

**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: 2/13/23 **ONSITE SEWAGE DISPOSAL SYSTEM** P 572785

APPROVAL DATE: 8/24/23 **PERMIT: NEW CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 15314 LEONDINA DRIVE, GLENWOOD, MD 21738

SUBDIVISION: VINEYARDS AT CATTAIL CREEK LOT: 13 TAX ID: 04-365984

CONTRACTOR: C & L EXCAVATING EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: P.O. BOX 184, FOREST HILL, MD 21050 PHONE: 410-365-5032

PROPERTY OWNER: CHRISTOPHER AND MEREDETH PETERSON EMAIL: Meredeth.peterson@gmail.com

OWNER ADDRESS: 250 GIBRALTAR ROAD, HORSHAM. PA 19044 PHONE: 609-577-4422

SEPTIC TANK SIZE (GALLONS): 1500 TANK MANUFACTURER: INFILTRATOR WATER TECH

PUMP MODEL: ZOELLER, BN151 PUMP SIZE 0.3 HP PUMP TANK CAPACITY: 1500

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>130</u>	INLET DEPTH: <u>2</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 CLEANOUT IN SHC. IF EVIDENCE OF GROUNDWATER IS NOTICED IN TANK HOLES, BUOYANCY CONTROL MEASURES MAY NEED TO BE TAKEN. PUMP AND ALARM TEST MUST "PASS" PRIOR TO FINAL APPROVAL OF SEPTIC SYSTEM INSTALLATION.	

ISSUED BY: Spencer Freeman ISSUE DATE: 2/13/23 EXPIRATION DATE: 2/13/24

- 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 22002377
- 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

See Separate  
Sheet for As Built

ROAD NAME

**TRENCH/DRAINFIELD DATA**

WIDTH	INLET	BOTTOM
3'	2'	6'
NUMBER OF TRENCHES		3
TOTAL LENGTH		132'
ABSORPTION AREA		396 sq ft + sidewalk
DISTRIBUTION BOX LEVEL		yes
DISTRIBUTION BOX BAFFLE		N/A
DISTRIBUTION BOX PORT		yes

**SEPTIC TANK DATA**

SEPTIC TANK 1 LEVEL	yes
MANUFACTURER	Infiltrator
CAPACITY	1530 GAL
SEAM LOC	middle
TANK LID DEPTH	1'-2'
BAFFLES	6" front / 4" back
BAFFLE FILTER	-
MANHOLE LOC	front/back
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	yes
DATE ON LID	-

PUMP/SEPTIC TANK LEVEL	yes
MANUFACTURER	Infiltrator
CAPACITY	1530 GAL
SEAM LOC	middle
TANK LID DEPTH	1'-2'
BAFFLES	-
BAFFLE FILTER	-
MANHOLE LOC	back
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	-
DATE ON LID	-

**PRE-CONSTRUCTION:**

4/4/23 - both tank locations were staked, trenches, dbox & SDA were also staked, laid out 3 trenches (44' each) along contour w/ transit. OK to continue w/ install (12/SP)

INSTALLATION: 4/5/23 - C/L Excavating onsite, just starting on trenches, the sewer line was installed, SHC made w/ wall boot, plumber will have to connect in the house, sewer line has a step to keep slope @ 2" or less, septic tank & pump tank installed, 4" baffle on the front of the septic tank will need to be replaced w/ 6" baffle, slots in infiltrator tanks are holes in the divider that are punched out by the contractor, both the ST & PT have concrete weights to keep them anchored to the ground to prevent floating of the plastic tanks, force main to dbox installed, OK to backfill & continue 4/6/23 - contractor onsite, 6" baffle installed on front end of ST, all trenches complete, observation ports & geotextile fabric in place, dbox leveled - no levelers due to force main, PVC turned down as it enters the dbox, OK to backfill, reinspect for pump's alarm, 4/14/23 - gps'd the well @ 8/18/23 - P3 A unsatisfactory, alarm not on dedicated circuit and pump power cord placed in between lid & riser instead of

FINAL INSPECTOR

R. Rapp - per +

DATE OF APPROVAL

8/24/23

through the riser, also grading has been done which will make riser lids flush w/ grade - 8/24/23 - pump's alarm reinspection OK - alarm on it's own circuit and pump power cord running through the riser (14)

NOT TO SCALE 1" = 50'

HO-94-2722

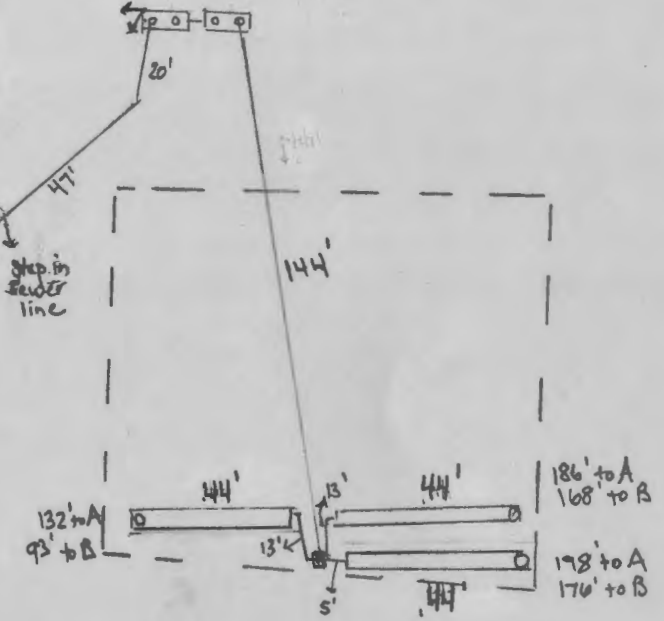
W

180'

135'

1534  
Landing Dr.

ST: 42' to A  
83' to B



Dbox - 165' to A  
134' to B

## Freemon, Robert

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**From:** Williams, Jeffrey  
**Sent:** Wednesday, October 17, 2018 2:50 PM  
**To:** Freemon, Robert  
**Subject:** FW: Well & Septic Program

See if you can find any info on this property and we can discuss. Thanks  
Jeff

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**From:** DeHernandez, Lisa  
**Sent:** Wednesday, October 17, 2018 12:37 PM  
**To:** Williams, Jeffrey  
**Cc:** Davis, Michael J  
**Subject:** FW: Well & Septic Program

Hi Jeff,

Can you help with this one?

Thanks!

**From:** [HoCoAdmin@howardcountymd.gov](mailto:HoCoAdmin@howardcountymd.gov) [mailto:[HoCoAdmin@howardcountymd.gov](mailto:HoCoAdmin@howardcountymd.gov)]  
**Sent:** Wednesday, October 17, 2018 12:35 PM  
**To:** DeHernandez, Lisa; Wilson, Matthew  
**Subject:** Well & Septic Program

### **Incoming Ask Health Form:**

Desired Service:: Well & Septic Program

Your Email Address:: [merideth@battagliahomesllc.com](mailto:merideth@battagliahomesllc.com)

Your Name:: Merideth Peterson

Your Message:: I am looking to buy lot  
15314 Leondina Drive  
Glenwood MD 21738

I need to know if the tree on the lot (very large tree on the right hand side of the property) is a tree that can be taken down? The tree is in the BRL and the house can not fit if it remains.

The percs are expired - is it necessary to get new percs or can I just use the old ones. If new ones are required are they a wet season perc or can I do the percs now as we are looking to break ground soon.

Is the septic reserve limitation in Howard County 40k or is it less like Baltimore and Harford County.

Thank you for your assistance in these questions and I look forward to hearing from you.

Thanks,  
Merideth Peterson

609-577-4422

## Williams, Jeffrey

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**From:** Williams, Jeffrey  
**Sent:** Friday, November 02, 2018 3:50 PM  
**To:** 'merideth@battagliahomesllc.com'  
**Subject:** askhealth question 15314 Leondina

Hello This is a response to your askhealth question. Sorry for the delay, but the file notes for this property were very confusing.

We were unable to find suitable test notes for the approved sewage disposal area for this lot. What that means is that before we can approve a building permit, we will need to do perc testing. It could either be testing to confirm the already approved area or we could test in a different proposed area. There are some wet season soil units on the property, so it would depend on the proposed test locations whether we would be able to test now or in a wet season.

The tree issue will be a zoning question.

Regarding the size of the sewage disposal area, we require a minimum 10,000 square feet and an area large enough to fit 3 systems based on the proposed number of bedrooms in the dwelling. Let me know if you have additional questions. Thanks

Jeff Williams  
Program Supervisor, Well & Septic Program  
Bureau of Environmental Health  
Howard County Health Dept.  
410-313-4261  
[jewilliams@howardcountymd.gov](mailto:jewilliams@howardcountymd.gov)

### CONFIDENTIALITY NOTICE

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**From:** Matt Edwards <[matt@candlexcavating.com](mailto:matt@candlexcavating.com)>  
**Sent:** Wednesday, October 21, 2020 11:23 AM  
**To:** Bricker, Robert <[RBricker@howardcountymd.gov](mailto:RBricker@howardcountymd.gov)>  
**Subject:** 15314 Leondina Dr

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

Mr Bricker, I am a licensed septic system installer that is working with Meredith from Battaglia Homes on a new house. The address is 15314 Leondina Dr. They are currently trying to figure out how many bedrooms will be in the house. Their question is how much does the amount of bedrooms affect the septic system specifications. Is it possible to get the septic system specifications based on a 4, 5, 6 and 7 bedroom house? I appreciate any help with this matter.

Thanks,

C & L Excavating, Inc.  
Matt Edwards, President  
443 640-6011 office  
443 640-6088 fax  
410 365-5032 cell





4/5/23  
~~AAA~~



15314 Leandina Dr.  
8/18/23

## Bricker, Robert

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**From:** Bricker, Robert  
**Sent:** Thursday, November 12, 2020 9:16 AM  
**To:** Matt Edwards  
**Cc:** merideth@battagliahomesllc.com  
**Subject:** Re: 15314 Leondina Dr

I will be able to access the file tomorrow (Friday), and will send the send the septic system specifications th  
Robert Bricker, REHS/RS, L.E.H.S.

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**From:** Matt Edwards <matt@candlexcavating.com>  
**Sent:** Tuesday, November 10, 2020 5:12 PM  
**To:** Bricker, Robert <RBricker@howardcountymd.gov>  
**Cc:** merideth@battagliahomesllc.com <merideth@battagliahomesllc.com>  
**Subject:** RE: 15314 Leondina Dr

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

Hello, I was following up on the septic system specifications at 15314 Leondina Dr. Please let me know if you were able to pull the perc test data for the septic system design.

Thanks,

C & L Excavating, Inc.  
Matt Edwards, President  
443 640-6011 office  
443 640-6088 fax  
410 365-5032 cell



**From:** Bricker, Robert <RBricker@howardcountymd.gov>  
**Sent:** Wednesday, October 21, 2020 3:55 PM  
**To:** Matt Edwards <matt@candlexcavating.com>  
**Subject:** Re: 15314 Leondina Dr

Hello Matt, Thanks for reaching out. Typically a surveyor or engineer will assemble the plan and submit it for approval, though they also need to have trench specifications which we provide. For me to do that, I will have to find the percolation test data. I will look for that data Friday when I am in the office.

Robert Bricker, REHS/RS, L.E.H.S.

2-9-23

609-577-4422

Meridith

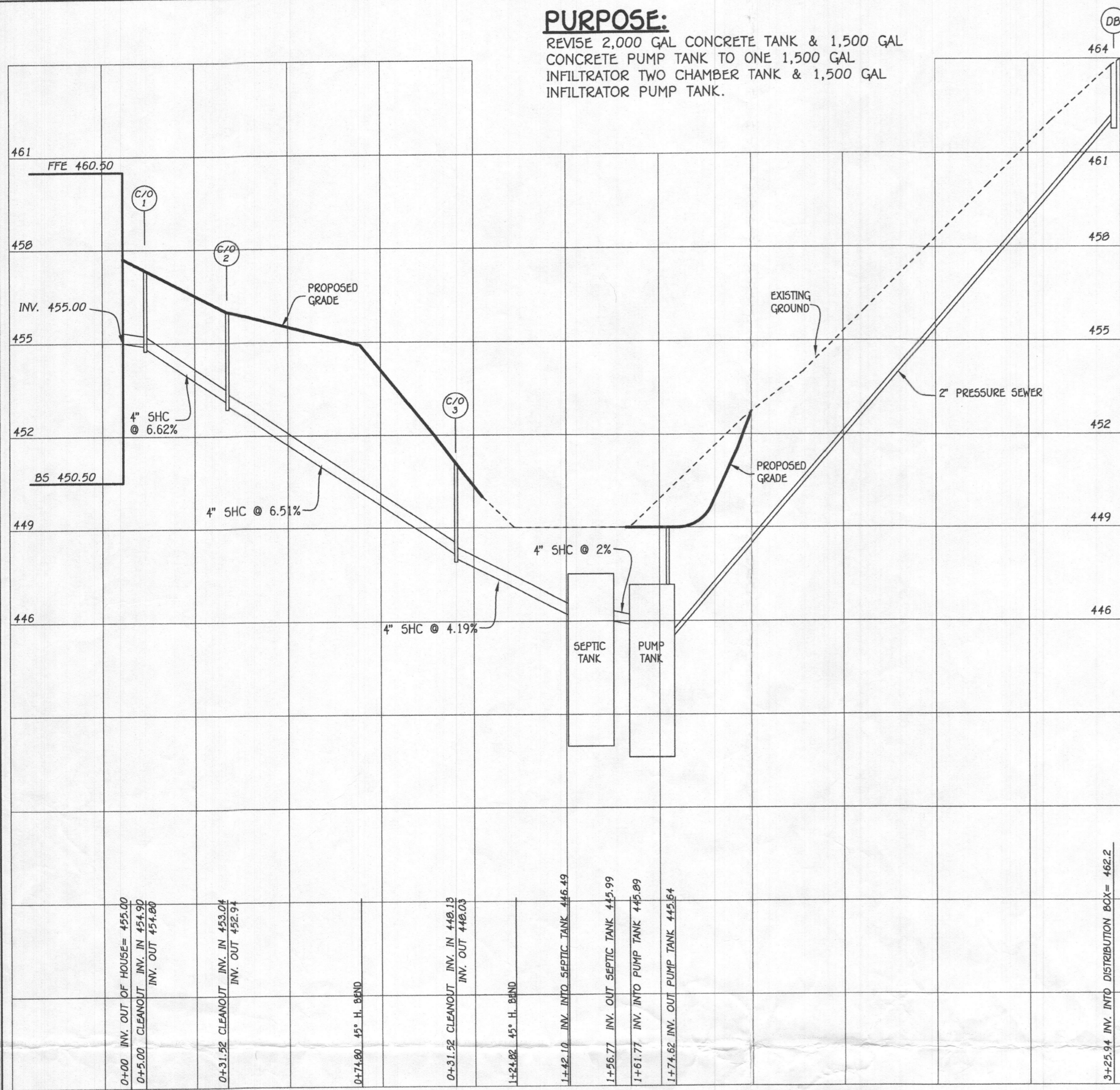
BP# 20003296

15314 Leondine Dr.

Glenmont MD 21738

**PURPOSE:**

REVISE 2,000 GAL CONCRETE TANK & 1,500 GAL CONCRETE PUMP TANK TO ONE 1,500 GAL INFILTRATOR TWO CHAMBER TANK & 1,500 GAL INFILTRATOR PUMP TANK.



LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - -	PROPOSED CONTOUR 2' INTERVAL
~	EXISTING TREES
457.70	SPOT ELEVATION
-SF - SF	SILT FENCE
---	LIMITS OF DISTURBANCE
15% - 24.9%	DEMOTES 15% - 24.9% SLOPES
///	DEMOTES SEWAGE DISPOSAL AREA

**INITIAL SYSTEM**

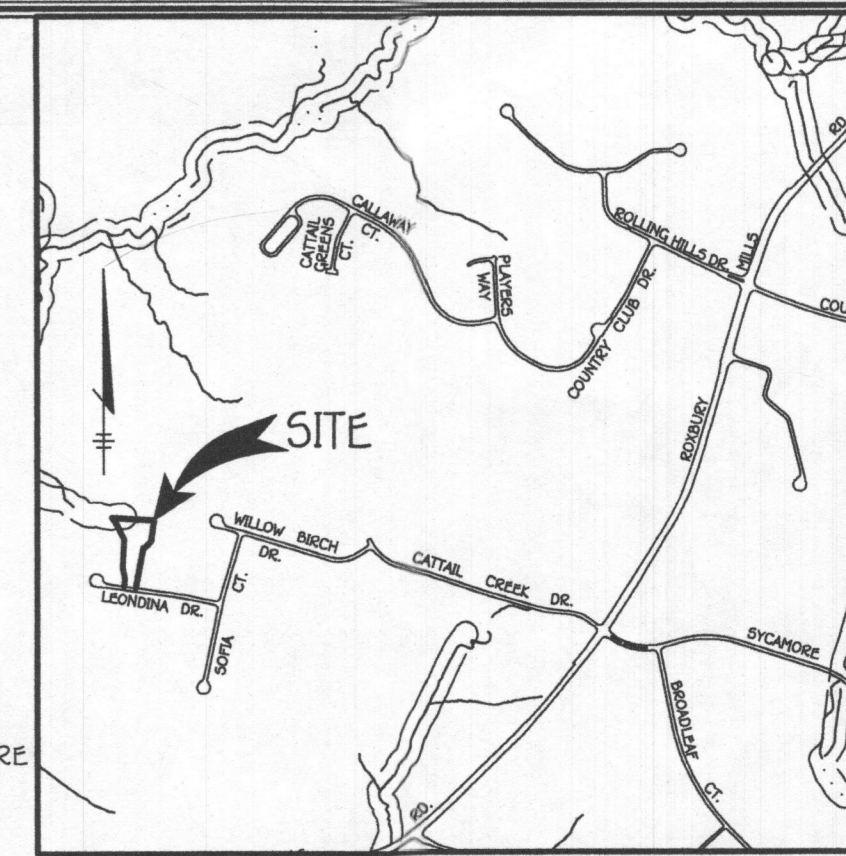
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 2 FEET  
 SF OF DRAINFIELD = 750 GPD / 1.2 = 625 SF  
 COEFFICIENT OF REDUCTION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

**1ST REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 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 / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2)) = 0.625  
 TRENCH LENGTH = 312.50 SF x 0.625 = 195.31 FEET  
 (USE 4 TRENCHES AT 48.83 L.F.)  
 TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

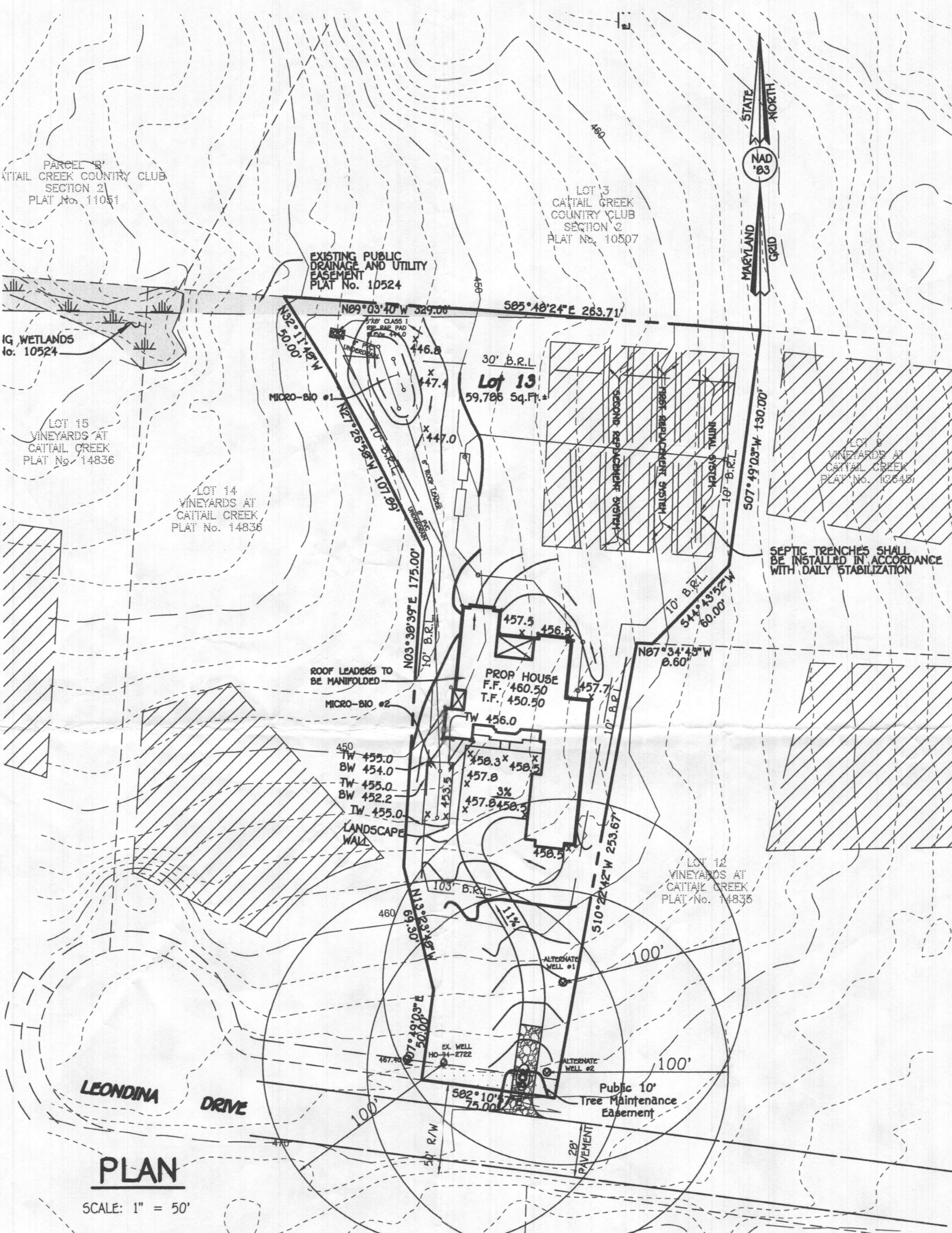
**2ND REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 5 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 1 FEET  
 SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833  
 TRENCH LENGTH = 312.50 SF x 0.833 = 145.83 FEET  
 (USE 5 TRENCHES AT 52.06 L.F.)  
 TRENCH SPACING = 2D+W = ((2x1) + 3) = 5' USE 10'



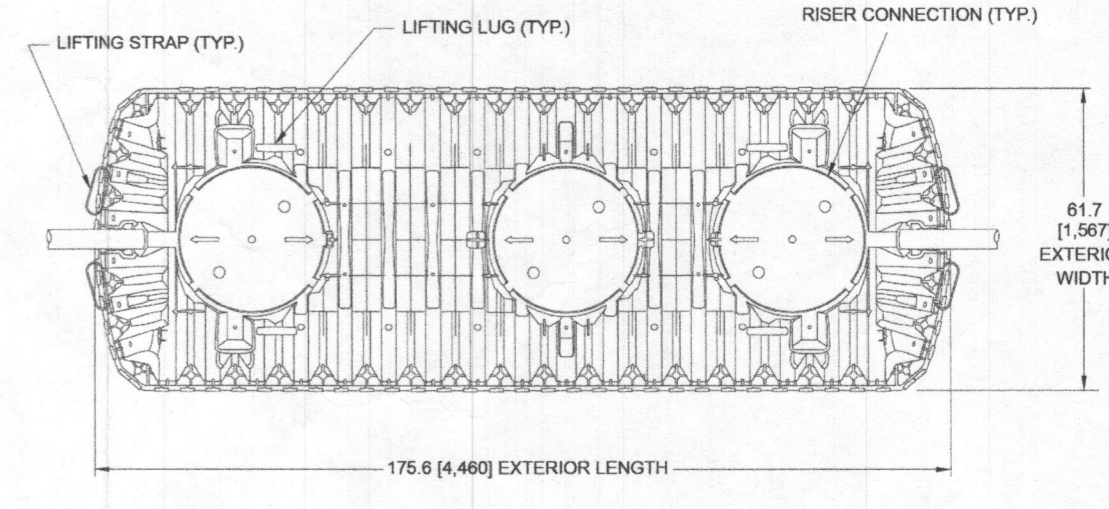
Howard County ADG, Map #16, Grid D7  
**VICINITY MAP**  
 SCALE: 1" = 1200'

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 EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL HO-94-2722 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. 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.
6. THE ENGINEER IS REGISTERED WITH MDE TO PERFORM ON-SITE WASTEWATER SERVICES IN MARYLAND.

