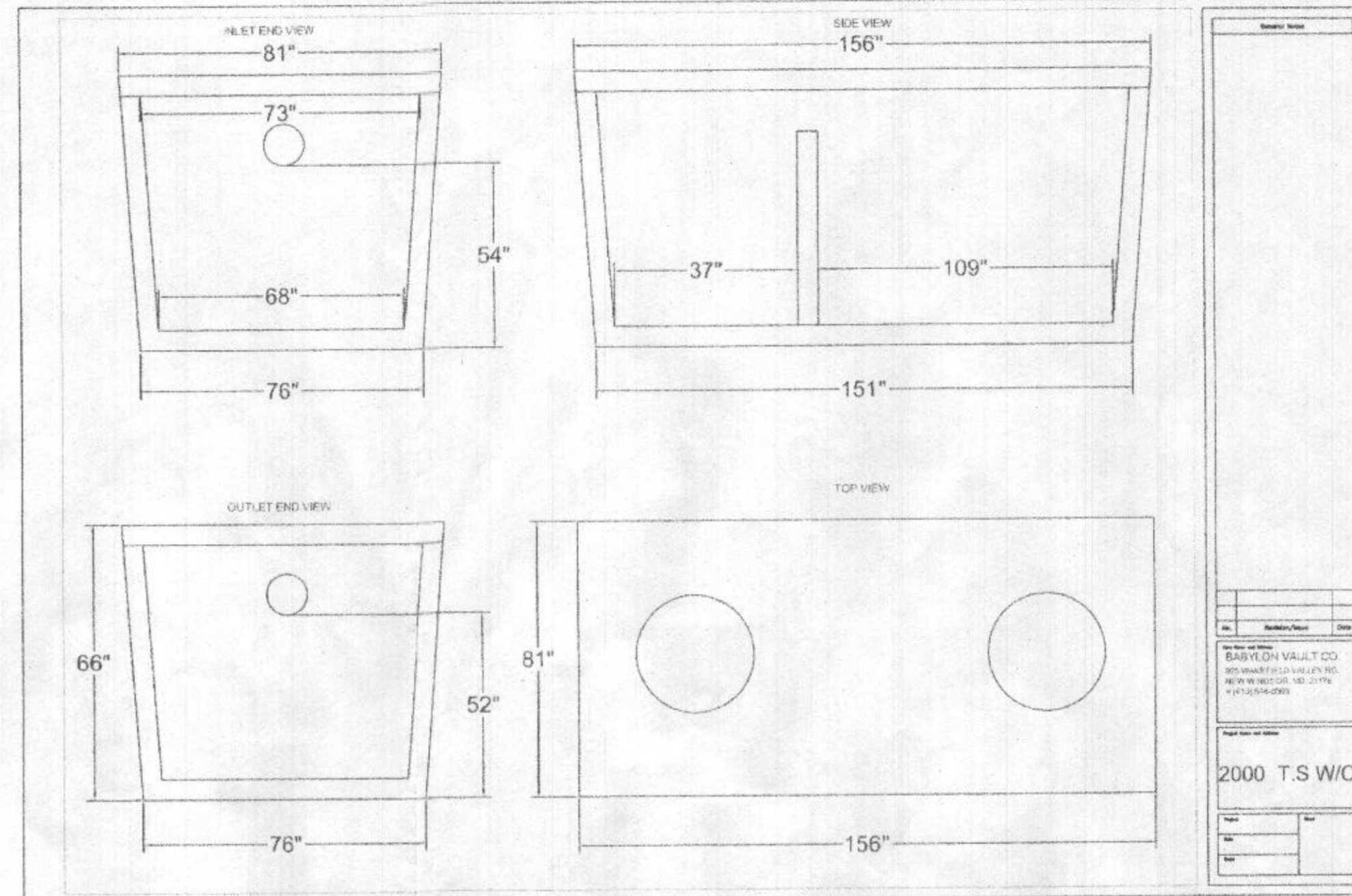


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*Alfred M. Vitucci*  
Signature Of Professional Engineer