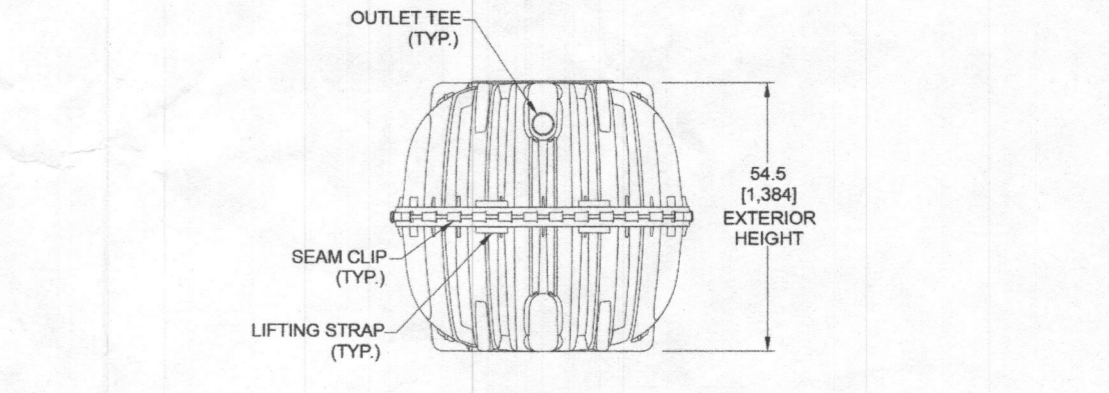


**PLAN**

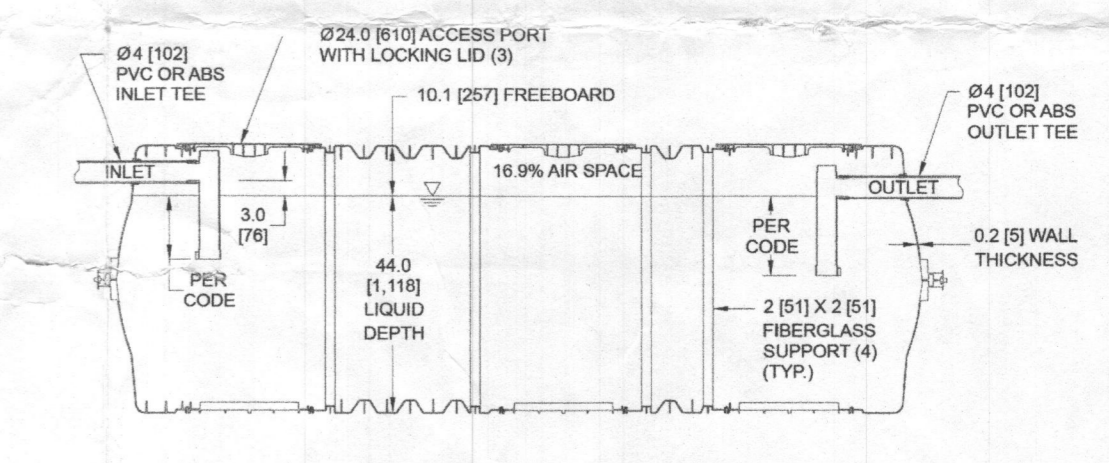
SCALE: 1" = 50'



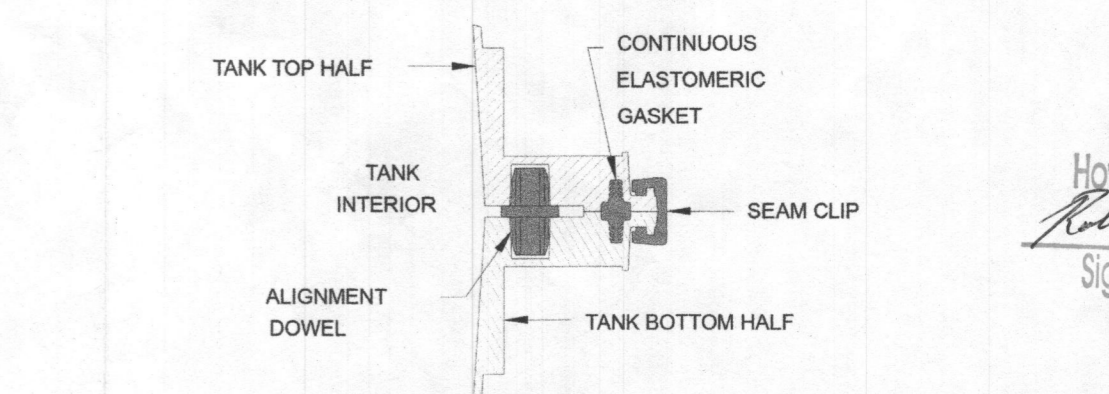
**TOP VIEW**



**END VIEW**



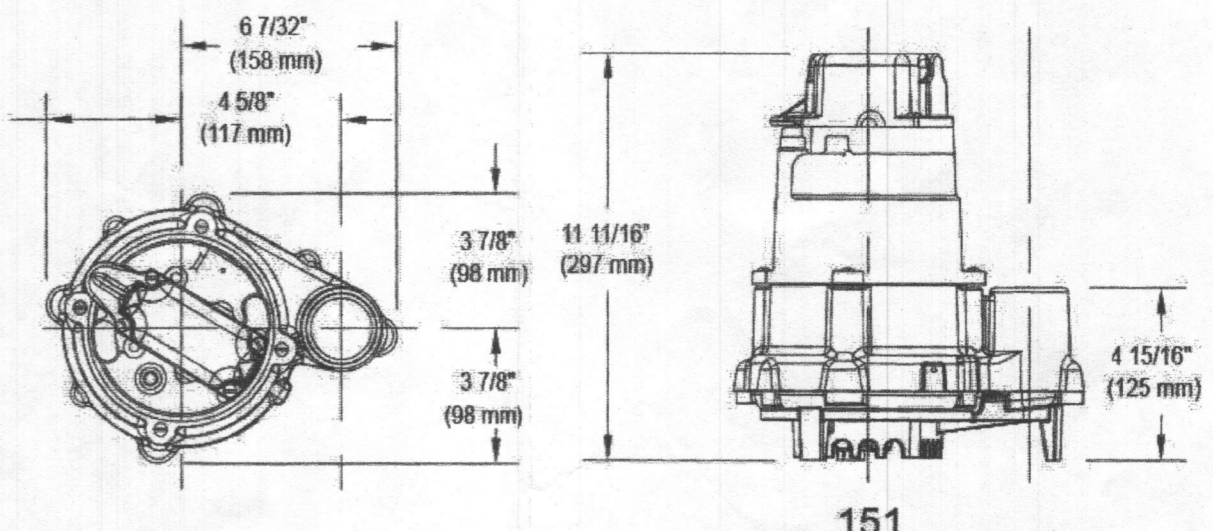
**SIDE VIEW**



**MID-HEIGHT SEAM SECTION**

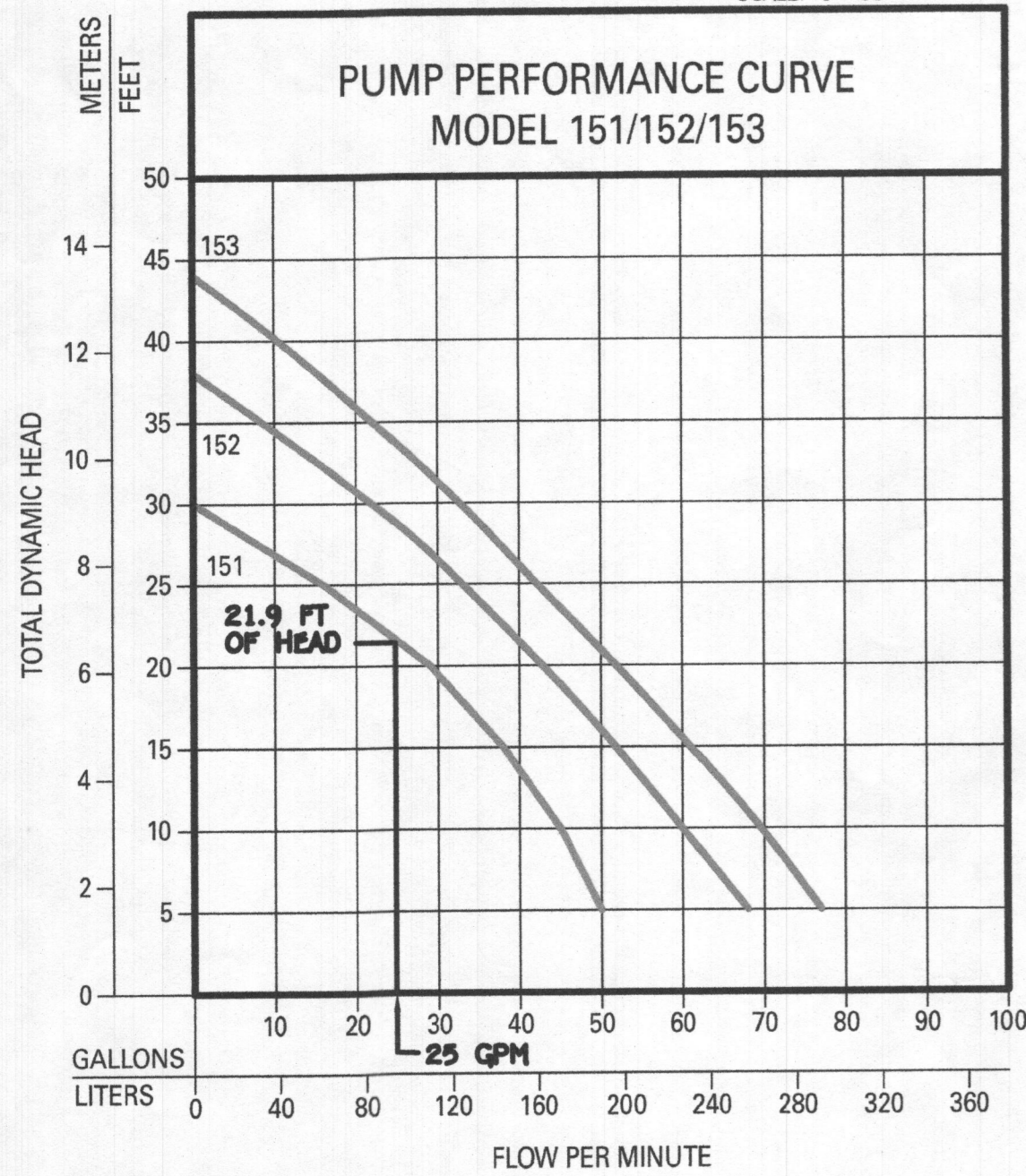
**SEPTIC/PUMP TANK DETAIL IM-1530**

NOT TO SCALE



151

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



FFE 460.50  
 BSE 450.50  
 INV. OUT OF HOUSE = 455.00  
 PROP. GROUND AT CLEANOUT # 1 = 457.35  
 INV. INTO CLEANOUT = 444.90  
 INV. OUT OF CLEANOUT = 444.80  
 EX. GROUND AT SEPTIC TANKS = 449.00  
 PROP. GRADE ABOVE SEPTIC TANKS = 449.0  
 TOP OF SEPTIC TANKS = 447.50  
 INV. INTO SEPTIC TANKS = 446.49  
 INV. OUT OF SEPTIC TANKS = 445.99  
 EX. GROUND AT PUMP TANK = 450.00  
 PROP. GRADE ABOVE PUMP TANK = 444.90  
 TOP OF PUMP TANK = 447.79  
 INV. INTO PUMP TANK = 445.89  
 INV. OUT OF PUMP TANK = 445.64  
 EX. GROUND AT DISTRIBUTION BOX = 464.00  
 INV. INTO DISTRIBUTION BOX = 462.20  
 INV. OUT OF DISTRIBUTION BOX = 462.10

NOTE: SEPTIC SYSTEM ALARM WILL BE ON A CIRCUIT SEPARATE FROM ANY OTHER SEPTIC SYSTEM COMPONENTS OR ALARMS.

**PUMP ALARMS / INFORMATION**

- A PUMP OFF : 444.36'
- B PUMP ON : 444.63'
- C HIGH WATER ALARM : 445.13'
- D TOP OF ACCESS COVER : 447.79'
- E TOP OF TANK : 447.79'
- F BOTTOM OF TANK : 443.25'
- G DISCHARGE OUT OF TANK : 445.64'
- H INVERT INTO TANK : 445.89'

ONE TWO CHAMBER 1,500-GAL SEPTIC TANK & ONE 1,500-GAL PUMP TANK  
 W/ ZOELLER BN151 PUMP OR EQUAL TO GRAVITY DISTRIBUTION FOR 5 BEDROOM SFD

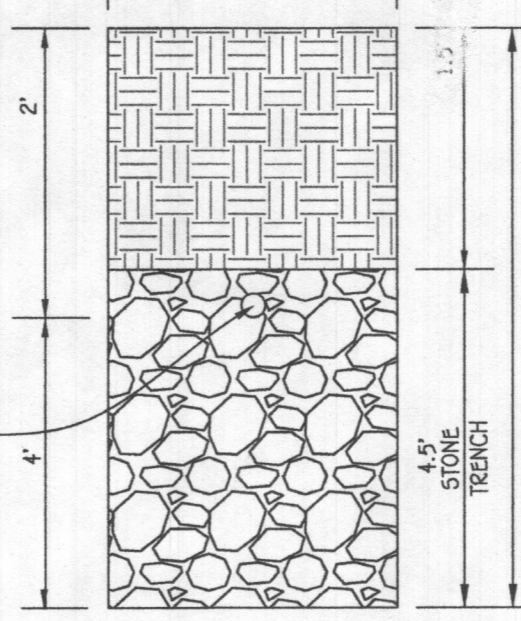
- 1 UNION @ 2 EQUIVALENT FEET = 2 LF
- 1 1/8 HD @ 4 EQUIVALENT FEET = 4 LF
- TOTAL LINEAR FEET OF 2" SCH. 40 PVC = 185 LF

DYNAMIC HEAD  
 165 LF X 2.05 FT PER 100 LF OF 2" PIPE = 3.38 FT OF FRICTION HEAD  
 VERTICAL FROM PUMP OFF TO HIGH POINT N PUMP CHAMBER = 1.92 FT OF HEAD  
 HIGH POINT IN PUMP CHAMBER TO HIGHEST ELEV OF SYSTEM = 13.5 FT (PUMP OUT IS THE HIGHEST POINT)  
 TOTAL DYNAMIC HEAD = 21.9 FT

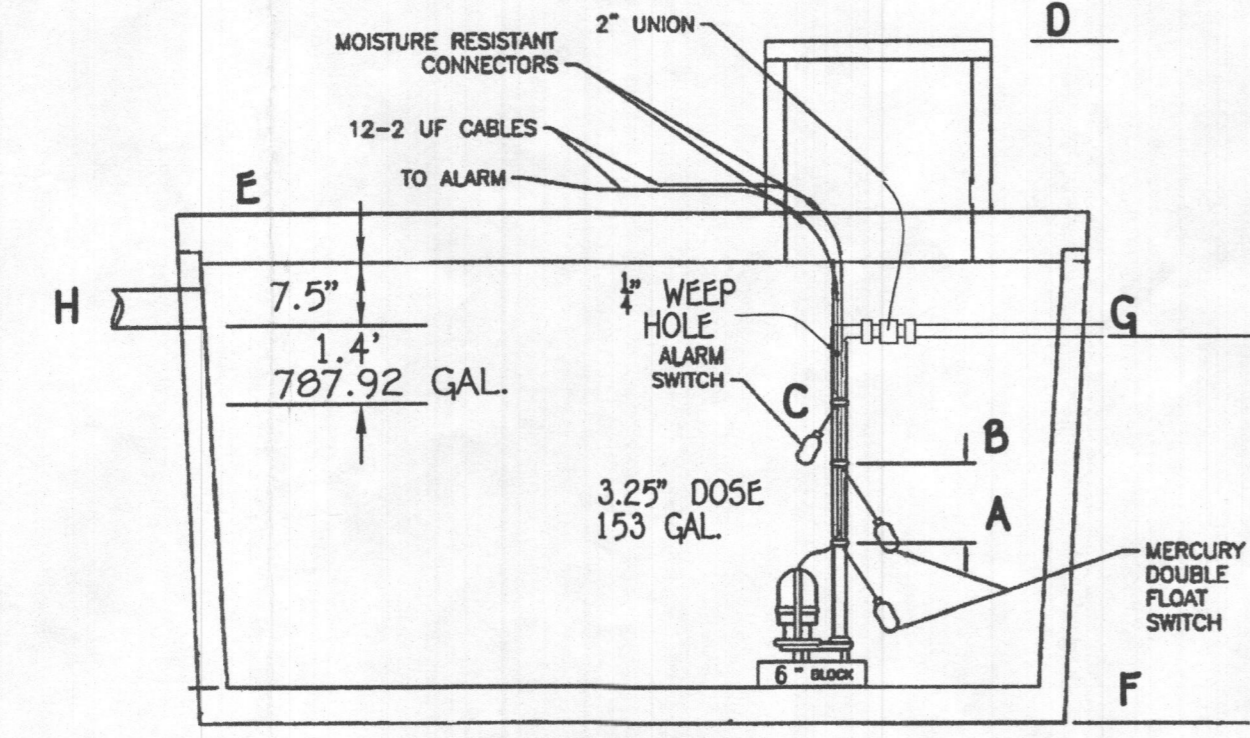
1/8 DESIGN FLOW (750/6=125) PLUS VOLUME OF 2" PIPE (26 GALLONS)  
 USE 151 GALLON DOSE (125 GALLON MINIMUM)  
 RUN TIME = 6.12 MIN (25 GPM X 6.12 = 153 GALLON DOSE)  
 PUMP NEEDS TO HANDLE 25 GPM AT 21.9 FT OF HEAD  
 USE 0.3 HP (ZOELLER MODEL 151 PUMP)

**TRENCH DATA:**

- TRENCH 1:  
EX. GROUND ABOVE = 464  
INV. IN = 462  
BOTTOM TRENCH = 458
- TRENCH 2:  
EX. GROUND ABOVE = 462  
INV. IN = 460  
BOTTOM TRENCH = 456
- TRENCH 3:  
EX. GROUND ABOVE = 462  
INV. IN = 460  
BOTTOM TRENCH = 456



**INITIAL TRENCH DETAIL**



**PUMP TANK DETAIL IM-1530**

787.92 GAL EMERGENCY STORAGE  
 NOTE: THIS DETAIL IS TO BE USED FOR FLOAT CONFIGURATION ONLY - SEE DETAIL ABOVE FOR TANK DIMENSIONS AND ACTUAL LOCATION OF ACCESS COVER.

**ADDRESS**  
 15314 LEONDINA DRIVE

**OWNERS/BUILDER**  
 CHRISTOPHER A & MEREDITH PETERSON  
 15314 LEONDINA DR  
 GLENWOOD MD 21730

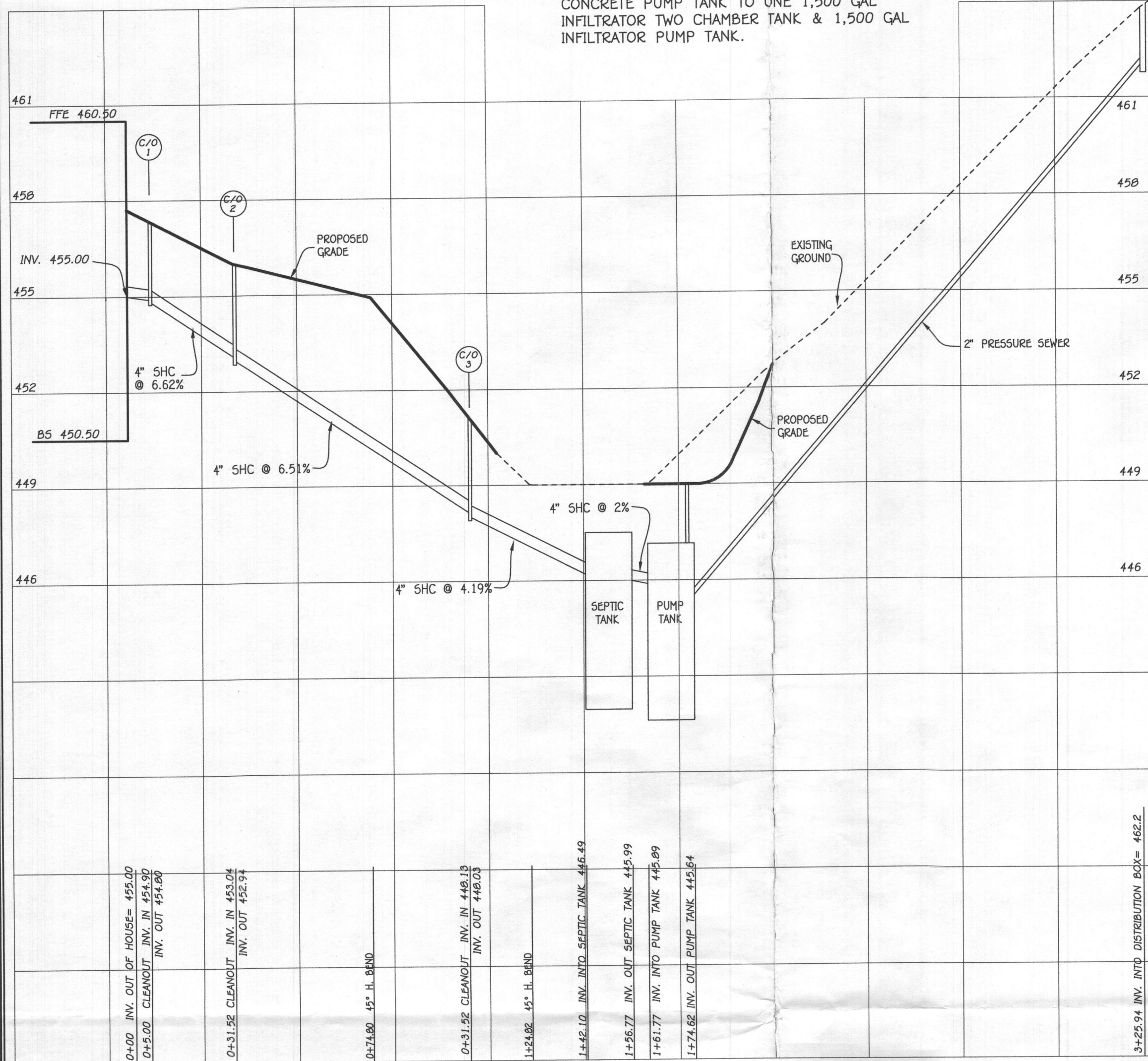
SEPTIC SYSTEM  
 INSTALLATION SITE PLAN  
**VINEYARDS AT  
 CATTLE CREEK  
 LOT 13**  
 15314 LEONDINA DRIVE  
 ZONED: R2-DEO PLAT NO.: 14836  
 TAX MAP NO.: 21 GRID NO.: 08 PARCEL NO.: 225  
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: FEBRUARY 24, 2023  
 SHEET 1 OF 1

**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. 27020, EXPIRATION DATE: 01/23/2025.  
 Signature of Professional Engineer: [Signature]  
 DATE: 3/16/2023

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 18275 BALDWIN NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-1899

**PURPOSE:**

REVISE 2,000 GAL CONCRETE TANK & 1,500 GAL CONCRETE PUMP TANK TO ONE 1,500 GAL INFILTRATOR TWO CHAMBER TANK & 1,500 GAL INFILTRATOR PUMP DISPOSAL TANK.



**LEGEND**

SYMBOL	DESCRIPTION
(---)	EXISTING CONTOUR 2' INTERVAL
(---)	PROPOSED CONTOUR 2' INTERVAL
(---)	EXISTING TREES
(---)	SPOT ELEVATION
(---)	SILT FENCE
(---)	LIMITS OF DISTURBANCE
(---)	DEMOTES 15%-24.9% SLOPES
(---)	DEMOTES SEWAGE DISPOSAL AREA

**INITIAL SYSTEM**

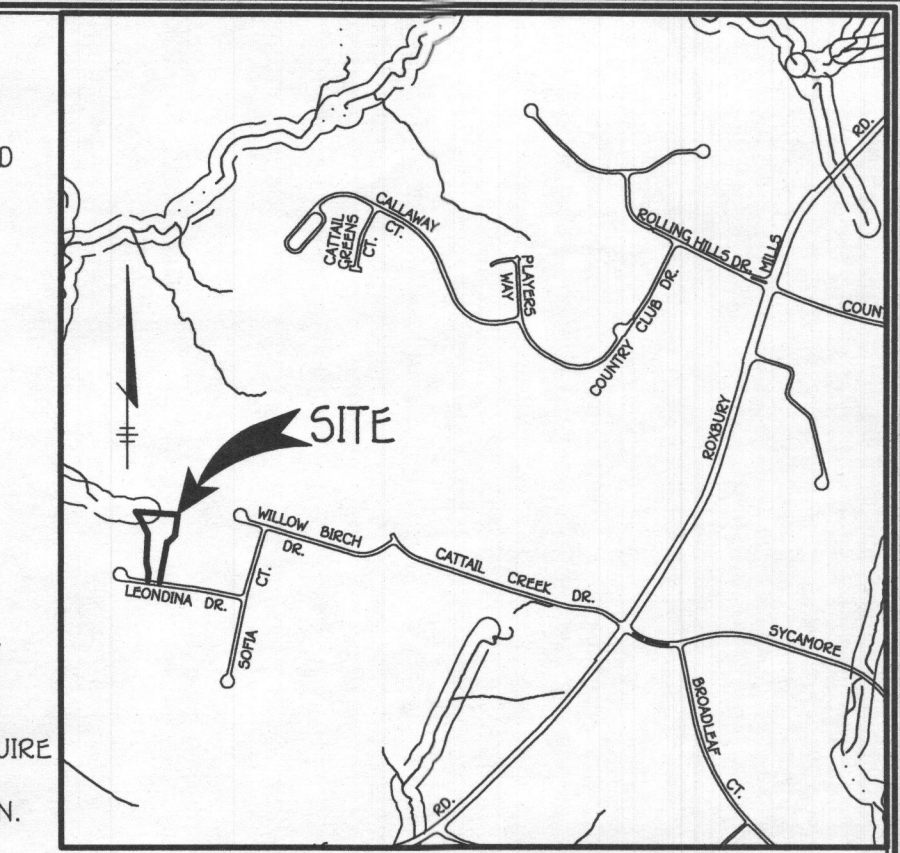
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 2 FEET  
 SF OF DRAINFIELD = 750 GPD / 1.2 = 625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

**1ST REPLACEMENT SYSTEM**

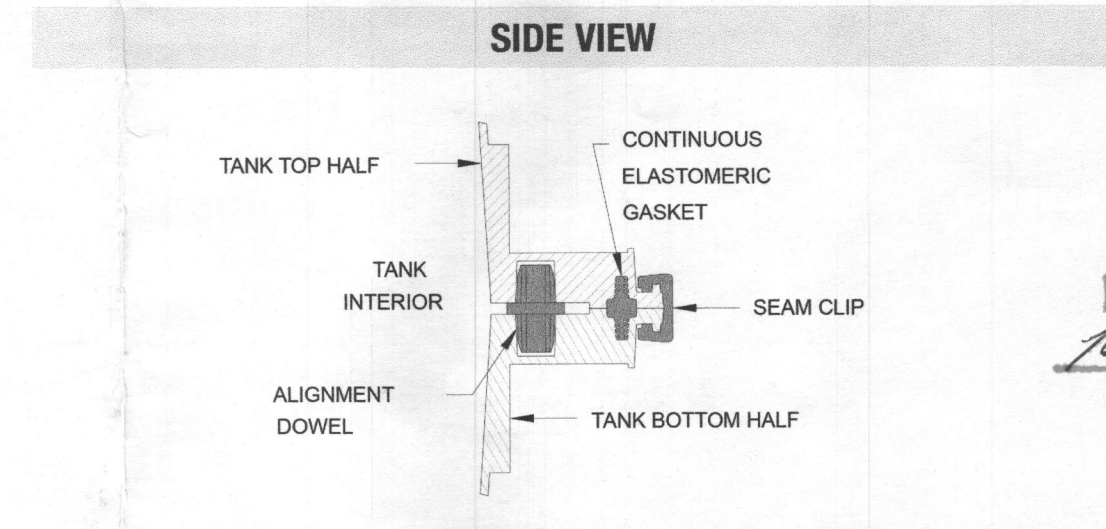
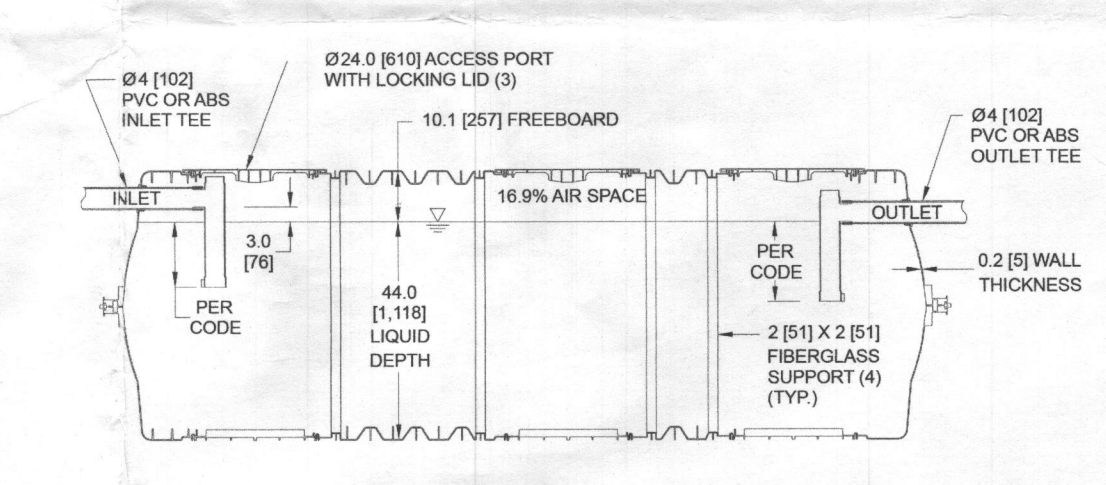
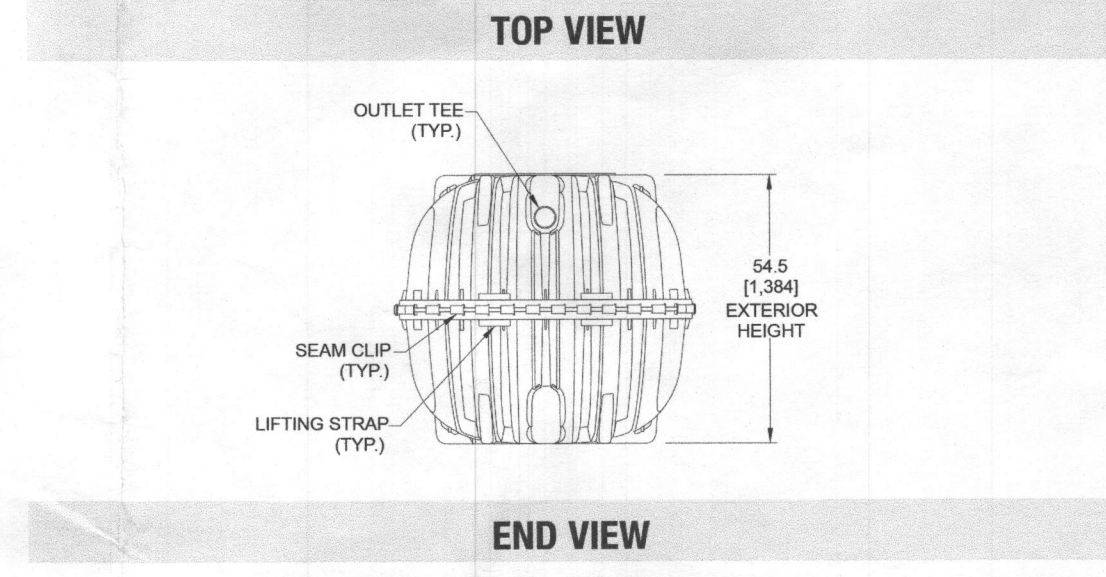
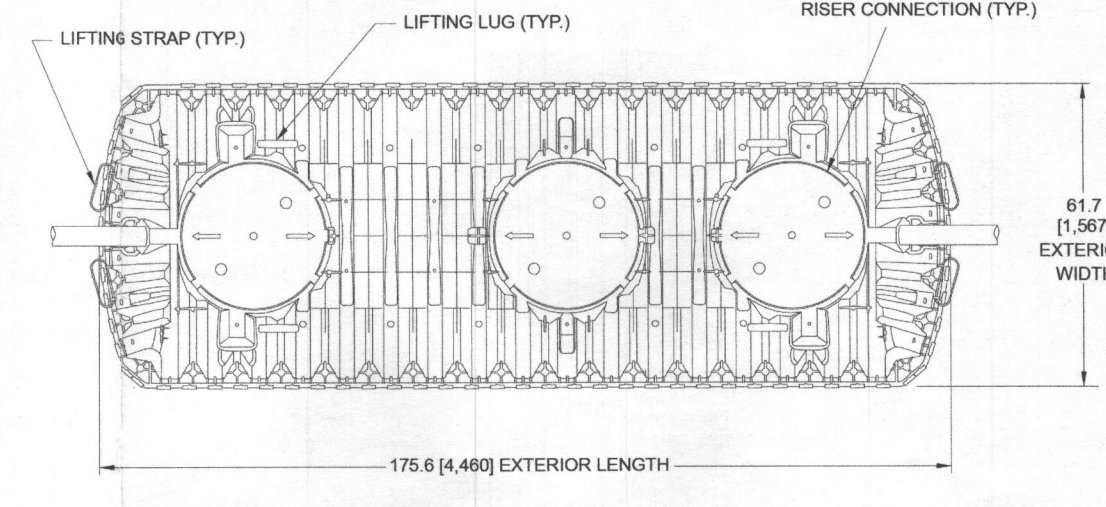
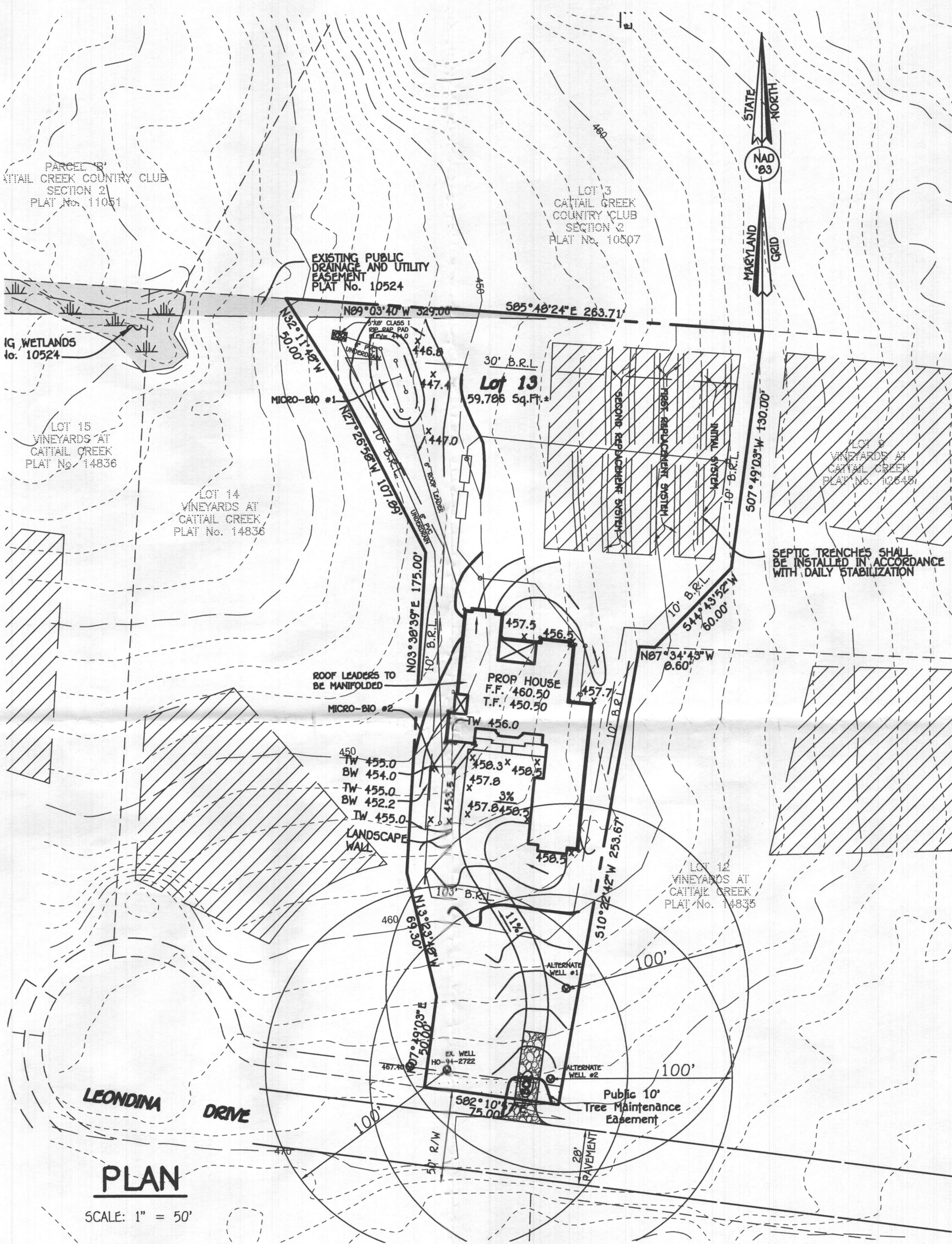
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 2 FEET  
 SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH =  $(W+2)/(W+1+2D) = (3+2)/(3+1+(2 \times 2)) = 0.625$   
 TRENCH LENGTH =  $312.50 \text{ SF} \times 0.625 = 195.31 \text{ FEET}$   
 (USE 4 TRENCHES AT 48.83 L.F.)  
 TRENCH SPACING =  $2D+W = ((2 \times 2) + 3) = 7'$  USE 10'

**2ND REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 5 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 1 FEET  
 SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH =  $(W+2)/(W+1+2D) = (3+2)/(3+1+(2 \times 1)) = 0.833$   
 TRENCH LENGTH =  $312.50 \text{ SF} \times 0.833 = 145.83 \text{ FEET}$   
 (USE 5 TRENCHES AT 52.06 L.F.)  
 TRENCH SPACING =  $2D+W = ((2 \times 1) + 3) = 5'$  USE 10'

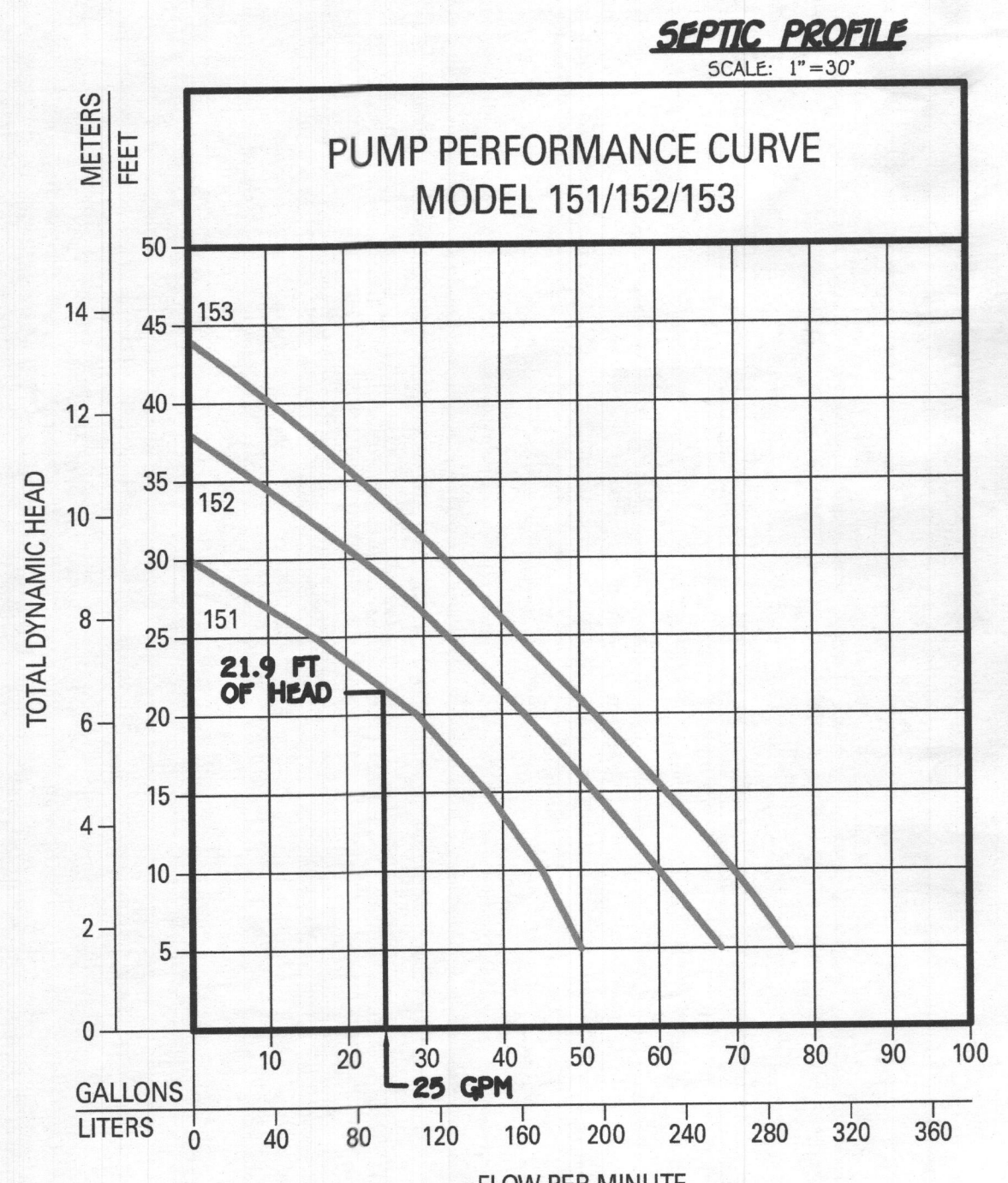


1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL HO-94-2722 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. 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.
6. THE ENGINEER IS REGISTERED WITH MDE TO PERFORM ON-SITE WASTEWATER SERVICES IN MARYLAND.



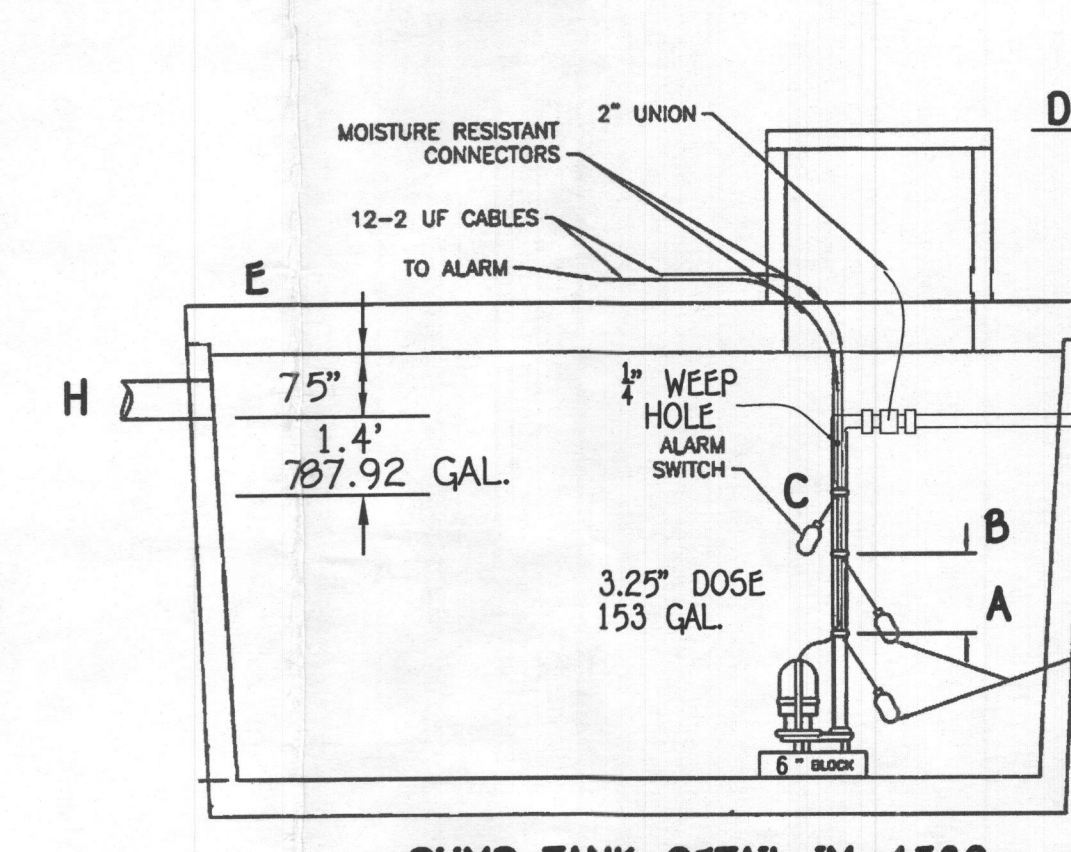
**SEPTIC/PUMP TANK DETAIL IM-1530**  
 NOT TO SCALE

Approved Septic System Plan  
 Howard County Health Department  
 Signature: [Signature] Date: 3/30/2023



F.F. 460.50  
 B.S.E. 450.50  
 INV. OUT OF HOUSE = 455.00  
 PROP. GROUND AT CLEANOUT # 1 = 457.35  
 INV. INTO CLEANOUT = 444.90  
 INV. OUT OF CLEANOUT = 444.80  
 EX. GROUND AT SEPTIC TANKS = 449.00  
 PROP. GRADE ABOVE SEPTIC TANKS = 449.0  
 TOP OF SEPTIC TANKS = 447.50  
 INV. INTO SEPTIC TANKS = 446.49  
 INV. OUT OF SEPTIC TANKS = 445.99  
 EX. GROUND AT PUMP TANK = 450.00  
 PROP. GRADE ABOVE PUMP TANK = 444.90  
 TOP OF PUMP TANK = 447.79  
 INV. INTO PUMP TANK = 445.99  
 INV. OUT OF PUMP TANK = 445.64  
 EX. GROUND AT DISTRIBUTION BOX = 464.00  
 INV. INTO DISTRIBUTION BOX = 462.20  
 INV. OUT OF DISTRIBUTION BOX = 462.10

NOTE: SEPTIC SYSTEM ALARM WILL BE ON A CIRCUIT SEPARATE FROM ANY OTHER SEPTIC SYSTEM COMPONENTS OR ALARMS.



**PUMP ALARMS / INFORMATION**

A PUMP OFF : 444.36'  
 B PUMP ON : 444.63'  
 C HIGH WATER ALARM : 445.13'  
 D TOP OF ACCESS COVER : 447.79'  
 E TOP OF TANK : 447.79'  
 F BOTTOM OF TANK : 443.25'  
 G DISCHARGE OUT OF TANK : 445.64'  
 H INVERT INTO TANK : 445.89'

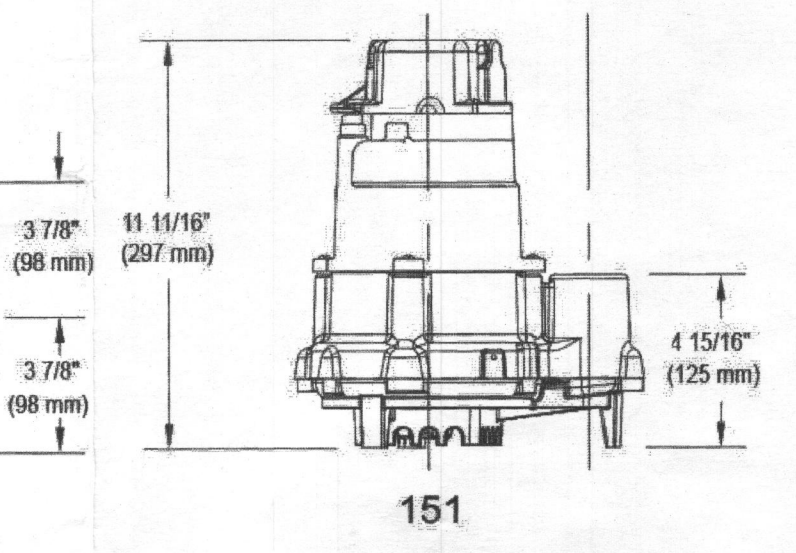
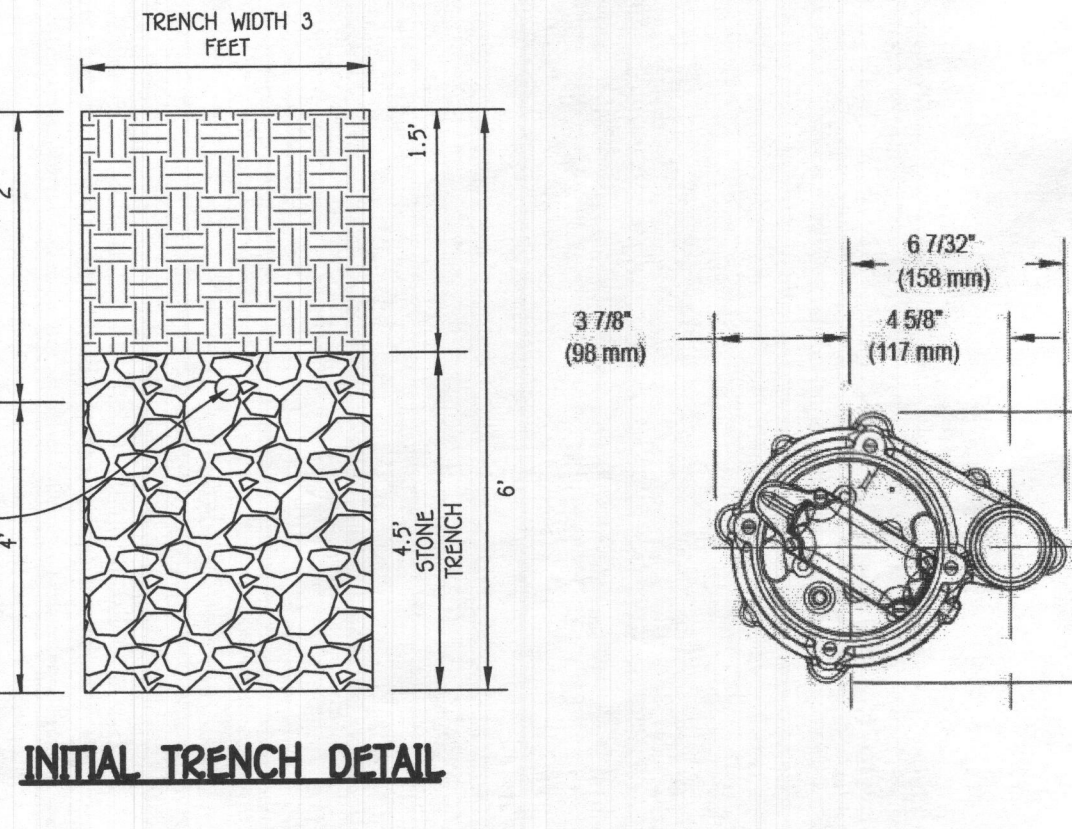
ONE TWO CHAMBER 1,500-GAL SEPTIC TANK & ONE 1,500-GAL PUMP TANK  
 W/ ZOELLER BN151 PUMP OR EQUAL TO GRAVITY DISTRIBUTION FOR 5 BEDROOM SFD

2" SCH. 40 PVC = 159 LF  
 1 UNION @ 2 EQUIVALENT FEET = 2 LF  
 1 1/8" HB @ 4 EQUIVALENT FEET = 4 LF  
 TOTAL LINEAR FEET OF 2" SCH. 40 PVC = 165 LF

**DYNAMIC HEAD**  
 65 LF X 2.05 FT PER 100 LF OF 2" PIPE = 3.38 FT OF FRICTION HEAD  
 VERTICAL FROM PUMP OUT TO HIGH POINT IN PUMP CHAMBER = 1.92 FT OF HEAD  
 HIGH POINT IN PUMP CHAMBER TO HIGHEST ELEV OF SYSTEM = 13.5 FT (PUMP OUT IS THE HIGHEST POINT)  
 TOTAL DYNAMIC HEAD = 21.9 FT

1/6" DESIGN FLOW (750/6=125) PLUS VOLUME OF 2" PIPE (26 GALLONS)  
 USE 151 GALLON DOSE (125 GALLON MINIMUM)  
 RUN TIME = 6.12 MIN (25 GPM X 6.12 = 153 GALLON DOSE)

PUMP NEEDS TO HANDLE 25 GPM AT 21.9 FT OF HEAD  
 USE 0.3 HP (ZOELLER MODEL 151 PUMP)



**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. 27020, EXPIRATION DATE: 01/25/2025.

Signature of Professional Engineer: [Signature]  
 DATE: 3/16/2023

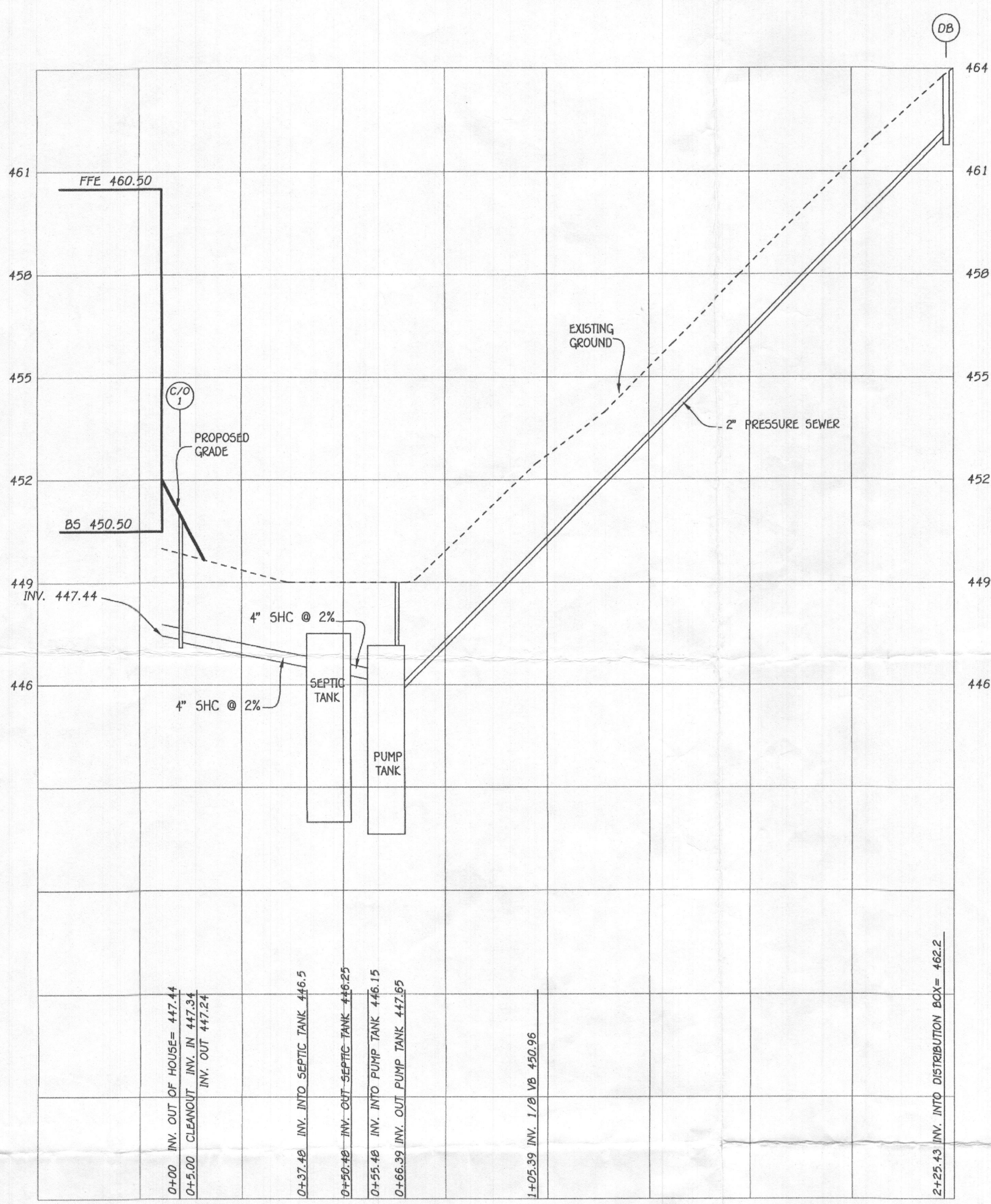
**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21104  
 (410) 461-2999