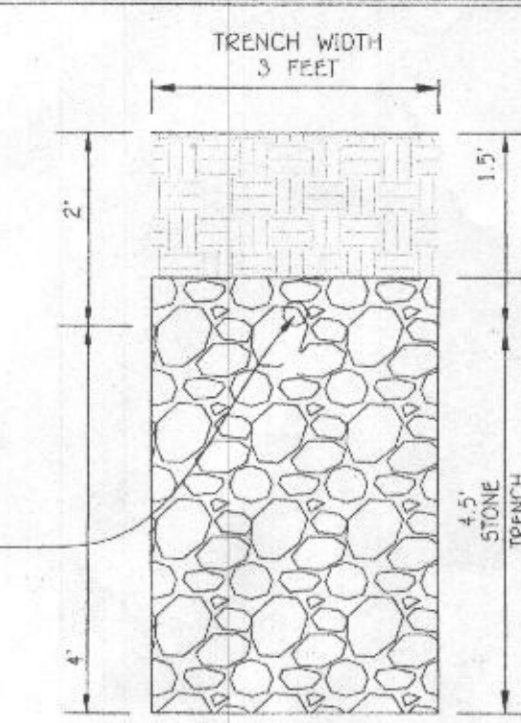
11/16/2020  
DATE



**TRENCH DATA:**

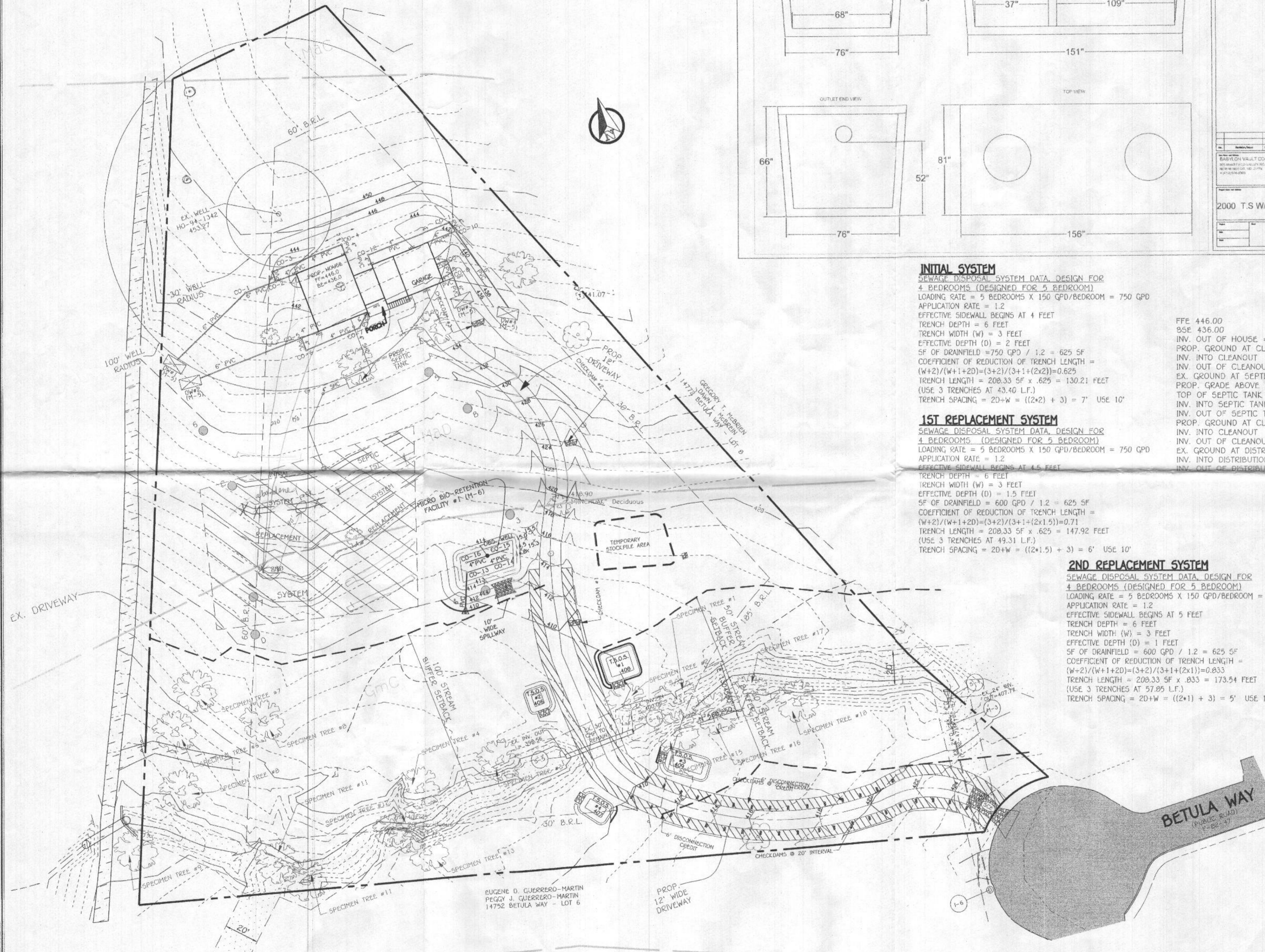
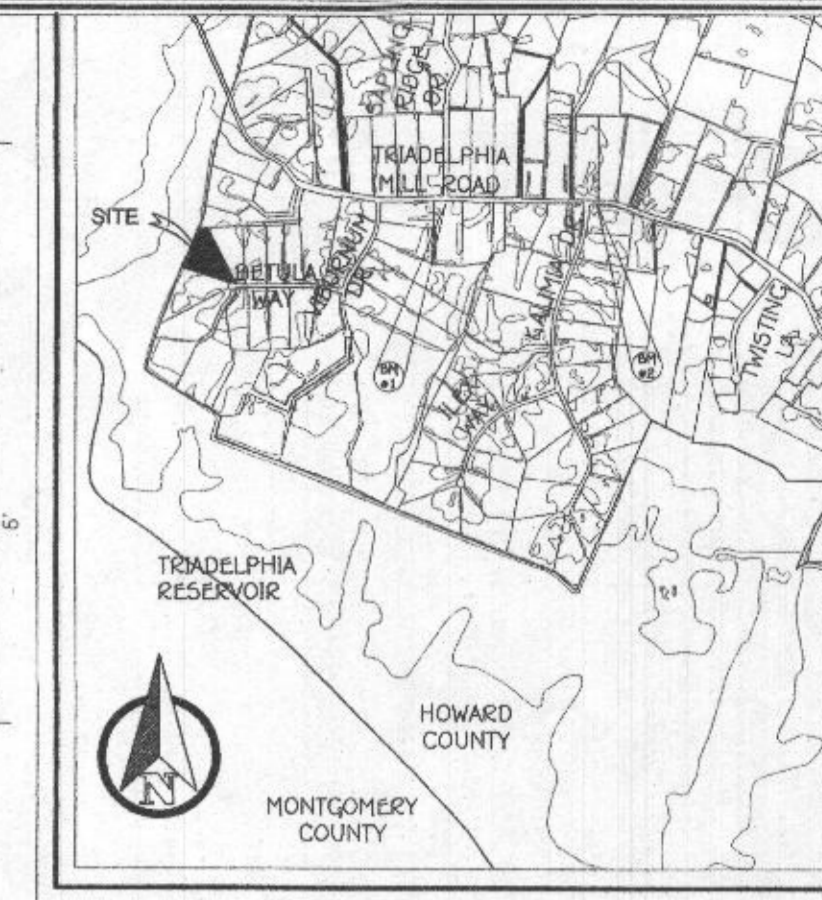
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TRENCH 3:  
EX. GROUND ABOVE = 423.8  
INV. IN = 421.8  
BOTTOM TRENCH = 417.8