**ADDRESS**  
 15314 LEONDIRA DRIVE

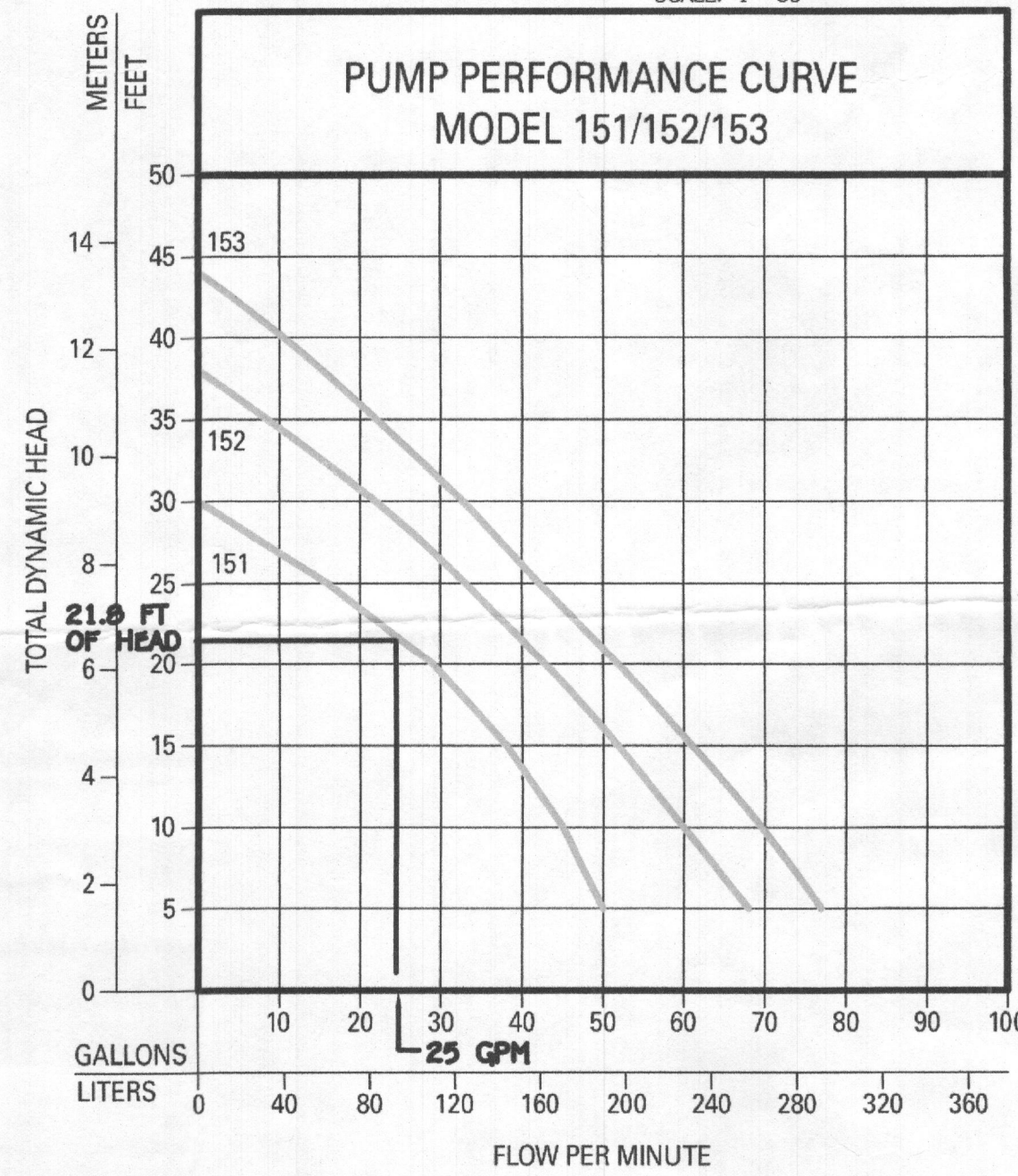
**OWNERS/BUILDER**  
 CHRISTOPHER A & MEREDITH PETERSON  
 15314 LEONDIRA DR  
 GLENWOOD MD 21738

**SEPTIC SYSTEM INSTALLATION SITE PLAN**  
**VINEYARDS AT CATTAIL CREEK**  
 LOT 13  
 15314 LEONDIRA DRIVE

ZONED: RR-DEO PLAT NO.: 14836  
 TAX MAP NO.: 21 GRID NO.: 08 PARCEL NO.: 225  
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: FEBRUARY 24, 2023  
 SHEET 1 OF 1



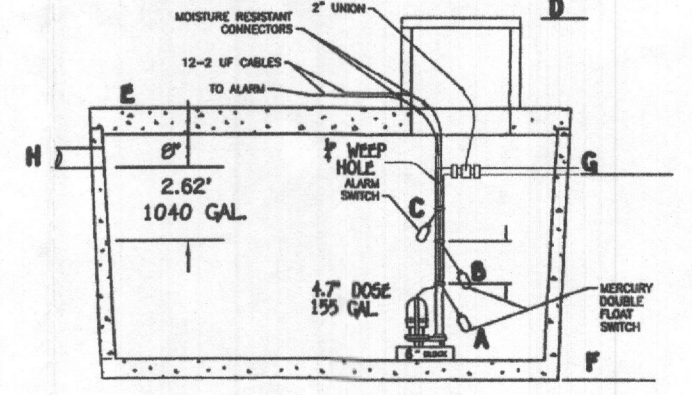
**SEPTIC PROFILE**  
SCALE: 1" = 30'



FFE 460.50  
BSE 450.50  
INV. OUT OF HOUSE = 447.44  
PROP. GROUND AT CLEANOUT # 1 = 452.0  
INV. INTO CLEANOUT = 447.34  
INV. OUT OF CLEANOUT = 447.24  
EX. GROUND AT SEPTIC TANK = 449.0  
PROP. GRADE ABOVE SEPTIC TANK = 449.0  
TOP OF SEPTIC TANK = 447.5  
INV. INTO SEPTIC TANK = 446.5  
INV. OUT OF SEPTIC TANK = 446.25  
EX. GROUND AT PUMP TANK = 449.0  
PROP. GRADE ABOVE PUMP TANK = 449.0  
TOP OF PUMP TANK = 447.15  
INV. INTO PUMP TANK = 446.15  
INV. OUT OF PUMP TANK = 445.9  
EX. GROUND AT DISTRIBUTION BOX = 464  
INV. INTO DISTRIBUTION BOX = 462.2  
INV. OUT OF DISTRIBUTION BOX = 462.1

NOTE: SEPTIC SYSTEM ALARM WILL BE ON A CIRCUIT SEPARATE FROM ANY OTHER SEPTIC SYSTEM COMPONENTS OR ALARMS.

PUMP ALARMS / INFORMATION  
A. PUMP OFF: 443.80  
B. PUMP ON: 444.20  
C. HIGH WATER ALARM: 444.70  
D. TOP OF ACCESS COVER: 449  
E. TOP OF TANK: 447.15  
F. BOTTOM OF TANK: 441.65  
G. DISCHARGE OUT OF TANK: 445.9  
H. INVERT INTO TANK: 446.15



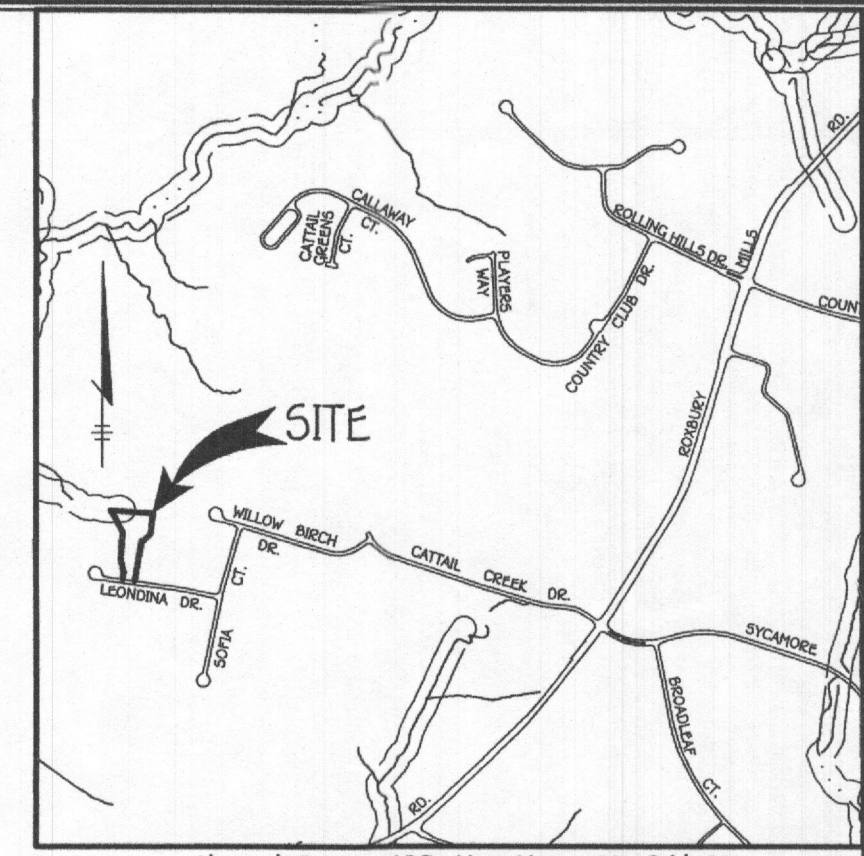
NOTE: THIS DETAIL IS TO BE USED FOR FLOAT CONFIGURATION ONLY - SEE DETAIL ABOVE FOR TANK DIMENSIONS AND ACTUAL LOCATION OF ACCESS COVER.

**INITIAL SYSTEM**  
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
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 0.625 = 130.21 FEET  
(USE 3 TRENCHES AT 43.40 L.F.)  
TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

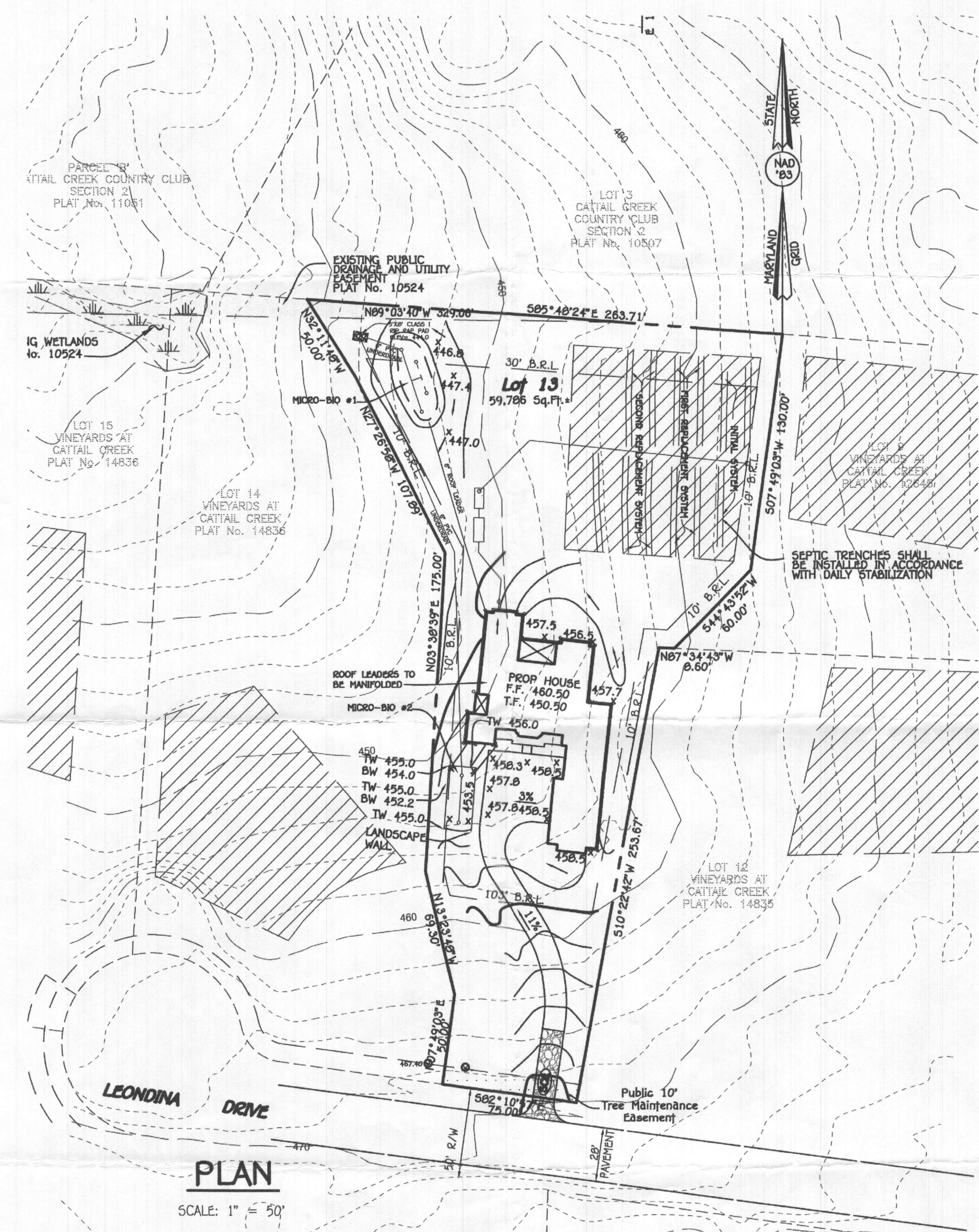
**1ST REPLACEMENT SYSTEM**  
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
APPLICATION RATE = 0.8  
EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
TRENCH DEPTH = 6 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 2 FEET  
SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2)) = 0.625  
TRENCH LENGTH = 312.50 SF x 0.625 = 195.31 FEET  
(USE 4 TRENCHES AT 48.83 L.F.)  
TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

**2ND REPLACEMENT SYSTEM**  
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
APPLICATION RATE = 0.8  
EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
TRENCH DEPTH = 5 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 1 FEET  
SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833  
TRENCH LENGTH = 312.50 SF x 0.833 = 145.83 FEET  
(USE 5 TRENCHES AT 52.06 L.F.)  
TRENCH SPACING = 2D+W = ((2x1) + 3) = 5' USE 10'

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 EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL HO-94-2722 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. 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.



Howard County ADC, Map Map #16, Grid 07  
**VICINITY MAP**  
SCALE: 1" = 1200'



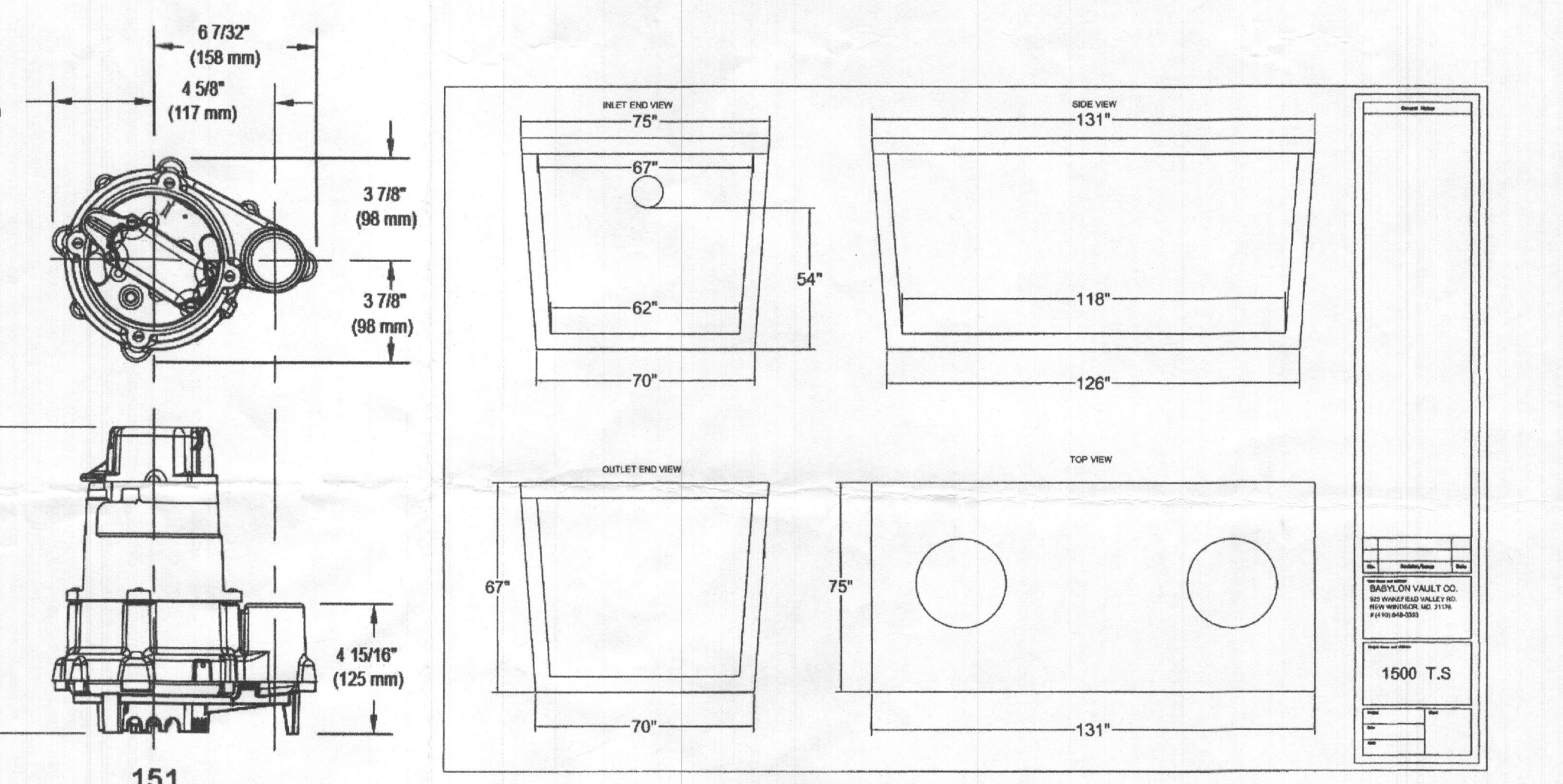
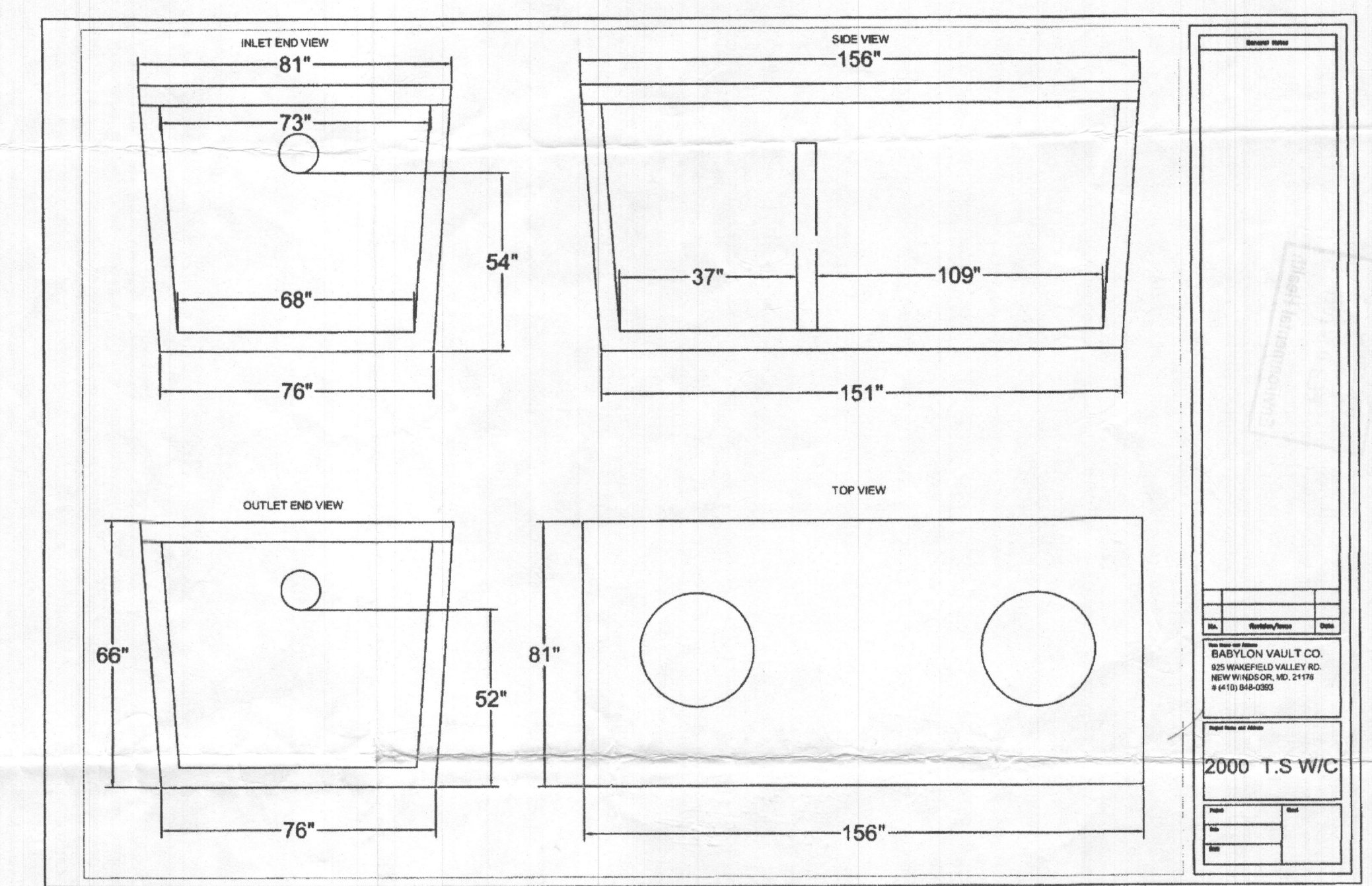
**PLAN**  
SCALE: 1" = 50'

Approved Septic System Plan  
Howard County Health Department  
Build 2/28/2021  
Signature  
Date  
2000-gal Septic Tank  
& 1500-gal Pump Tank w/  
Zoeller BNS1 pump or equiv.  
to Gravity Drainfield  
for 5-bed room SFD

TRENCH DATA:  
TRENCH 1:  
EX. GROUND ABOVE = 464  
INV. IN = 462  
BOTTOM TRENCH = 458  
TRENCH 2:  
EX. GROUND ABOVE = 462  
INV. IN = 460  
BOTTOM TRENCH = 456  
TRENCH 3:  
EX. GROUND ABOVE = 462  
INV. IN = 460  
BOTTOM TRENCH = 456

1 UNION @ 2" SCH. 40 PVC = 159 LF  
A. PUMP OFF: 443.80  
B. PUMP ON: 444.20  
C. HIGH WATER ALARM: 444.70  
D. TOP OF ACCESS COVER: 449  
E. TOP OF TANK: 447.15  
F. BOTTOM OF TANK: 441.65  
G. DISCHARGE OUT OF TANK: 445.9  
H. INVERT INTO TANK: 446.15

1/6 DESIGN FLOW (750/6=125) PLUS VOLUME OF 2" PIPE (26 GALLONS)  
USE 151 GALLON DOSE (125 GALLON MINIMUM)  
(RUN TIME = 6.2 MIN 25 GPM X 6.2 = 195 GALLON DOSE)  
PUMP NEEDS TO HANDLE 25 GPM AT 21.88 FT OF HEAD  
USE 0.3 HP (ZOELLER MODEL 151 PUMP)



**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	PROPOSED CONTOUR 2' INTERVAL
---	EXISTING TREES
+	SPOT ELEVATION
-SF-	SILT FENCE
---	LIMITS OF DISTURBANCE
---	DENOTES 15% - 24.9% SLOPES
---	DENOTES SEWAGE DISPOSAL AREA

**ADDRESS**  
15314 LEONDINA DRIVE

**OWNERS/BUILDER**  
CHRISTOPHER A & MEGHEDITH PETERSON  
15314 LEONDINA DR  
GLENWOOD MD 21738

Supervised BY  
Approved OSDS  
3/30/2021  
**SEPTIC SYSTEM  
INSTALLATION SITE PLAN**  
**VINEYARDS AT CATTAL CREEK**  
LOT 13  
15314 LEONDINA DRIVE  
ZONED: RR-DEO PLAT NO.: 14836  
TAX MAP NO.: 21 GRID NO.: 08 PARCEL NO.: 225  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 18, 2021  
SHEET 1 OF 2



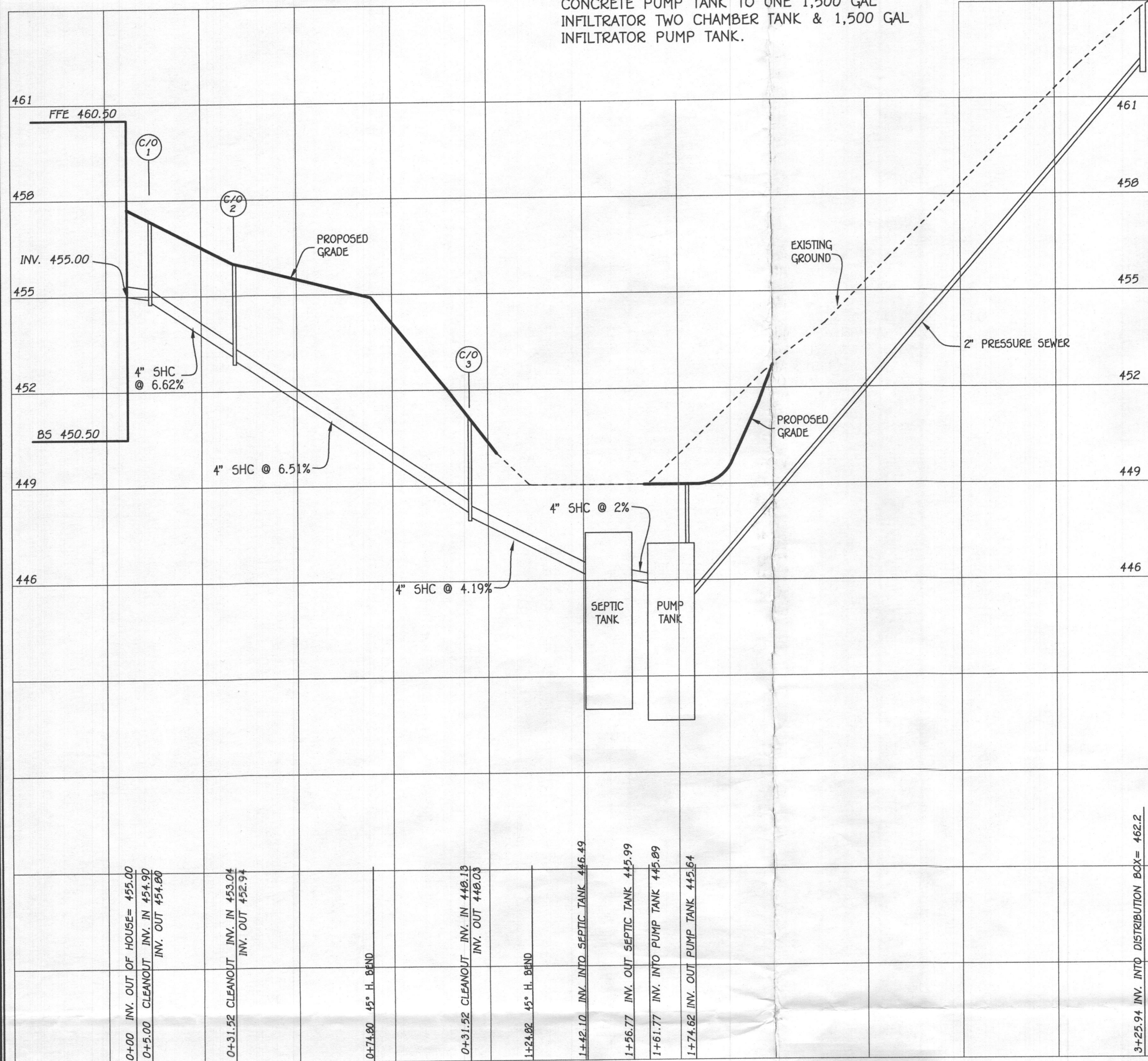
**PROFESSIONAL CERTIFICATION**  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20740, EXPIRATION DATE: 02/22/2023

Signature of Professional Engineer  
Date

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CONTONAL SOURCE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELECTRIC CITY, MARYLAND 21046  
(410) 461-5895

**PURPOSE:**

REVISE 2,000 GAL CONCRETE TANK & 1,500 GAL CONCRETE PUMP TANK TO ONE 1,500 GAL INFILTRATOR TWO CHAMBER TANK & 1,500 GAL INFILTRATOR PUMP DISPOSAL TANK.



**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - -	PROPOSED CONTOUR 2' INTERVAL
---	EXISTING TREES
457.70	SPOT ELEVATION
-SF - SF-	SILT FENCE
---	LIMITS OF DISTURBANCE
---	DEMOTES 15%-24.9% SLOPES
---	DEMOTES SEWAGE DISPOSAL AREA

**INITIAL SYSTEM**

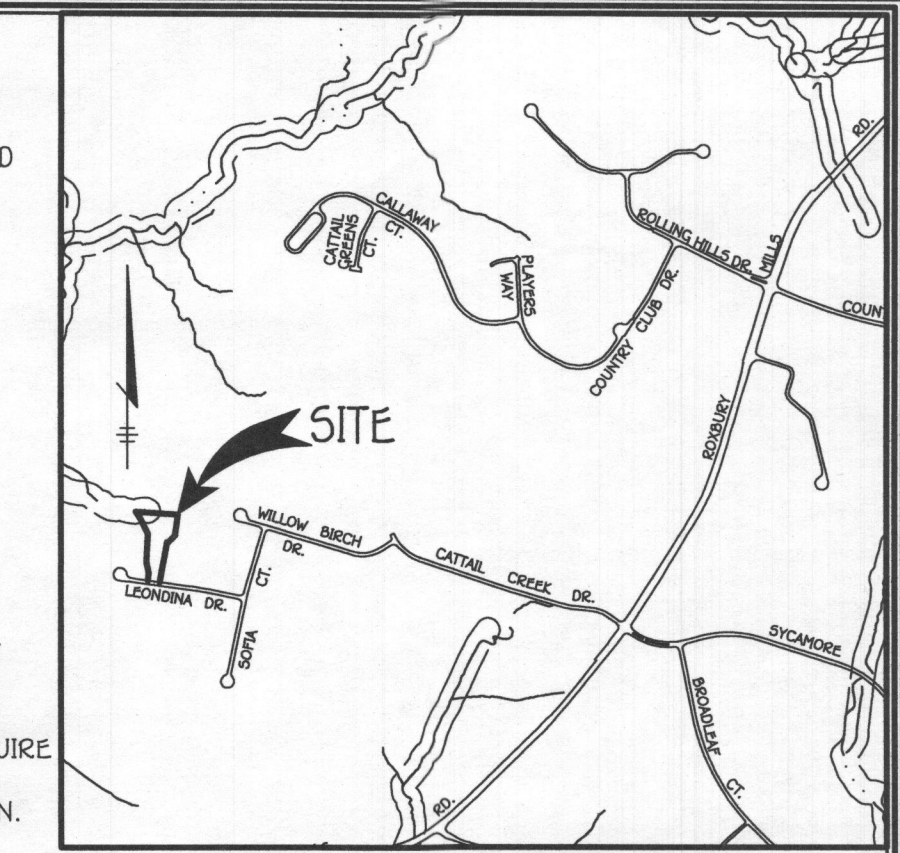
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 2 FEET  
 SF OF DRAINFIELD = 750 GPD / 1.2 = 625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

**1ST REPLACEMENT SYSTEM**

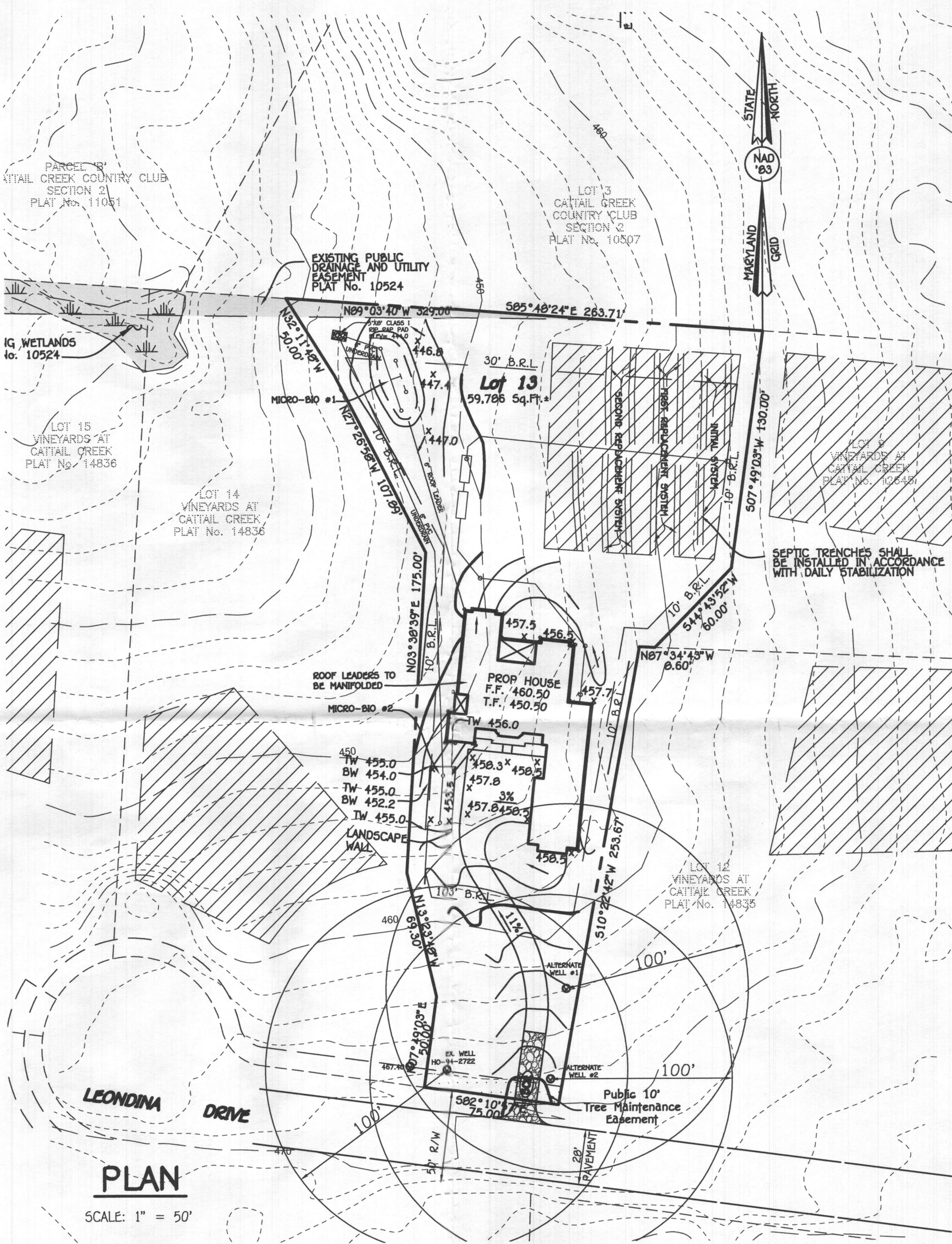
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 2 FEET  
 SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH =  $(W+2)/(W+1+2D) = (3+2)/(3+1+(2 \times 2)) = 0.625$   
 TRENCH LENGTH =  $312.50 \text{ SF} \times 0.625 = 195.31 \text{ FEET}$   
 (USE 4 TRENCHES AT 48.83 L.F.)  
 TRENCH SPACING =  $2D+W = ((2 \times 2) + 3) = 7'$  USE 10'

**2ND REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 5 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 1 FEET  
 SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH =  $(W+2)/(W+1+2D) = (3+2)/(3+1+(2 \times 1)) = 0.833$   
 TRENCH LENGTH =  $312.50 \text{ SF} \times 0.833 = 145.83 \text{ FEET}$   
 (USE 5 TRENCHES AT 52.06 L.F.)  
 TRENCH SPACING =  $2D+W = ((2 \times 1) + 3) = 5'$  USE 10'

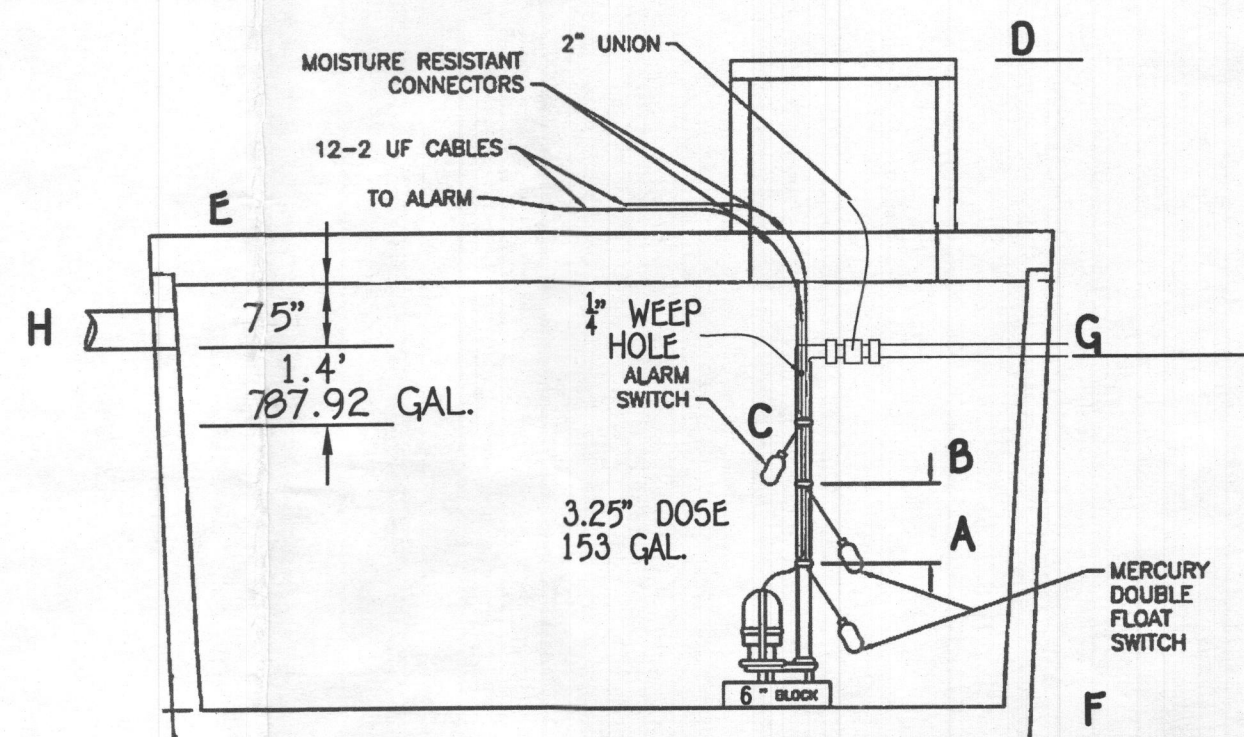
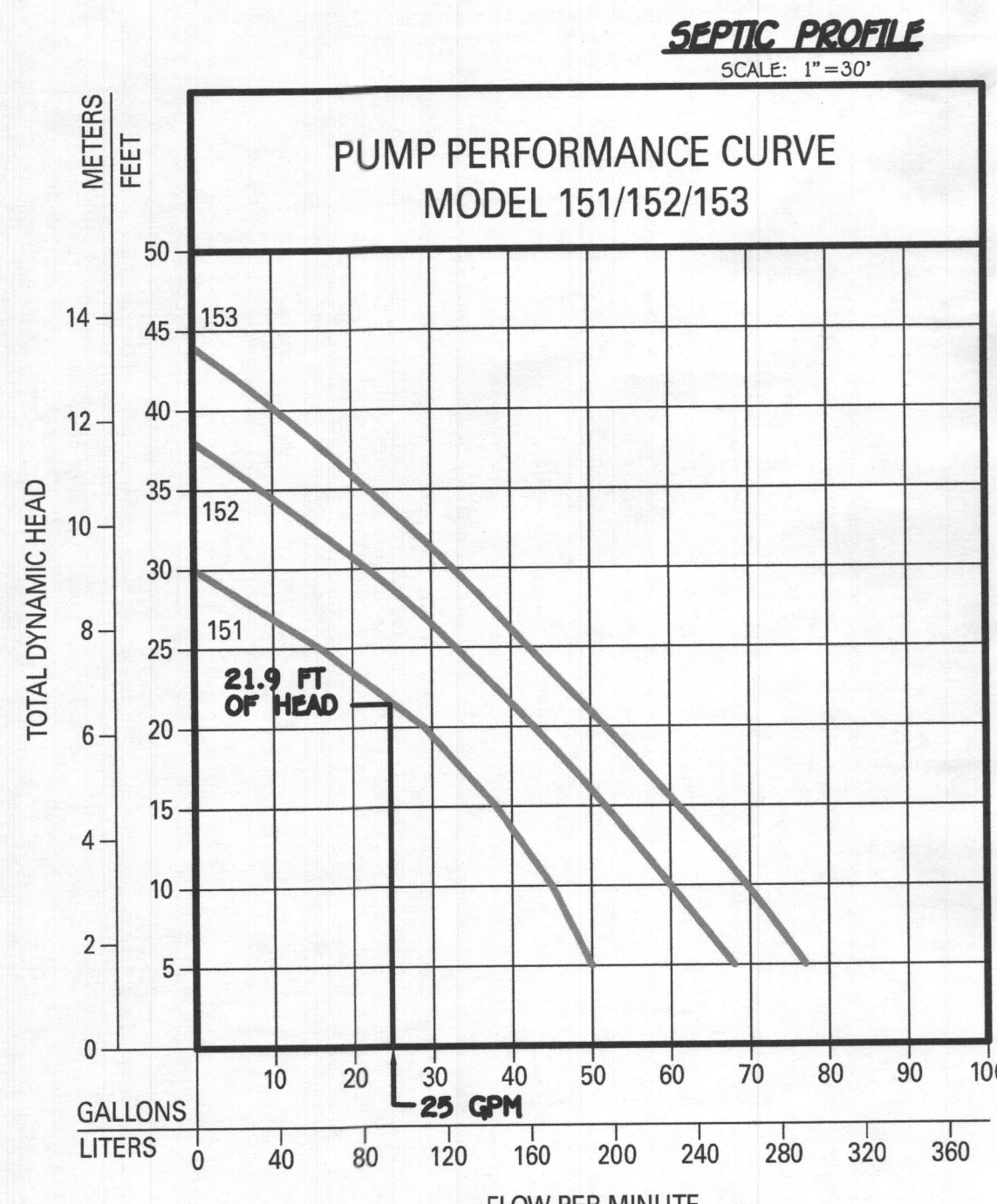


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2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL HO-94-2722 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. 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.
6. THE ENGINEER IS REGISTERED WITH MDE TO PERFORM ON-SITE WASTEWATER SERVICES IN MARYLAND.



FFE 460.50  
 BSE 450.50  
 INV. OUT OF HOUSE = 455.00  
 PROP. GROUND AT CLEANOUT # 1 = 457.35  
 INV. INTO CLEANOUT = 444.90  
 INV. OUT OF CLEANOUT = 444.80  
 EX. GROUND AT SEPTIC TANKS = 449.00  
 PROP. GRADE ABOVE SEPTIC TANKS = 449.0  
 TOP OF SEPTIC TANKS = 447.50  
 INV. INTO SEPTIC TANKS = 446.49  
 INV. OUT OF SEPTIC TANKS = 445.99  
 EX. GROUND AT PUMP TANK = 450.00  
 PROP. GRADE ABOVE PUMP TANK = 444.90  
 TOP OF PUMP TANK = 447.79  
 INV. INTO PUMP TANK = 445.99  
 INV. OUT OF PUMP TANK = 445.64  
 EX. GROUND AT DISTRIBUTION BOX = 464.00  
 INV. INTO DISTRIBUTION BOX = 462.20  
 INV. OUT OF DISTRIBUTION BOX = 462.10

NOTE: SEPTIC SYSTEM ALARM WILL BE ON A CIRCUIT SEPARATE FROM ANY OTHER SEPTIC SYSTEM COMPONENTS OR ALARMS.



**PUMP ALARMS / INFORMATION**

A PUMP OFF : 444.36'  
 B PUMP ON : 444.63'  
 C HIGH WATER ALARM : 445.13'  
 D TOP OF ACCESS COVER : 447.79'  
 E TOP OF TANK : 447.79'  
 F BOTTOM OF TANK : 443.25'  
 G DISCHARGE OUT OF TANK : 445.64'  
 H INVERT INTO TANK : 445.89'

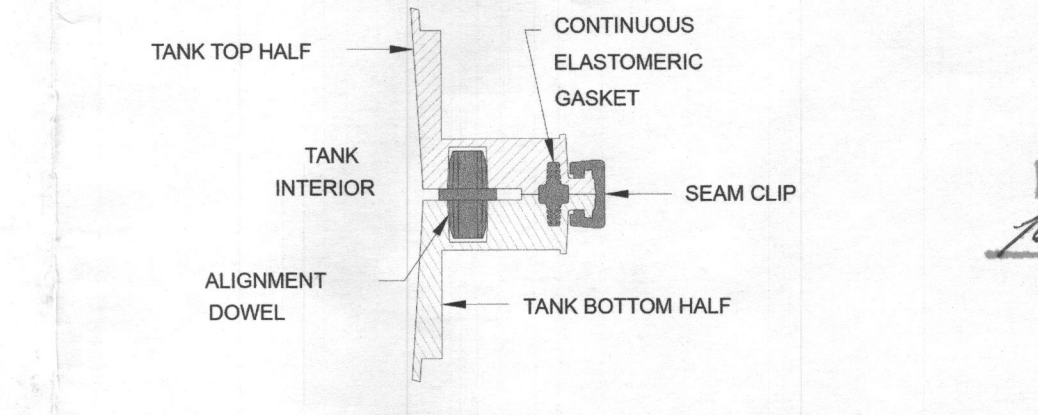
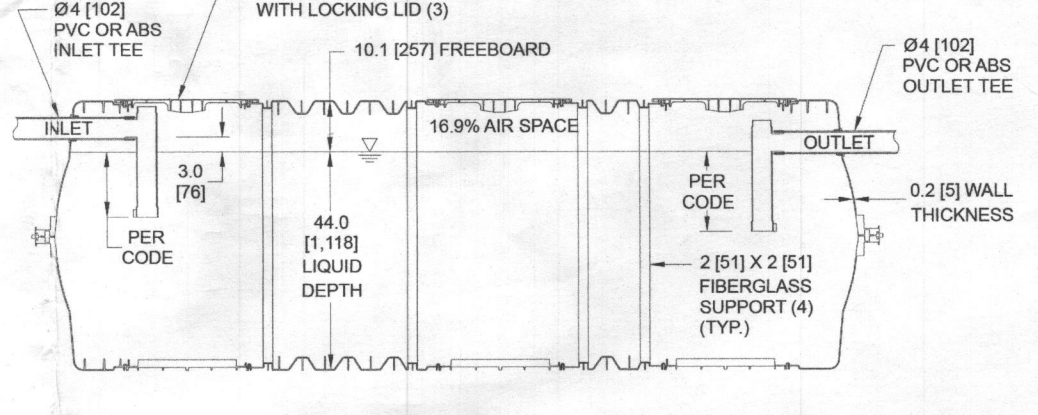
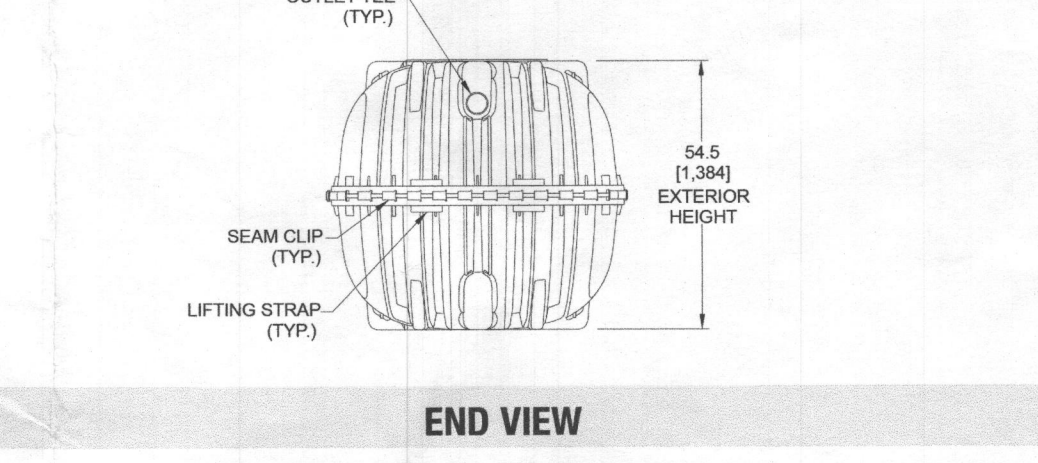
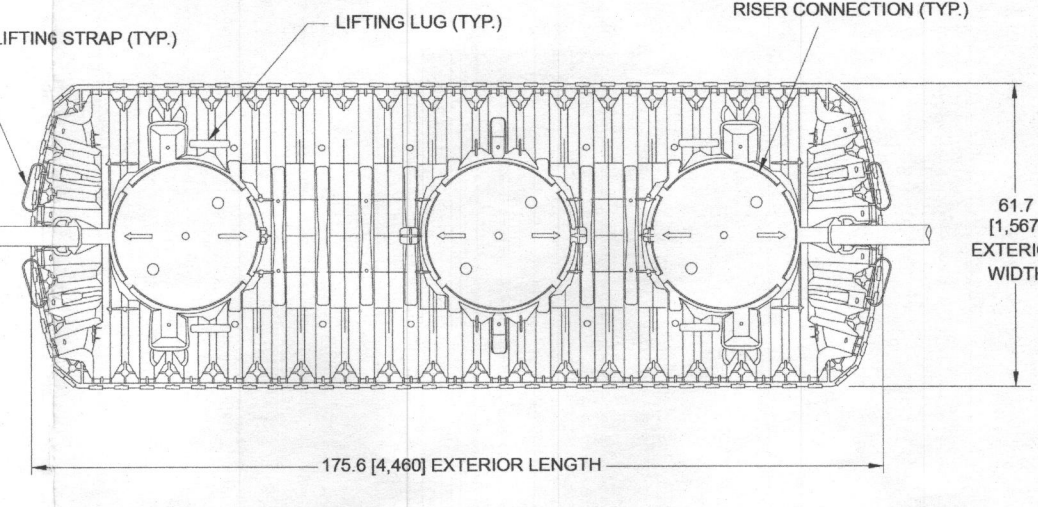
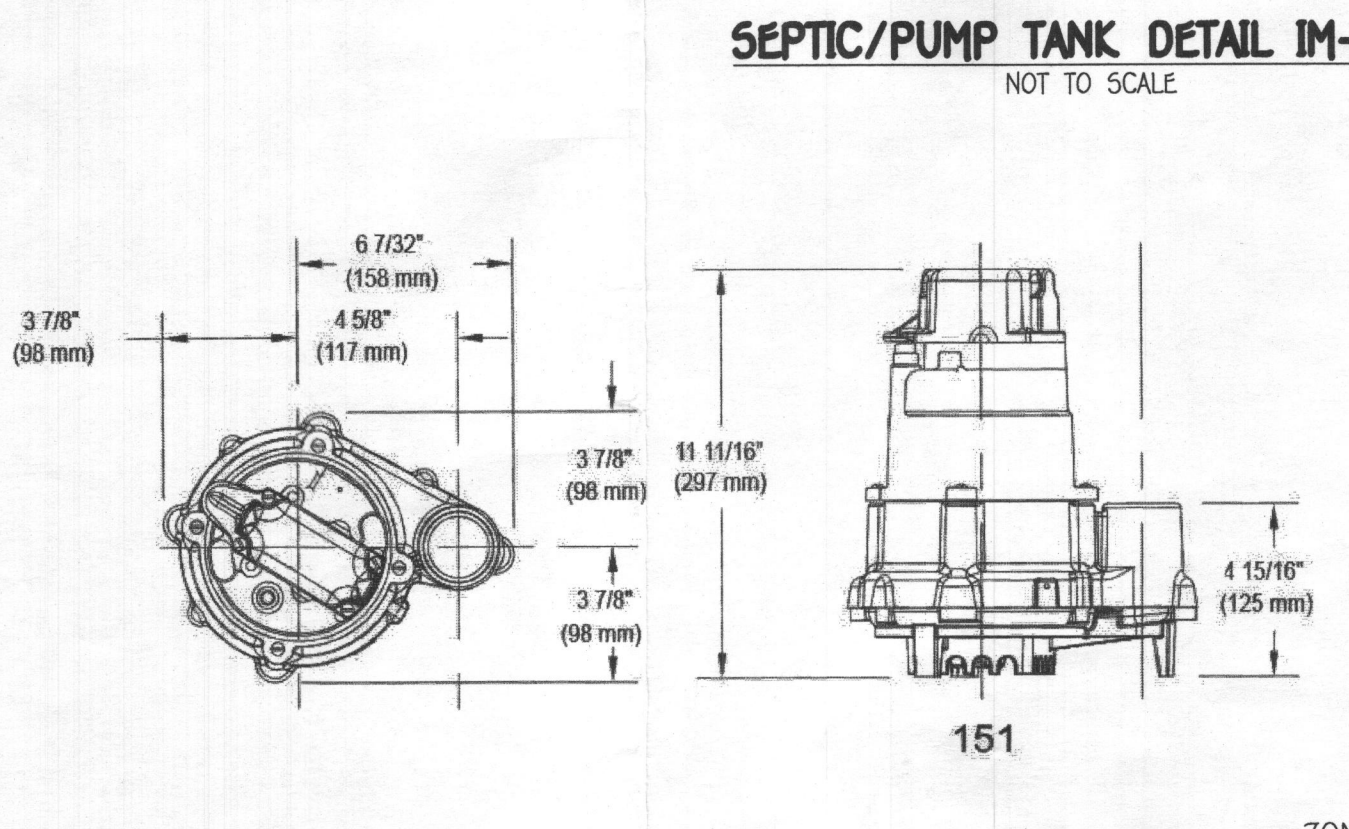
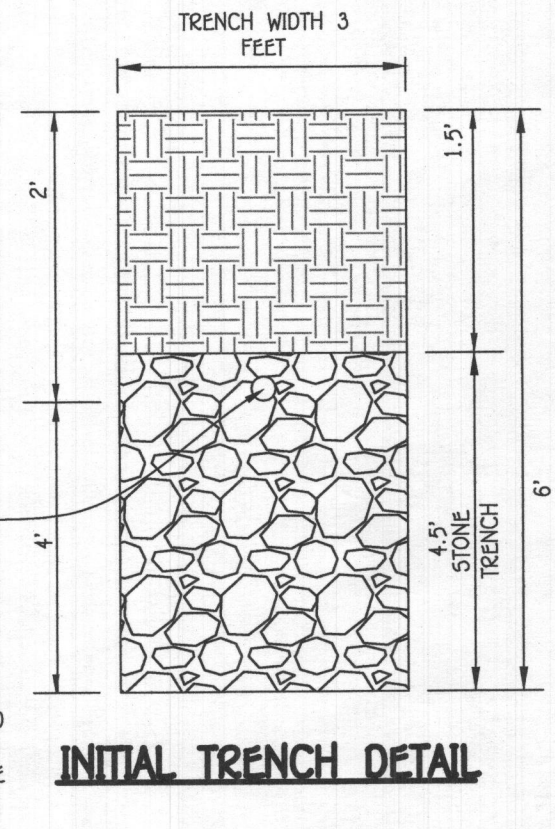
ONE TWO CHAMBER 1,500-GAL SEPTIC TANK & ONE 1,500-GAL PUMP TANK  
 W/ ZOELLER BN151 PUMP OR EQUAL TO GRAVITY DISTRIBUTION FOR 5 BEDROOM SFD

**TRENCH DATA:**

TRENCH 1:  
 EX. GROUND ABOVE = 464  
 INV. IN = 462  
 BOTTOM TRENCH = 458

TRENCH 2:  
 EX. GROUND ABOVE = 462  
 INV. IN = 460  
 BOTTOM TRENCH = 456

TRENCH 3:  
 EX. GROUND ABOVE = 462  
 INV. IN = 460  
 BOTTOM TRENCH = 456



Approved Septic System Plan  
 Howard County Health Department  
 Signature: [Signature] Date: 3/30/2023

SEPTIC SYSTEM  
 INSTALLATION SITE PLAN  
**VINEYARDS AT CATTAIL CREEK**  
 LOT 13  
 15314 LEONDINA DRIVE

ZONED: RR-DEO PLAT NO.: 14836  
 TAX MAP NO.: 21 GRID NO.: 08 PARCEL NO.: 225  
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: FEBRUARY 24, 2023  
 SHEET 1 OF 1

**PROFESSIONAL CERTIFICATION**

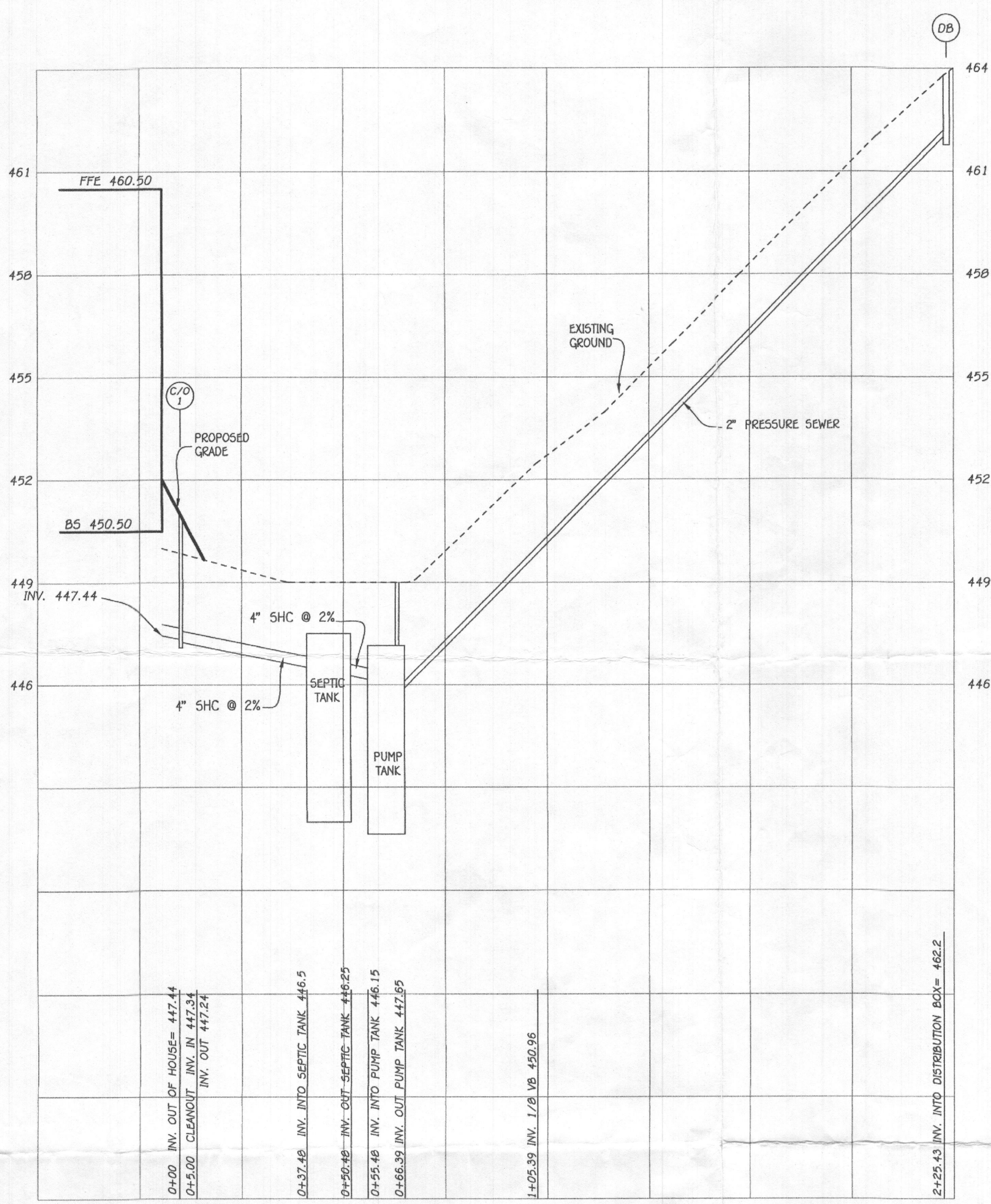
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/2025.