4" PVC INV. INTO TRENCH



**INITIAL TRENCH DETAIL**

SCALE: 1"=2'



**INITIAL SYSTEM**

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APPLICATION RATE = 1.2  
EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
TRENCH DEPTH = 6 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 2 FEET  
SF OF DRAINFIELD = 750 GPD / 1.2 = 625 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2)) = 0.625  
TRENCH LENGTH = 208.33 SF x .625 = 130.21 FEET  
(USE 3 TRENCHES AT 43.40 L.F.)  
TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

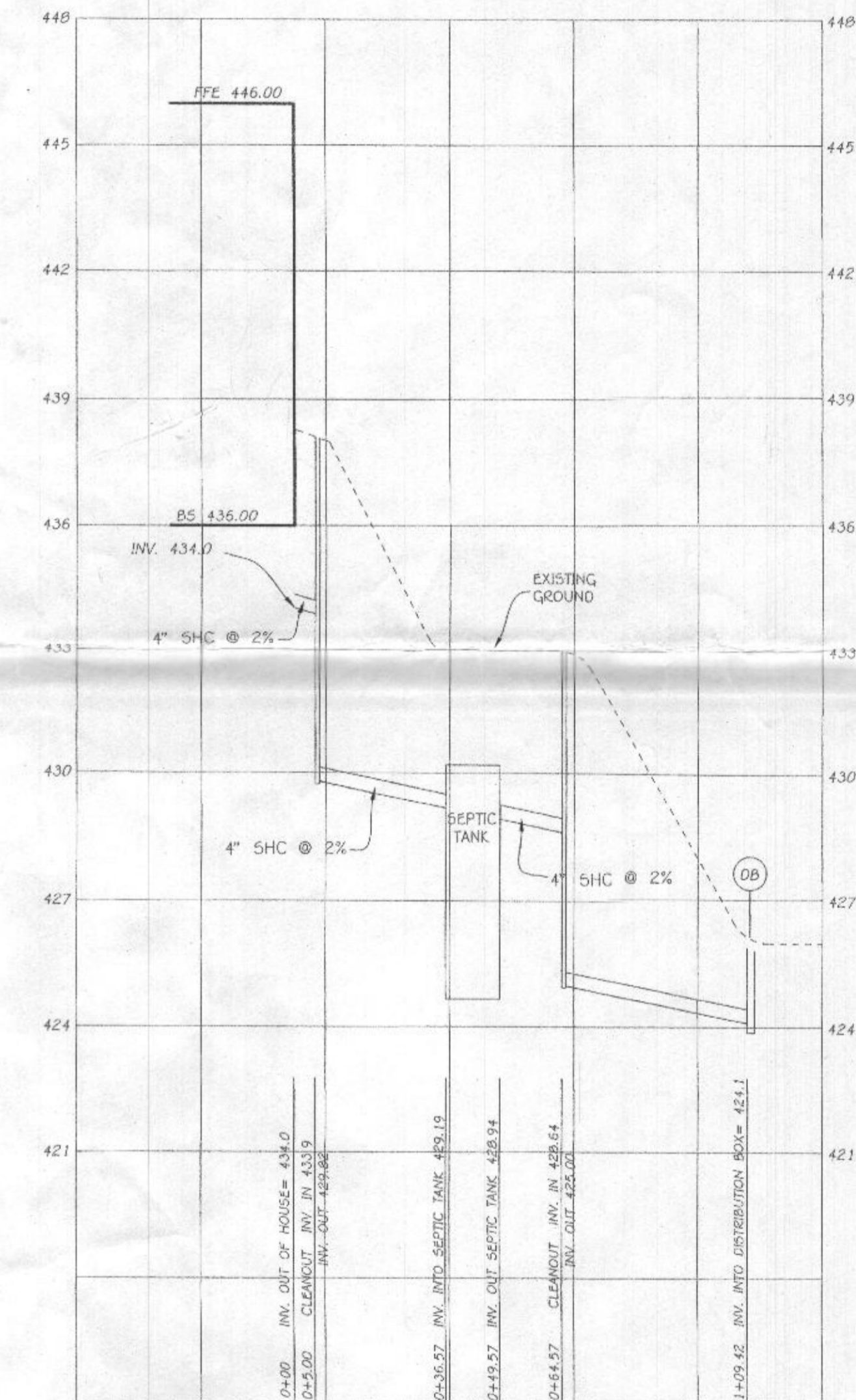
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TRENCH SPACING = 2D+W = ((2x1.5) + 3) = 6' USE 10'

**2ND REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA DESIGN FOR 4 BEDROOMS (DESIGNED FOR 5 BEDROOM)  
LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
APPLICATION RATE = 1.2  
EFFECTIVE SIDEWALL BEGINS AT 5 FEET  
TRENCH DEPTH = 6 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 1 FEET  
SF OF DRAINFIELD = 600 GPD / 1.2 = 625 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833  
TRENCH LENGTH = 208.33 SF x .833 = 173.54 FEET  
(USE 3 TRENCHES AT 57.85 L.F.)  
TRENCH SPACING = 2D+W = ((2x1) + 3) = 5' USE 10'



**SEPTIC PROFILE**

SCALE: 1"=30'

Approved Septic System Plan  
Howard County Health Department  
Zoological Septic Tank  
to Gravity distribution  
for 4-Bedroom SFD  
*R. Vitucci*  
Signature  
11/16/2020  
Date

**SEPTIC SYSTEM  
INSTALLATION SITE PLAN  
KALMIA FARMS**

14762 BETULA WAY

KALMIA FARMS  
PLAT #5083 ZONED: RR-DEO  
No. 27 GRID No. 16 PARCEL No. 22  
FIFTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: OCTOBER 15, 2020

**OWNER & DEVELOPER**

MR. NICHOLAS LASWELL  
319 VIOLET CT.  
MT. AIRY, MARYLAND 21771  
443-401-7681

**PLAN**

SCALE: 1" = 30'