Signature of Professional Engineer: [Signature]  
 DATE: 3/16/2023

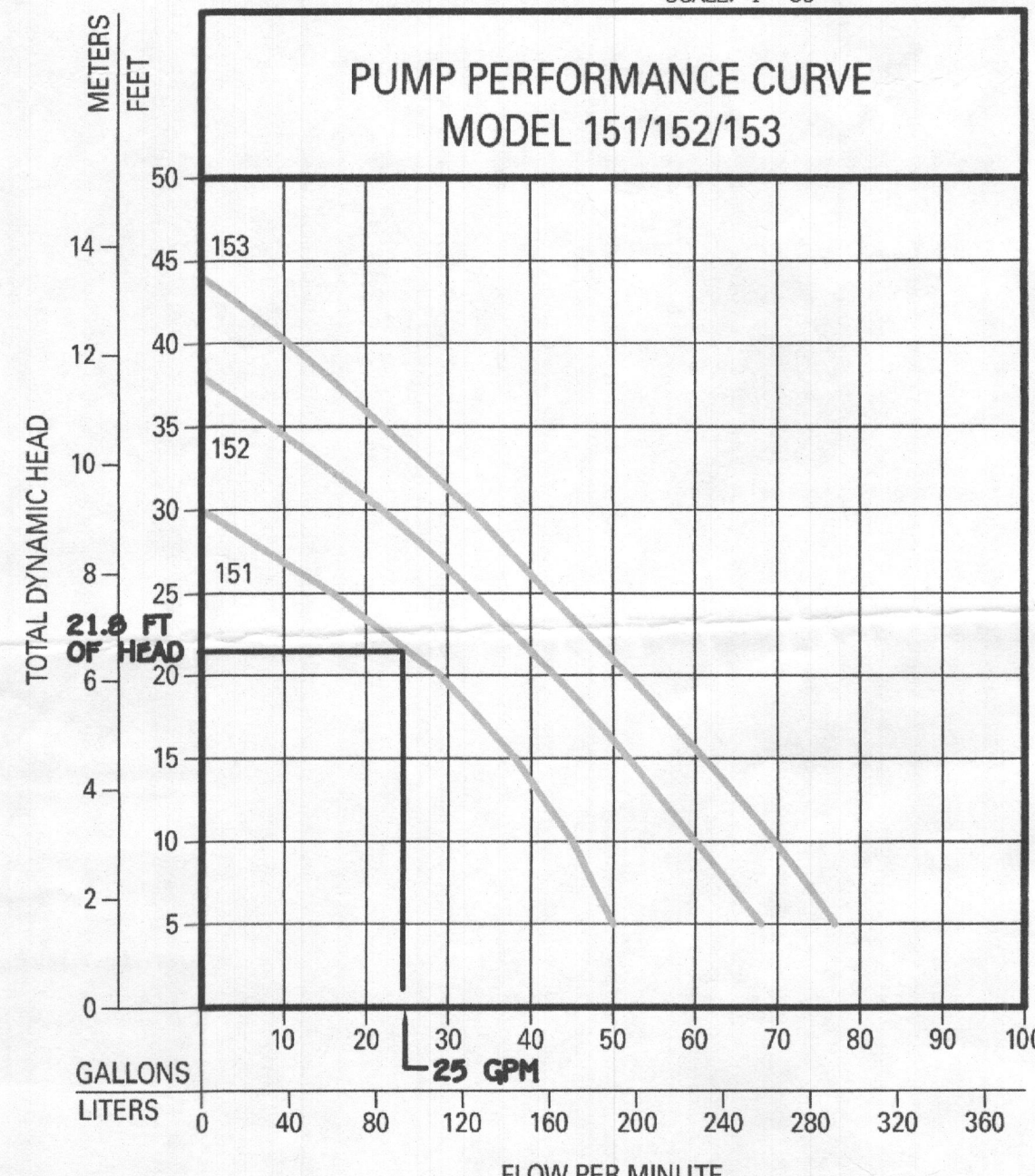
**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21104  
 (410) 461 - 2929

**ADDRESS**  
 15314 LEONDINA DRIVE

**OWNERS/BUILDER**  
 CHRISTOPHER A & MEREDITH PETERSON  
 15314 LEONDINA DR  
 GLENWOOD MD 21738



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



FFE 460.50  
BSE 450.50  
INV. OUT OF HOUSE = 447.44  
PROP. GROUND AT CLEANOUT # 1 = 452.0  
INV. INTO CLEANOUT = 447.34  
INV. OUT OF CLEANOUT = 447.24  
EX. GROUND AT SEPTIC TANK = 449.0  
PROP. GRADE ABOVE SEPTIC TANK = 449.0  
TOP OF SEPTIC TANK = 447.5  
INV. INTO SEPTIC TANK = 446.5  
INV. OUT OF SEPTIC TANK = 446.25  
EX. GROUND AT PUMP TANK = 449.0  
PROP. GRADE ABOVE PUMP TANK = 449.0  
TOP OF PUMP TANK = 447.15  
INV. INTO PUMP TANK = 446.15  
INV. OUT OF PUMP TANK = 445.9  
EX. GROUND AT DISTRIBUTION BOX = 464  
INV. INTO DISTRIBUTION BOX = 462.2  
INV. OUT OF DISTRIBUTION BOX = 462.1

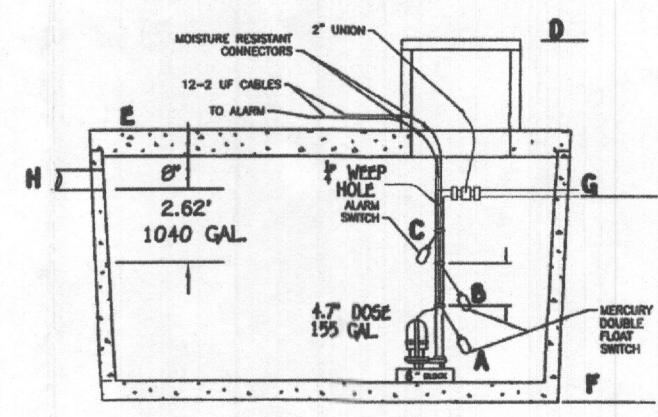
NOTE: SEPTIC SYSTEM ALARM WILL BE ON A CIRCUIT SEPARATE FROM ANY OTHER SEPTIC SYSTEM COMPONENTS OR ALARMS.

PUMP ALARMS / INFORMATION  
A. PUMP OFF: 443.80  
B. PUMP ON: 444.20  
C. HIGH WATER ALARM: 444.70  
D. TOP OF ACCESS COVER: 449  
E. TOP OF TANK: 447.15  
F. BOTTOM OF TANK: 441.65  
G. DISCHARGE OUT OF TANK: 445.9  
H. INVERT INTO TANK: 446.15

**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. 20740, EXPIRATION DATE: 02/22/2023

*Signature of Professional Engineer*  
DATE: 2/9/21



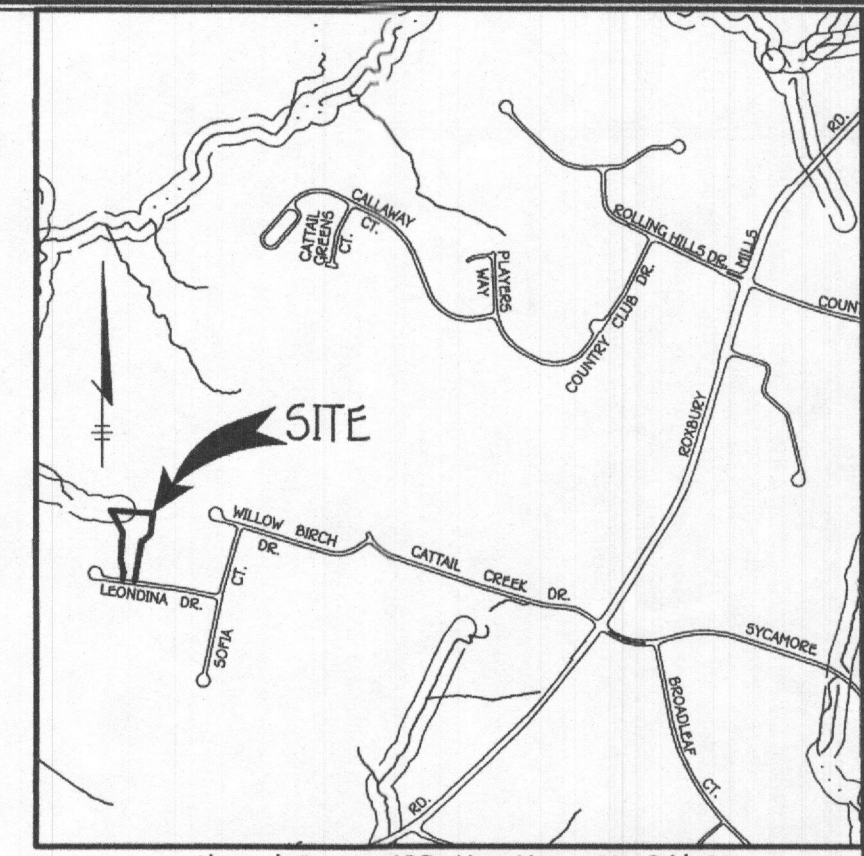
NOTE: THIS DETAIL IS TO BE USED FOR FLOAT CONFIGURATION ONLY - SEE DETAIL ABOVE FOR TANK DIMENSIONS AND ACTUAL LOCATION OF ACCESS COVER.

**INITIAL SYSTEM**  
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
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 0.625 = 130.21 FEET  
(USE 3 TRENCHES AT 43.40 L.F.)  
TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

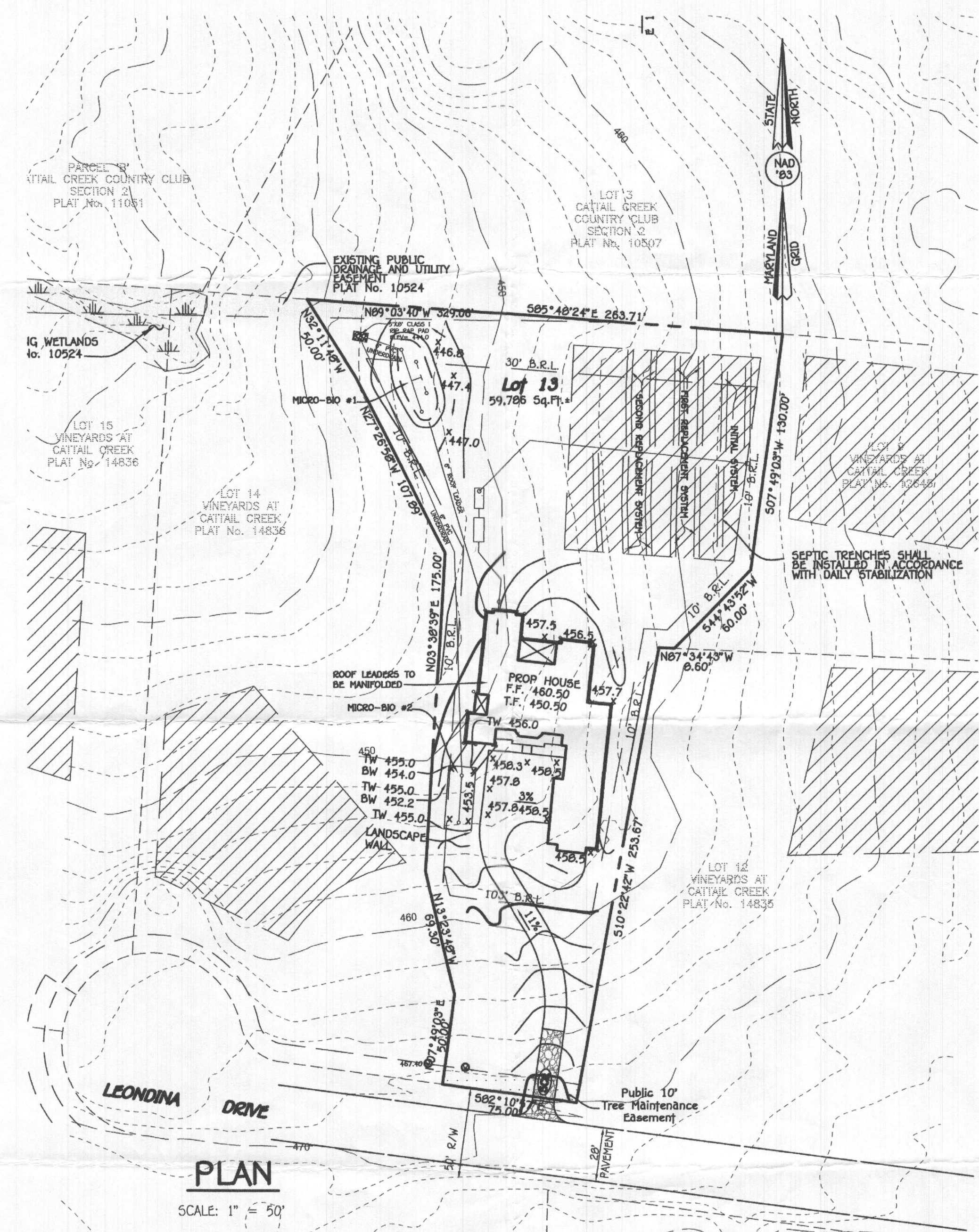
**1ST REPLACEMENT SYSTEM**  
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
APPLICATION RATE = 0.8  
EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
TRENCH DEPTH = 6 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 2 FEET  
SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2)) = 0.625  
TRENCH LENGTH = 312.50 SF x 0.625 = 195.31 FEET  
(USE 4 TRENCHES AT 48.83 L.F.)  
TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

**2ND REPLACEMENT SYSTEM**  
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
APPLICATION RATE = 0.8  
EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
TRENCH DEPTH = 5 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 1 FEET  
SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833  
TRENCH LENGTH = 312.50 SF x 0.833 = 145.83 FEET  
(USE 5 TRENCHES AT 52.06 L.F.)  
TRENCH SPACING = 2D+W = ((2x1) + 3) = 5' USE 10'

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 EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL HO-94-2722 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. 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.



**VICINITY MAP**  
SCALE: 1" = 1200'



**PLAN**

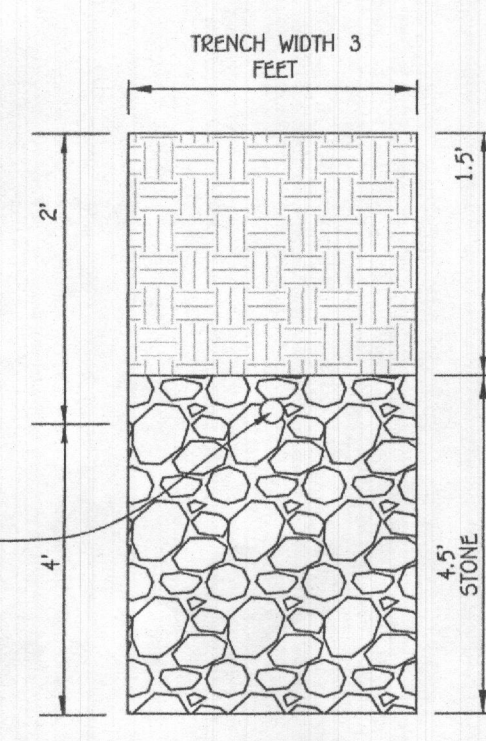
SCALE: 1" = 50'

Approved Septic System Plan  
Howard County Health Department  
*Signature*  
Date: 2/28/2021  
2000-gal Septic Tank  
& 1500-gal Pump Tank w/  
Zoeller BNS1 pump or equiv.  
to Gravity Drainfield  
for 5-bed room SFD

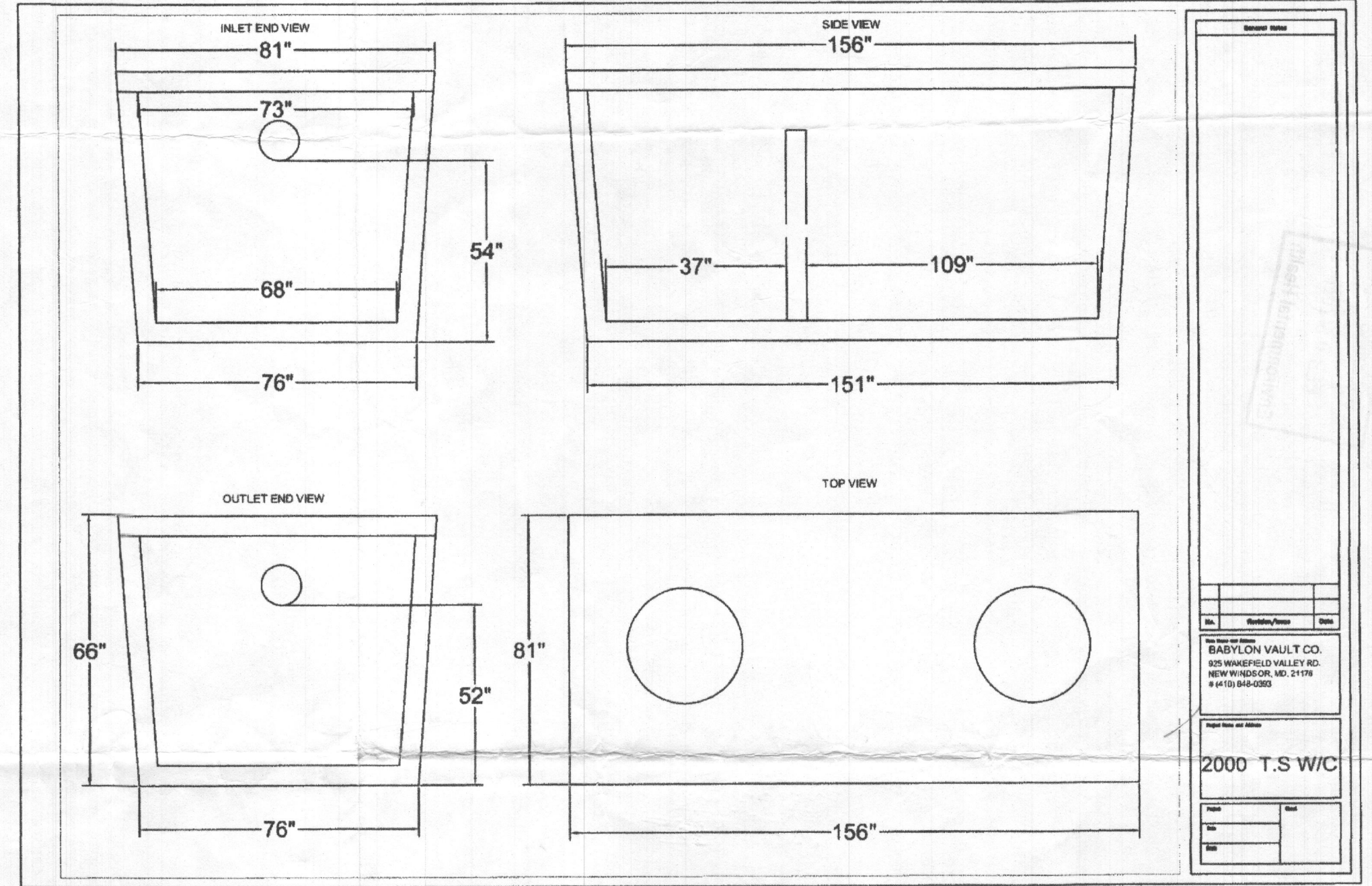
TRENCH DATA:  
TRENCH 1:  
EX. GROUND ABOVE = 464  
INV. IN = 462  
BOTTOM TRENCH = 458  
TRENCH 2:  
EX. GROUND ABOVE = 462  
INV. IN = 460  
BOTTOM TRENCH = 456  
TRENCH 3:  
EX. GROUND ABOVE = 462  
INV. IN = 460  
BOTTOM TRENCH = 456

1 UNION @ 2" SCH. 40 PVC = 159 LF  
A. PUMP OFF: 443.80  
B. PUMP ON: 444.20  
C. HIGH WATER ALARM: 444.70  
D. TOP OF ACCESS COVER: 449  
E. TOP OF TANK: 447.15  
F. BOTTOM OF TANK: 441.65  
G. DISCHARGE OUT OF TANK: 445.9  
H. INVERT INTO TANK: 446.15

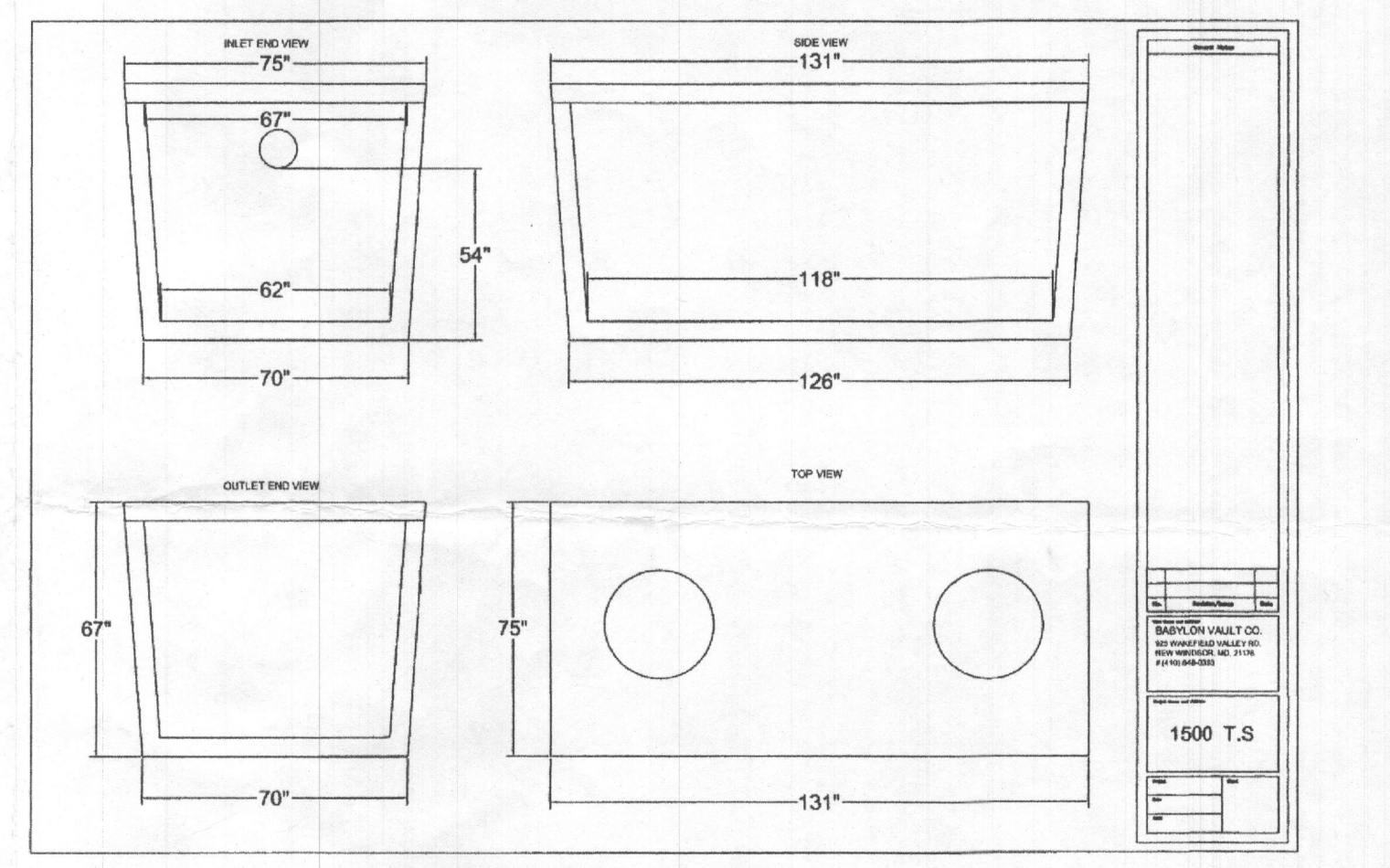
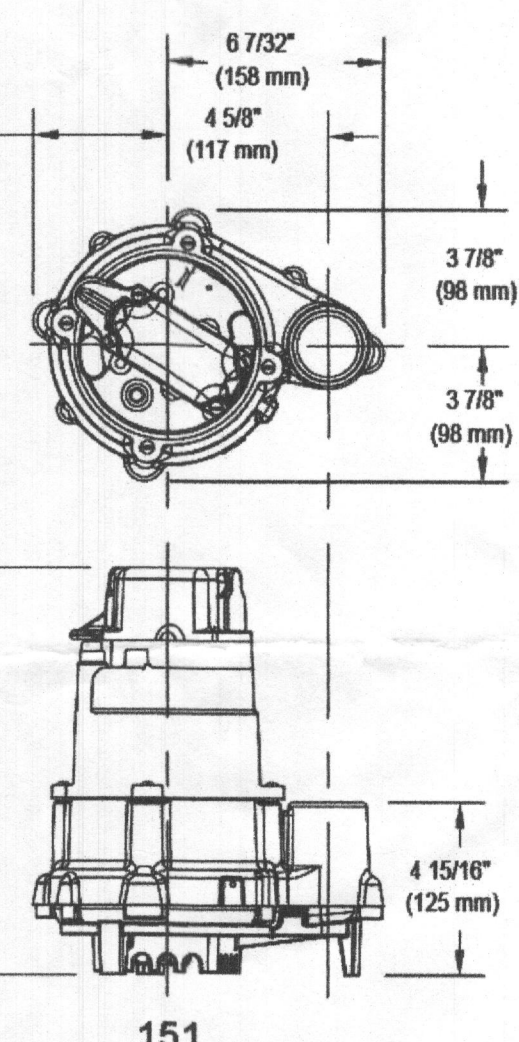
DYNAMIC HEAD  
165 LF X 2.05 FT PER 100 LF OF 2" PIPE = 3.38 FT OF FRICTION HEAD  
VERTICAL FROM PUMP OFF TO HIGH POINT IN PUMP CHAMBER = 3.92 FT OF FRICTION HEAD  
HIGH POINT IN PUMP CHAMBER TO HIGHEST ELEV. OF SYSTEM = 13.5 FT (PUMP OUT IS THE HIGHEST POINT)  
TOTAL DYNAMIC HEAD = 21.8 FT



**INITIAL TRENCH DETAIL**



**PUMP TANK DETAIL**  
NOT TO SCALE



**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	PROPOSED CONTOUR 2' INTERVAL
---	EXISTING TREES
+	SPOT ELEVATION
-SF-	SILT FENCE
---	LIMITS OF DISTURBANCE
---	DENOTES 15% - 24.9% SLOPES
---	DENOTES SEWAGE DISPOSAL AREA

**ADDRESS**  
15314 LEONDIRA DRIVE

**OWNERS/BUILDER**  
CHRISTOPHER A & MEGHETH PETERSON  
15314 LEONDIRA DR  
GLENWOOD MD 21738

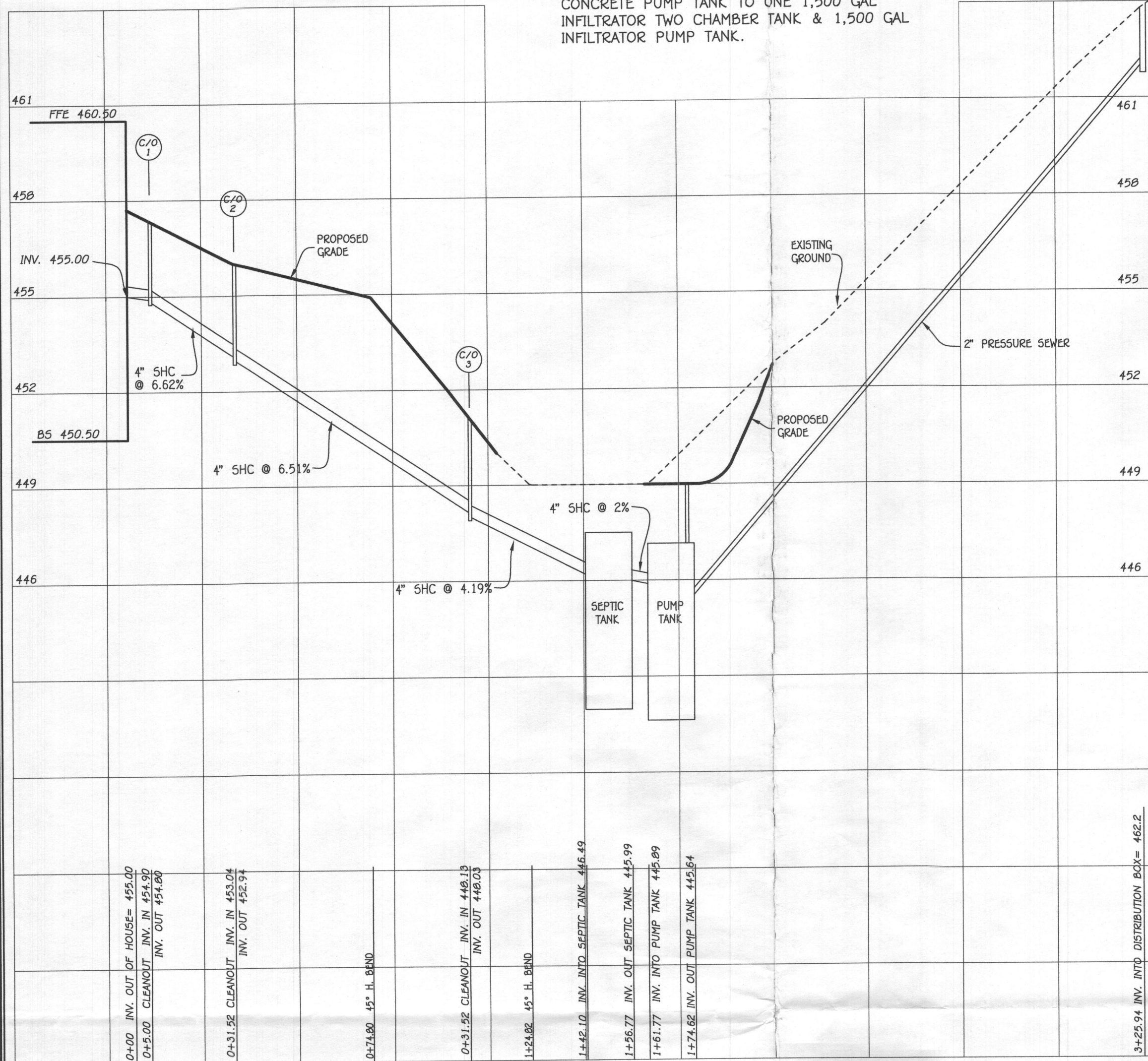
Supervised BY  
Approved OSDS  
3/30/2023  
**SEPTIC SYSTEM  
INSTALLATION SITE PLAN**  
**VINEYARDS AT CATTAL CREEK**  
LOT 13  
15314 LEONDIRA DRIVE  
ZONED: RR-DEO PLAT NO.: 14836  
TAX MAP NO.: 21 GRID NO.: 08 PARCEL NO.: 225  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 18, 2021  
SHEET 1 OF 2



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CONTONAL SOURCE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELECTRIC CITY, MARYLAND 21046  
(410) 461-5895

**PURPOSE:**

REVISE 2,000 GAL CONCRETE TANK & 1,500 GAL CONCRETE PUMP TANK TO ONE 1,500 GAL INFILTRATOR TWO CHAMBER TANK & 1,500 GAL INFILTRATOR PUMP DISPOSAL TANK.



LEGEND	
(Symbol)	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL
(Symbol)	PROPOSED CONTOUR 2' INTERVAL
(Symbol)	EXISTING TREES
(Symbol)	SPOT ELEVATION
(Symbol)	SILT FENCE
(Symbol)	LIMITS OF DISTURBANCE
(Symbol)	DEMOTES 15%-24.9% SLOPES
(Symbol)	DEMOTES SEWAGE DISPOSAL AREA

**INITIAL SYSTEM**

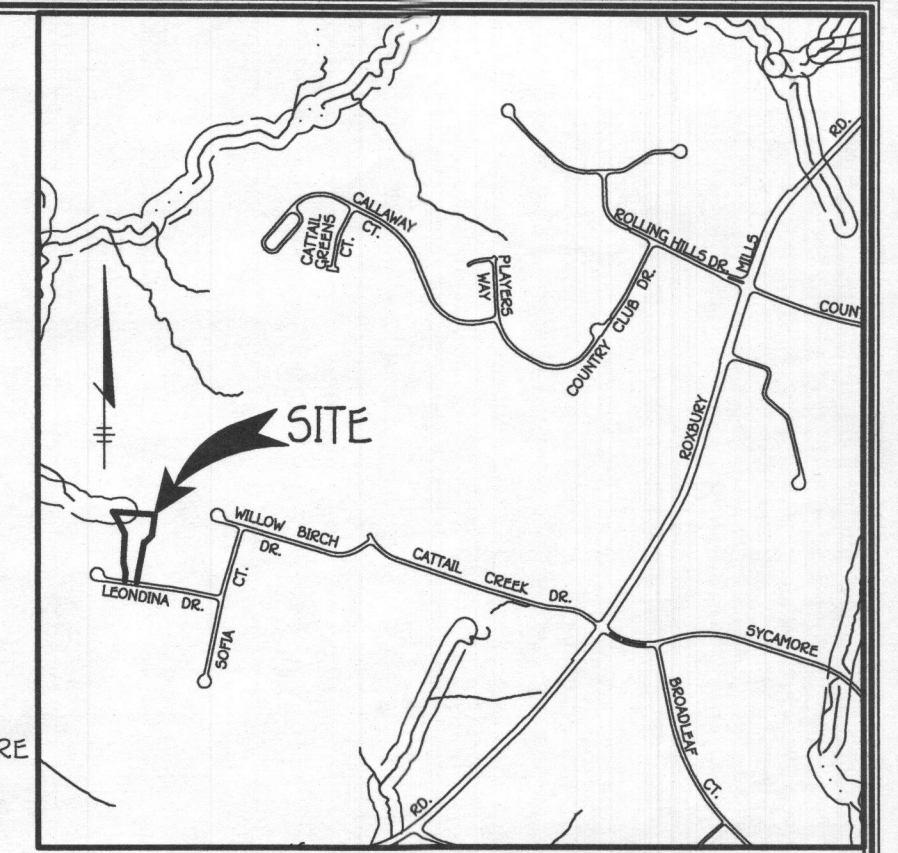
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 2 FEET  
 SF OF DRAINFIELD = 750 GPD / 1.2 = 625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

**1ST REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 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 / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH =  $(W+2)/(W+1+2D) = (3+2)/(3+1+(2 \times 2)) = 0.625$   
 TRENCH LENGTH =  $312.50 \text{ SF} \times 0.625 = 195.31 \text{ FEET}$   
 (USE 4 TRENCHES AT 48.83 L.F.)  
 TRENCH SPACING =  $2D+W = ((2 \times 2) + 3) = 7'$  USE 10'

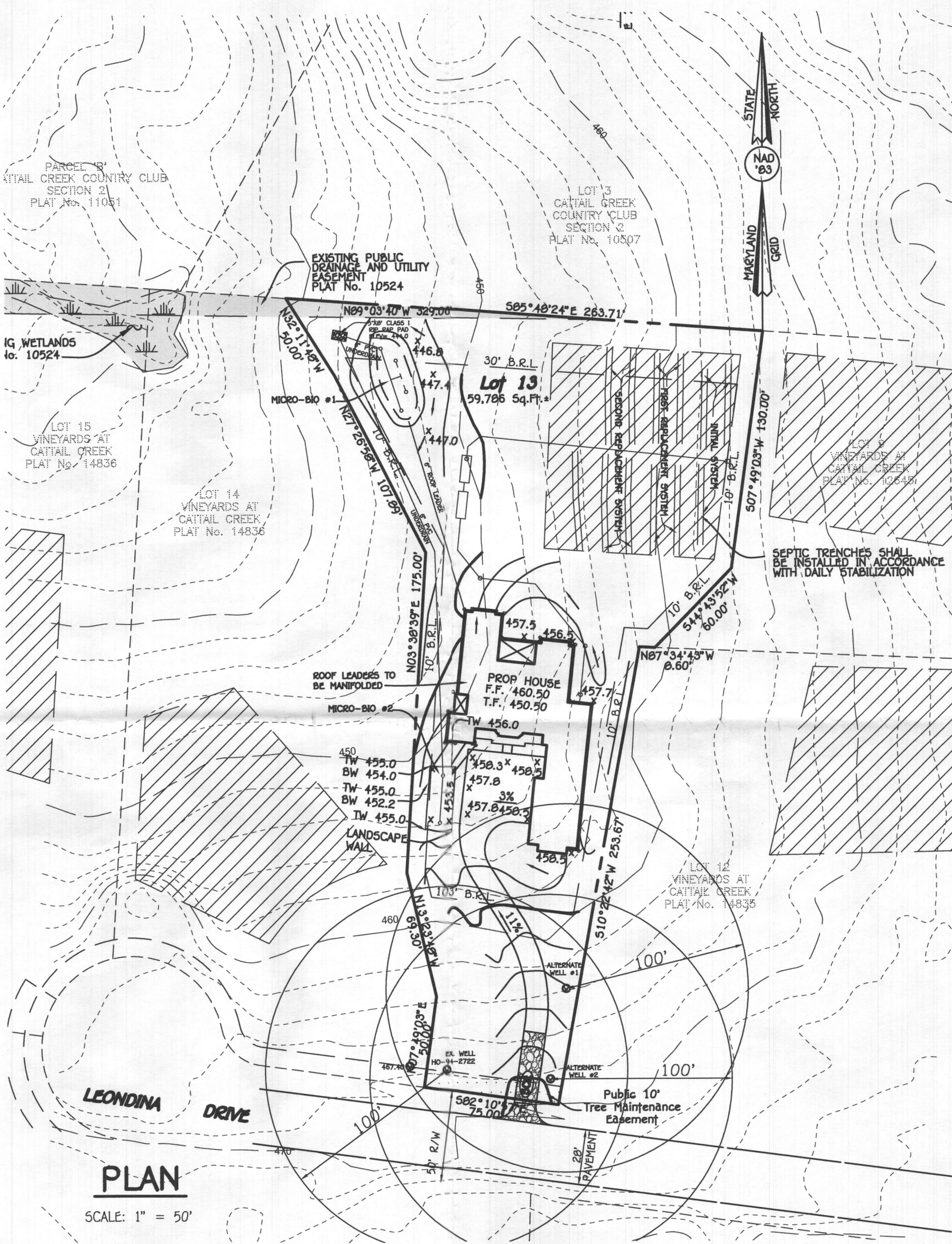
**2ND REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 EFFECTIVE SIDEWALL BEGINS AT 4 FEET  
 TRENCH DEPTH = 5 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 1 FEET  
 SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH =  $(W+2)/(W+1+2D) = (3+2)/(3+1+(2 \times 1)) = 0.833$   
 TRENCH LENGTH =  $312.50 \text{ SF} \times 0.833 = 145.83 \text{ FEET}$   
 (USE 5 TRENCHES AT 52.06 L.F.)  
 TRENCH SPACING =  $2D+W = ((2 \times 1) + 3) = 5'$  USE 10'



VICINITY MAP  
 SCALE: 1" = 1200'

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 EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL HO-94-2722 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. 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.
6. THE ENGINEER IS REGISTERED WITH MDE TO PERFORM ON-SITE WASTEWATER SERVICES IN MARYLAND.



**PLAN**

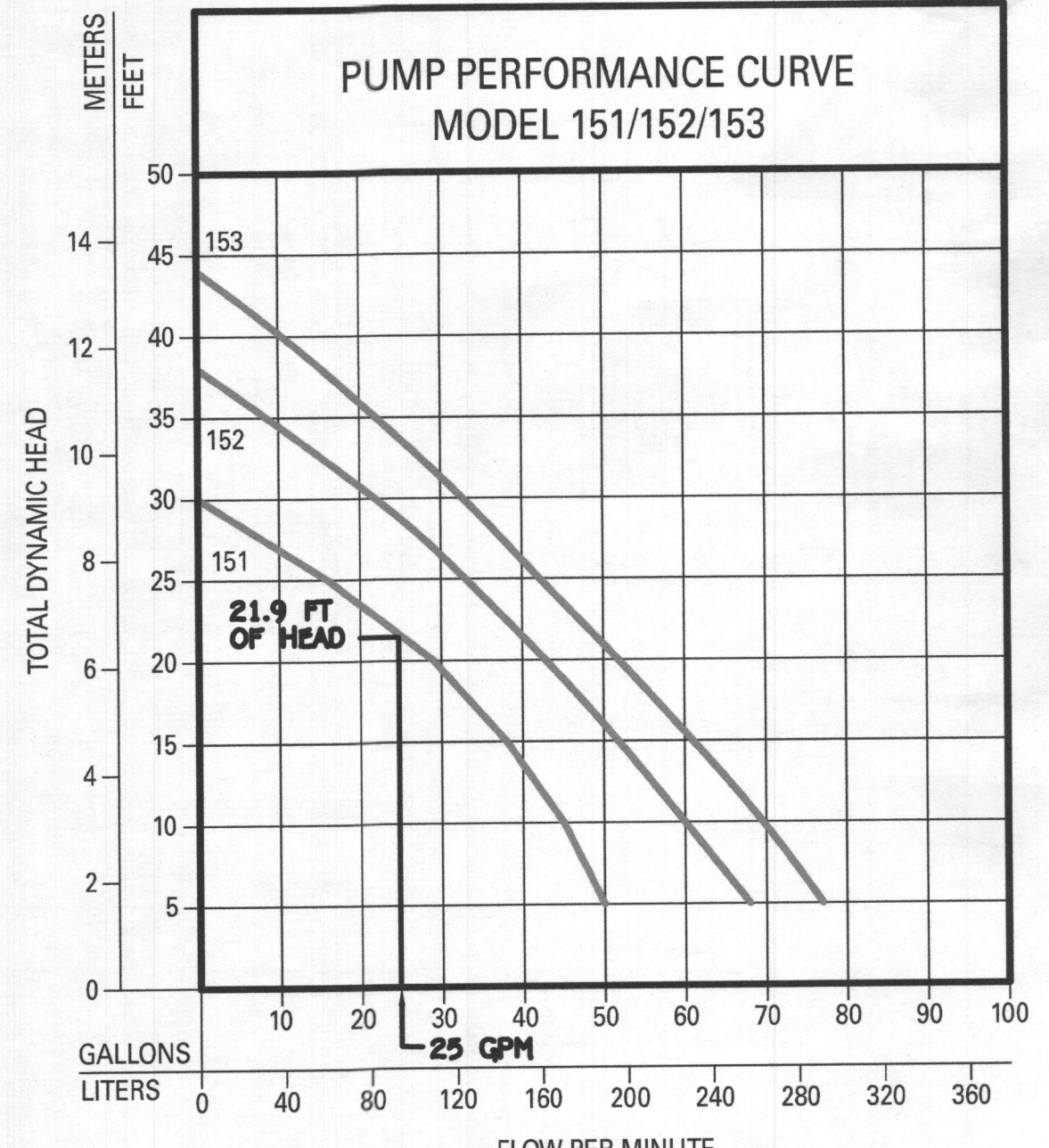
SCALE: 1" = 50'

FFE 460.50  
 BSE 450.50  
 INV. OUT OF HOUSE = 455.00  
 PROP. GROUND AT CLEANOUT # 1 = 457.35  
 INV. INTO CLEANOUT = 444.90  
 INV. OUT OF CLEANOUT = 444.80  
 EX. GROUND AT SEPTIC TANKS = 449.00  
 PROP. GRADE ABOVE SEPTIC TANKS = 449.0  
 TOP OF SEPTIC TANKS = 447.50  
 INV. INTO SEPTIC TANKS = 446.49  
 INV. OUT OF SEPTIC TANKS = 445.99  
 EX. GROUND AT PUMP TANK = 450.00  
 PROP. GRADE ABOVE PUMP TANK = 444.90  
 TOP OF PUMP TANK = 447.79  
 INV. INTO PUMP TANK = 445.99  
 INV. OUT OF PUMP TANK = 445.64  
 EX. GROUND AT DISTRIBUTION BOX = 464.00  
 INV. INTO DISTRIBUTION BOX = 462.20  
 INV. OUT OF DISTRIBUTION BOX = 462.10

NOTE: SEPTIC SYSTEM ALARM WILL BE ON A CIRCUIT SEPARATE FROM ANY OTHER SEPTIC SYSTEM COMPONENTS OR ALARMS.

**SEPTIC PROFILE**

SCALE: 1" = 30'

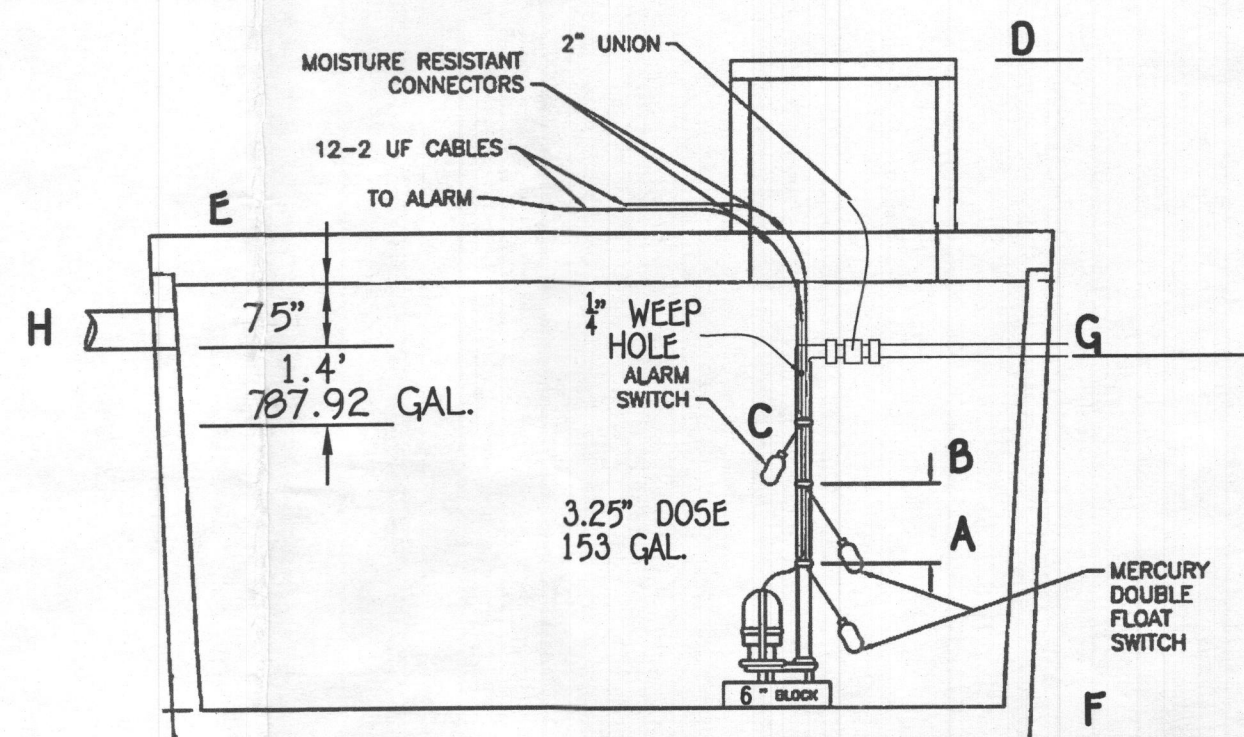


**PUMP PERFORMANCE CURVE**  
 MODEL 151/152/153

**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. 27020, EXPIRATION DATE: 01/25/2025.

Signature of Professional Engineer: [Signature]  
 DATE: 3/16/2023



**PUMP TANK DETAIL IM-1530**

787.92 GAL EMERGENCY STORAGE  
 NOTE: THIS DETAIL IS TO BE USED FOR FLOAT CONFIGURATION ONLY - SEE DETAIL ABOVE FOR TANK DIMENSIONS AND ACTUAL LOCATION OF ACCESS COVER.

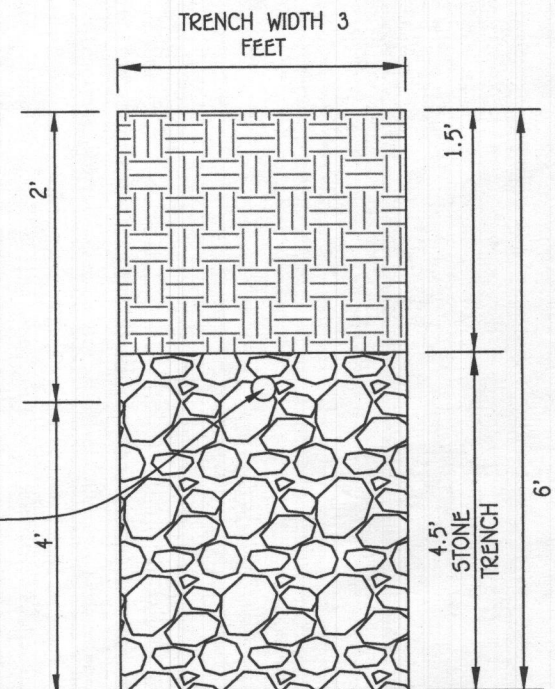
**PUMP ALARMS / INFORMATION**  
 A PUMP OFF : 444.36'  
 B PUMP ON : 444.63'  
 C HIGH WATER ALARM : 445.13'  
 D TOP OF ACCESS COVER : 447.79'  
 E TOP OF TANK : 447.79'  
 F BOTTOM OF TANK : 443.25'  
 G DISCHARGE OUT OF TANK : 445.64'  
 H INVERT INTO TANK : 445.89'

**TRENCH DATA:**

TRENCH 1:  
 EX. GROUND ABOVE = 464  
 INV. IN = 462  
 BOTTOM TRENCH = 458

TRENCH 2:  
 EX. GROUND ABOVE = 462  
 INV. IN = 460  
 BOTTOM TRENCH = 456

TRENCH 3:  
 EX. GROUND ABOVE = 462  
 INV. IN = 460  
 BOTTOM TRENCH = 456



**INITIAL TRENCH DETAIL**

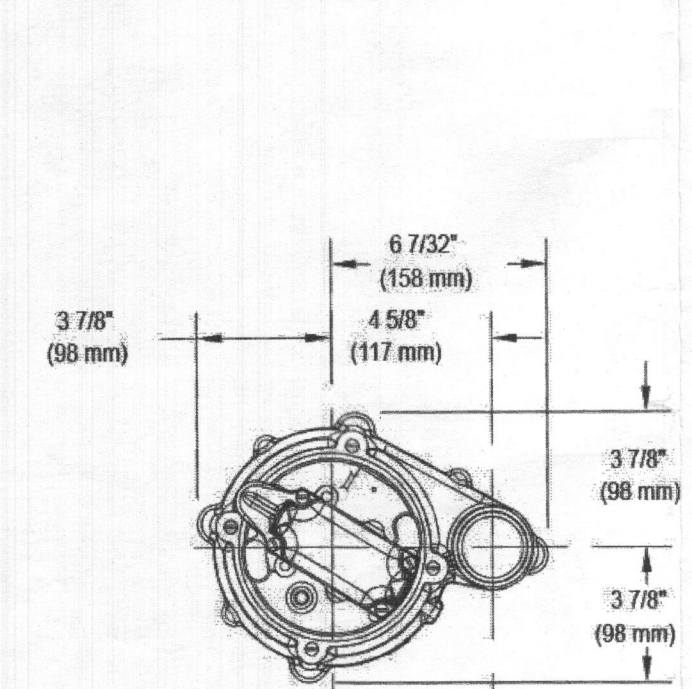
ONE TWO CHAMBER 1,500-GAL SEPTIC TANK & ONE 1,500-GAL PUMP TANK  
 W/ ZOEHLER BN151 PUMP OR EQUAL TO GRAVITY DISTRIBUTION FOR 5 BEDROOM SFD

2" SCH. 40 PVC = 159 LF  
 1 UNION @ 2 EQUIVALENT FEET = 2 LF  
 1 7/8\"/>

DYNAMIC HEAD  
 65 LF X 2.05 FT PER 100 LF OF 2\"/>

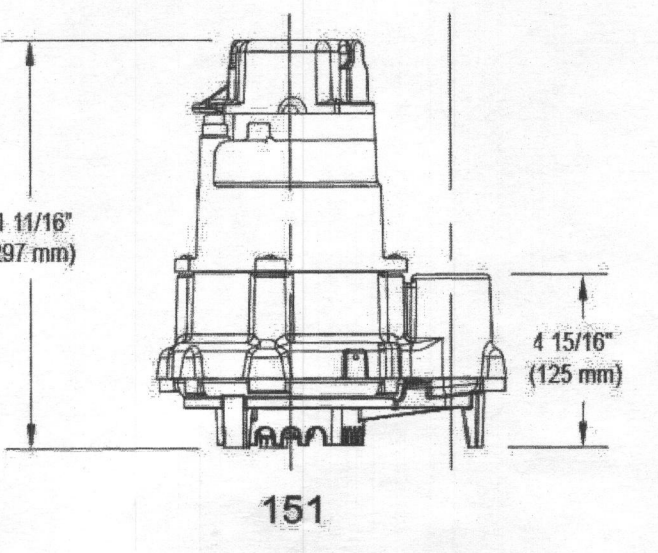
1/6 DESIGN FLOW (750/6=125) PLUS VOLUME OF 2\"/>
 USE 151 GALLON DOSE (125 GALLON MINIMUM)  
 RUN TIME = 6.12 MIN (25 GPM X 6.12 = 153 GALLON DOSE)

PUMP NEEDS TO HANDLE 25 GPM AT 21.9 FT OF HEAD  
 USE 0.3 HP (ZOEHLER MODEL 151 PUMP)



**SEPTIC/PUMP TANK DETAIL IM-1530**

NOT TO SCALE



**MID-HEIGHT SEAM SECTION**

Approved Septic System Plan  
 Howard County Health Department  
 Signature: [Signature] Date: 3/16/2023

**SEPTIC SYSTEM**  
 INSTALLATION SITE PLAN  
**VINEYARDS AT**  
**CATTAIL CREEK**  
 LOT 13  
 15314 LEONDINA DRIVE

ZONED: RR-DEO PLAT NO.: 14836  
 TAX MAP NO.: 21 GRID NO.: 08 PARCEL NO.: 225  
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: FEBRUARY 24, 2023  
 SHEET 1 OF 1

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21104  
 (410) 461-2999

**OWNERS/BUILDER**  
 CHRISTOPHER A & MEREDITH PETERSON  
 15314 LEONDINA DR  
 GLENWOOD MD 21738

**ADDRESS**  
 15314 LEONDINA DRIVE



**INFILTRATOR®**  
tanks

**IM-1530**

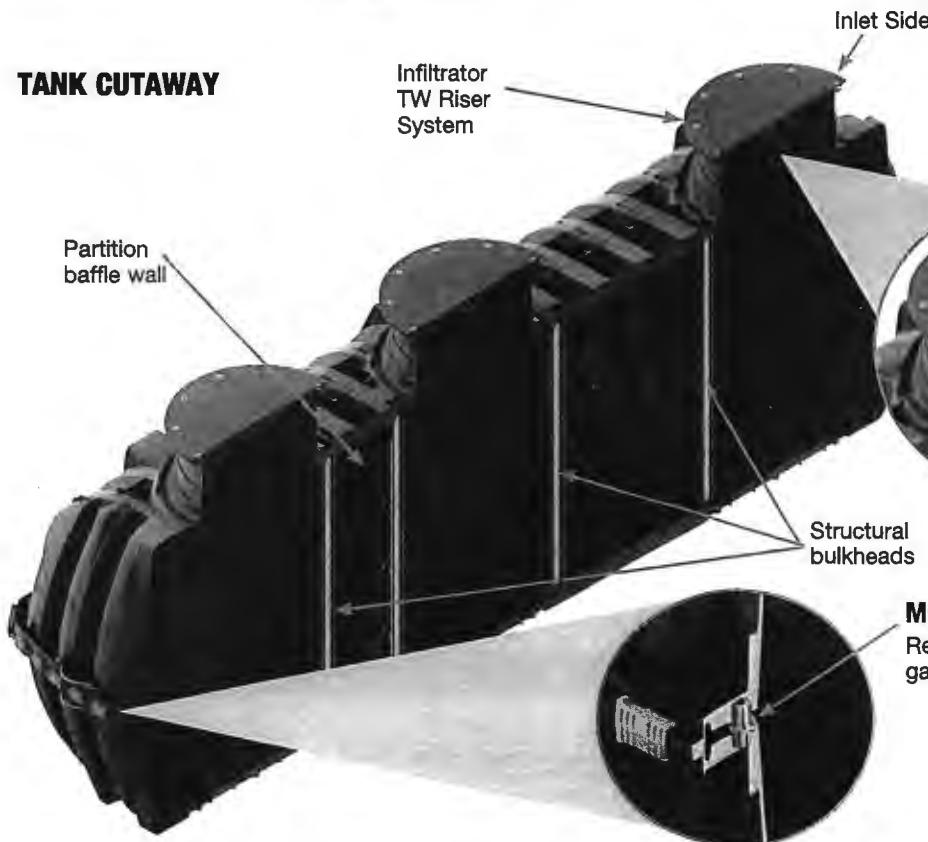
The Infiltrator IM-1530 is a lightweight strong and durable septic tank. This watertight tank design is offered with Infiltrator's line of custom-fit risers and heavy-duty lids. Infiltrator injection molded tanks provide a revolutionary improvement in plastic septic tank design, offering long-term exceptional strength and watertightness.



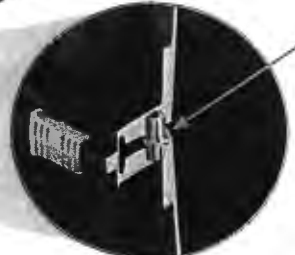
**Features & Benefits**

- Strong injection molded polypropylene construction
- Lightweight plastic construction and inboard lifting lugs allow for easy delivery and handling
- Integral heavy-duty green lids that interconnect with TW™ risers and pipe riser solutions
- Structurally reinforced access ports eliminate distortion during installation and pump-outs
- Reinforced structural ribbing and fiberglass bulkheads offer additional strength
- Can be installed with 6" to 48" of cover
- Can be pumped dry during pump-outs
- Suitable for use as a septic tank, pump tank, or rainwater (non-potable) tank
- No special water filling requirements are necessary
- The tank may be backfilled with suitable native soil. See installation instructions for guidance.

**TANK CUTAWAY**



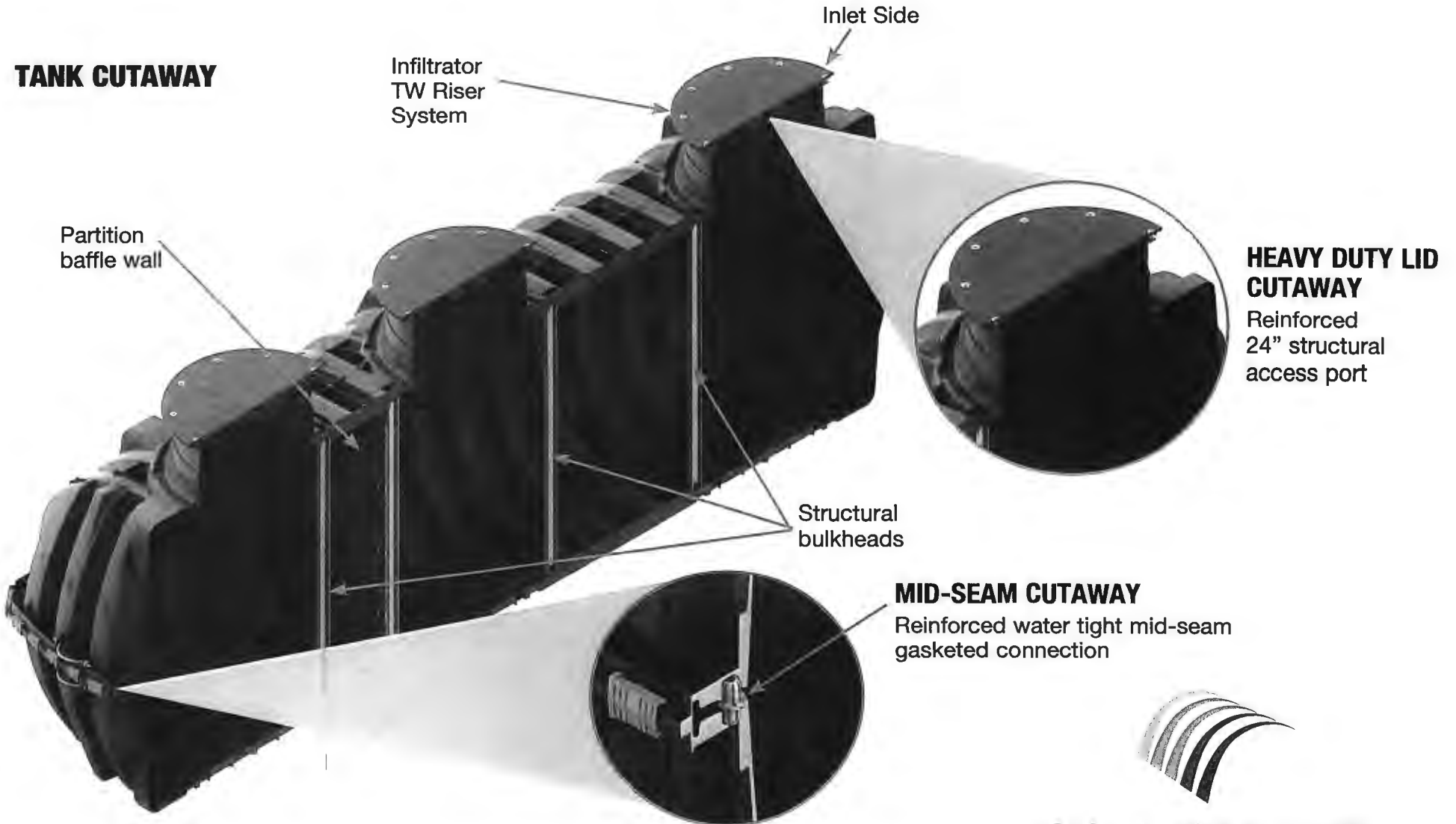
**HEAVY DUTY LID CUTAWAY**  
Reinforced 24" structural access port



**MID-SEAM CUTAWAY**  
Reinforced water tight mid-seam gasketed connection



## TANK CUTAWAY



Protecting the Environment with **Innovative Wastewater Treatment Solutions**

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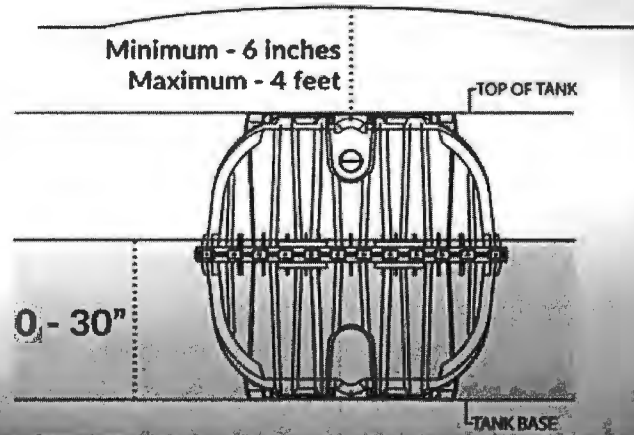
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## Buoyancy Control is Not Required if Groundwater Height is Less Than 30"

Table 1: Tank models<sup>1</sup> and conditions requiring buoyancy control<sup>2</sup>

Subsurface water height above tank bottom <sup>3</sup>	Soil cover depth above tank <sup>4</sup>	
	6 in (150 mm) to 12 in (300 mm)	12 in (300 mm) or greater
Above outlet pipe saddle	Do not install tank	Do not install tank
36 in (900 mm) to outlet pipe saddle	All models	None
30 in (750 mm) to 36 in (900 mm)	IM-1530	None
Less than 30 in (750 mm)	None	None



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Table 1: Tank models<sup>1</sup> and conditions requiring buoyancy control<sup>2</sup>

Subsurface water height above tank bottom <sup>4</sup>	Soil cover depth above tank <sup>3</sup>	
	6 in (150 mm) to 12 in (300 mm)	12 in (300 mm) or greater
Above outlet pipe saddle	Do not install tank	Do not install tank
36 in (900 mm) to outlet pipe saddle	All models	None
30 in (750 mm) to 36 in (900 mm)	IM-1530	None
Less than 30 in (750 mm)	None	None

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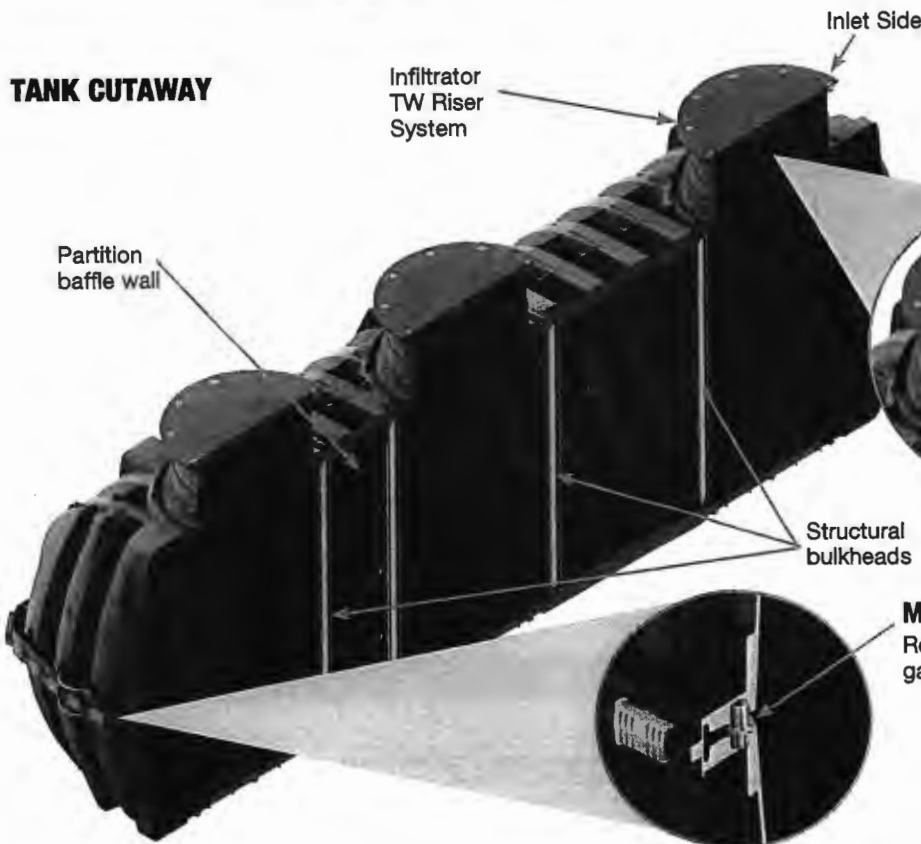
The Infiltrator IM-1530 is a lightweight strong and durable septic tank. This watertight tank design is offered with Infiltrator's line of custom-fit risers and heavy-duty lids. Infiltrator injection molded tanks provide a revolutionary improvement in plastic septic tank design, offering long-term exceptional strength and watertightness.



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**TANK CUTAWAY**



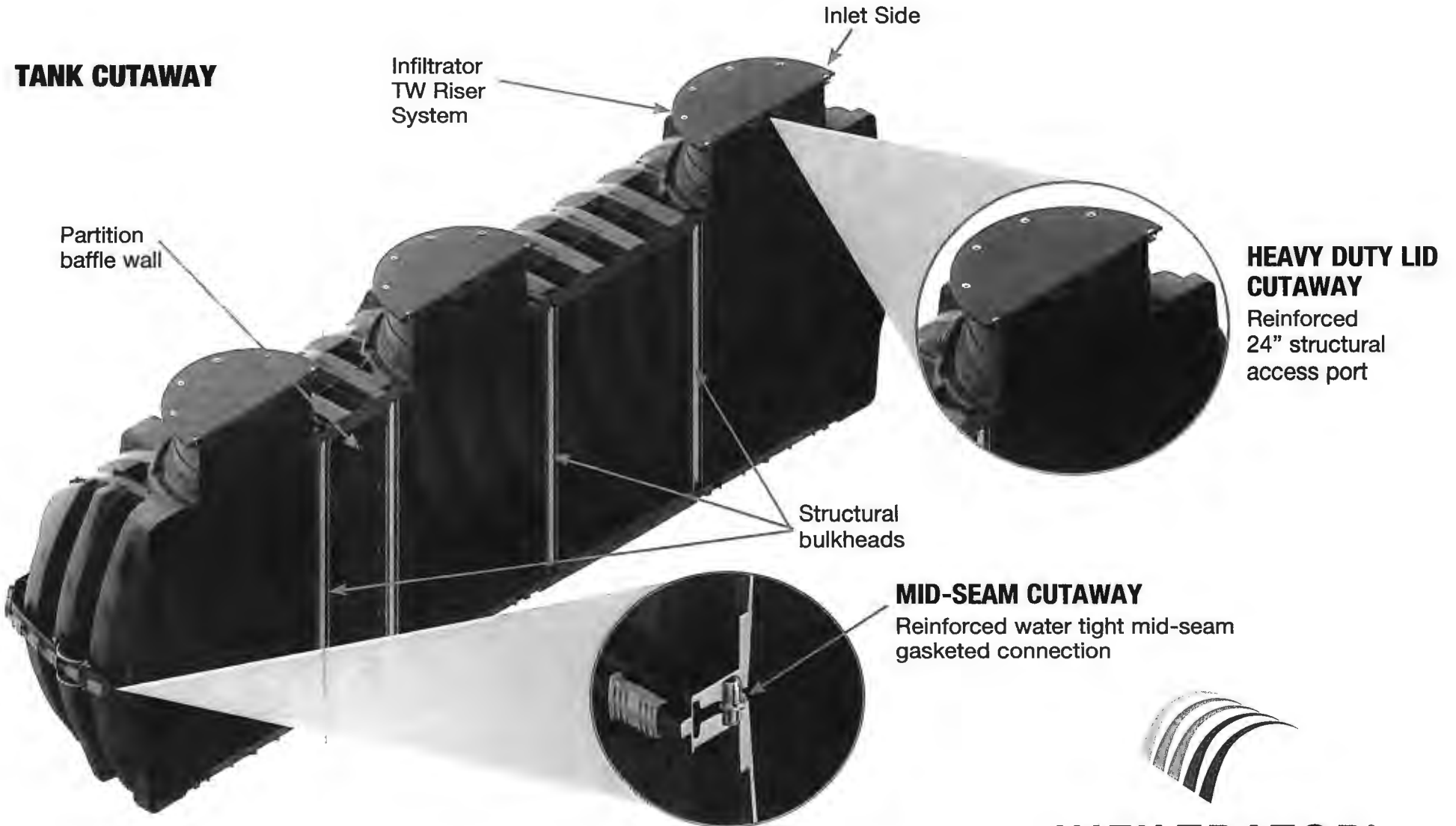
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## TANK CUTAWAY



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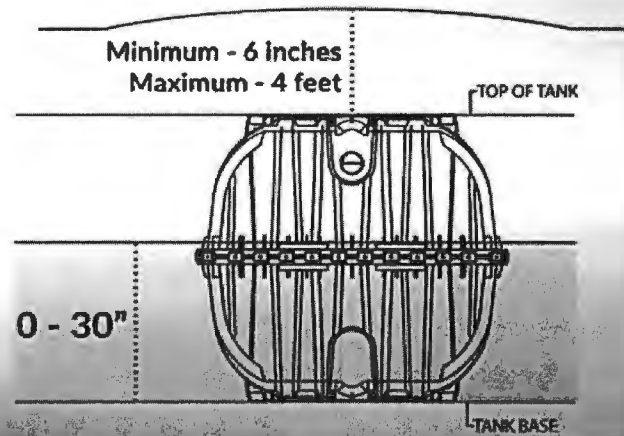
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## Buoyancy Control is Not Required if Groundwater Height is Less Than 30"

Table 1: Tank models<sup>1</sup> and conditions requiring buoyancy control<sup>2</sup>

Subsurface water height above tank bottom <sup>3</sup>	Soil cover depth above tank <sup>4</sup>	
	6 in (150 mm) to 12 in (300 mm)	12 in (300 mm) or greater
Above outlet pipe saddle	Do not install tank	Do not install tank
36 in (900 mm) to outlet pipe saddle	A1 models	None
33 in (750 mm) to 36 in (900 mm)	A1-15.30	None
Less than 30 in (750 mm)	None	None



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Table 1: Tank models<sup>1</sup> and conditions requiring buoyancy control<sup>2</sup>

Subsurface water height above tank bottom <sup>4</sup>	Soil cover depth above tank <sup>3</sup>	
	6 in (150 mm) to 12 in (300 mm)	12 in (300 mm) or greater
Above outlet pipe saddle	Do not install tank	Do not install tank
36 in (900 mm) to outlet pipe saddle	All models	None
30 in (750 mm) to 36 in (900 mm)	IM-1530	None
Less than 30 in (750 mm)	None	None

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**GENERAL NOTES:**

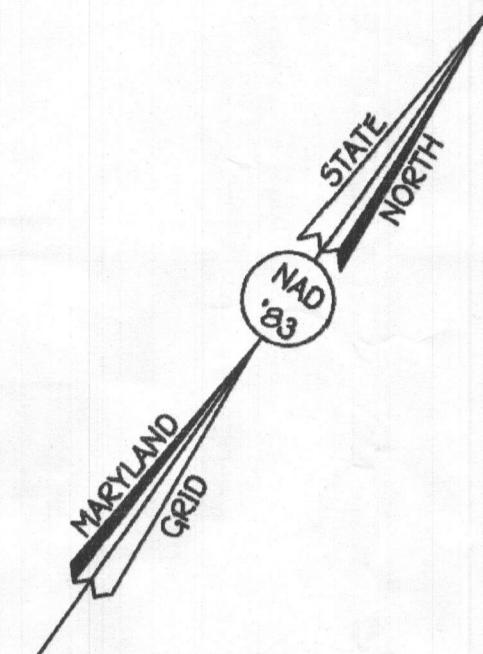
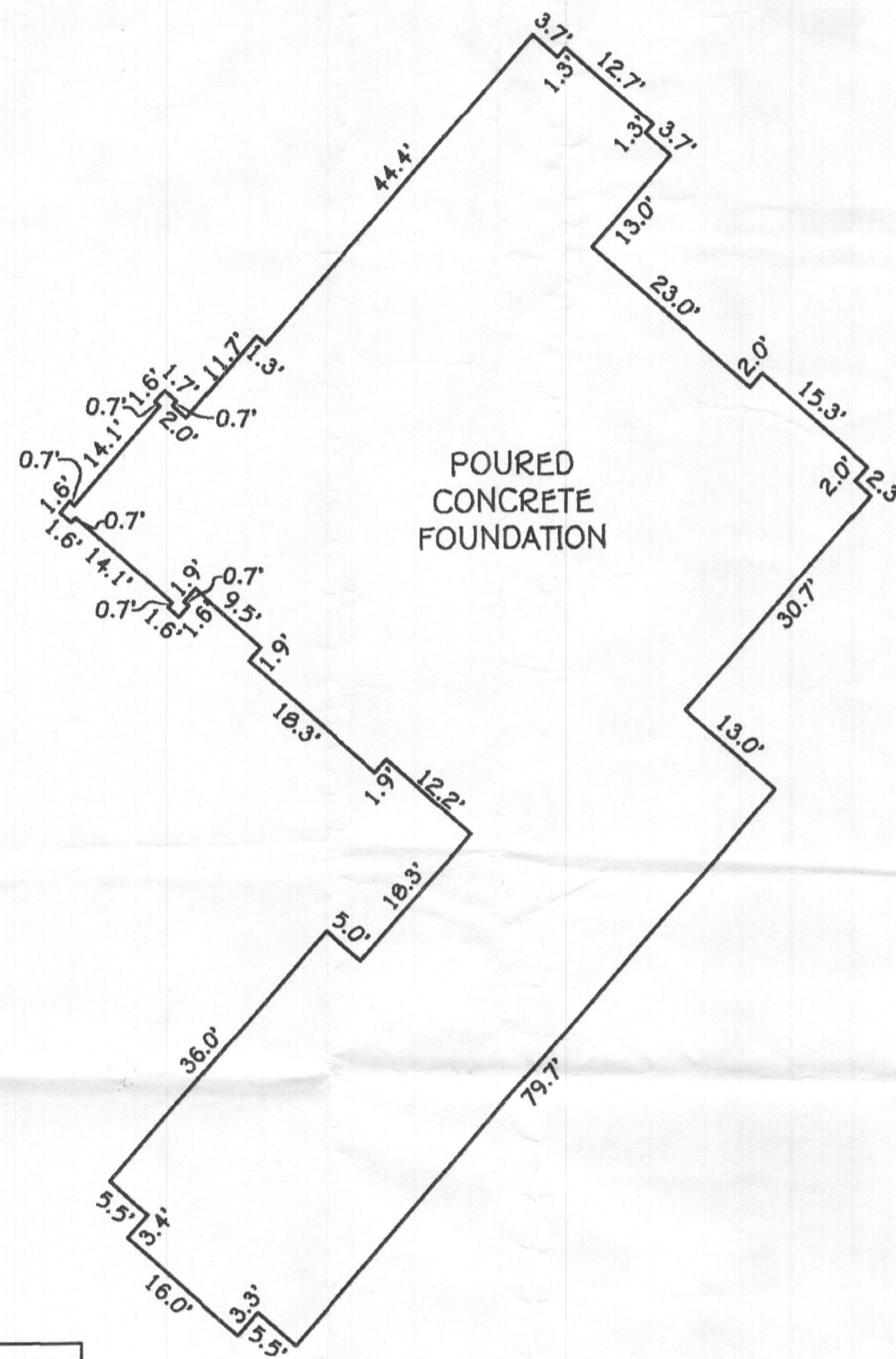
- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INSOFAR AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS 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. 24027C00450, 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 1'.
- 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-94-2722 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 PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 339, EXPIRATION DATE 10/04/2022.
- 7) BUILDING PERMIT #B-20003296

**Legend**

- PUBLIC 10' TREE MAINTENANCE EASEMENT
- EXISTING PUBLIC DRAINAGE AND UTILITY EASEMENT PLAT No. 10524

Hand Draw

ambwood MICR 12/21 10299701-9104440



DETAIL SCALE: 1" = 20'

FISHER, COLLINS & CARTER, INC.  
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 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLESOFT CITY, MARYLAND 21046  
 (410) 461-2895



**VINEYARDS AT CATTAIL CREEK**  
 LOT 13

ZONED: RC-DEO PLAT NO.: 14836  
 TAX MAP NO.: 21 GRID NO.: 08 PARCEL NO.: 225  
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

Mark L. Roedel  
 PROPERTY LINE SURVEYOR  
 REG. #339

10/26/21  
 DATE

**LOCATION DRAWING**

FOUNDATION LOCATION: 10/15/21  
 FINAL LOCATION:  
 BOUNDARY SURVEY:

SCALE: 1" = 20'  
 DATE: 10/26/2021  
 DRAWN BY: JLD  
 CHECKED BY: MLC  
 PROJECT No. 61044-6002