

## Oswald, Hank

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**From:** Oswald, Hank  
**Sent:** Wednesday, October 27, 2021 11:35 AM  
**To:** Tony Fertitta (tonyf@fcc-eng.com)  
**Subject:** OSDS Plan\_5016 Ten Oaks Road

Hi Tony:

The OSDS Plan for 5016 Ten Oaks Road, Lot 6 has been reviewed with the following comments:

- 1.) Label existing grade and proposed grade on septic profile
- 2.) Relocate stormwater line over septic tank.
- 3.) Run force main around SDA to avoid damaging it during future repairs.
- 4.) Show 18 inch stormwater pipe in septic profile
- 5.) Trench spacing d=5 ft. for initial and first replacement system calculation.
- 6.) Show emergency storage calculation. Show how you arrived at the #s below the tank on 2<sup>nd</sup> page.
- 7.) Add existing ground elevation above d-box
- 8.) *Trench detail* has both 5.5 ft. and 4.5 ft. alongside it. It should be just 4.5 feet below trench invert.
- 9.) 150 gallon dose is the minimum. What is 125 gallon minimum shown on plan?
- 10.) Does the 0.5 HP pump require a 220v? If so, is there a pump that would work on a 120v?

Let me know if you have any questions.

Thanks,

Hank

Hank Oswald, L.E.H.S.  
Howard County Health Department  
Well & Septic Program  
410.313.1786  
hoswald@howardcountymd.gov

## Williams, Jeffrey

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**From:** Williams, Jeffrey  
**Sent:** Thursday, October 28, 2021 11:56 AM  
**To:** Tony Fertitta  
**Subject:** RE: OSDS Plan\_5016 Ten Oaks Road

It's not ideal to run the line through the SDA. You are showing a d-box at 3' with trenches at 3', meaning the FM will be at the depth of the trenches. The FM trench running through an d potentially interfering with future trenches is not the best solution. For one thing, the trenches and d-box should be set more shallow at 2' to maximize oxygen exchange, but that doesn't solve the FM issue. I don't see why it can't run right at the side of the SDA by holes 612 and 613 to the top without being too close to the lot line and leave plenty of room for any future tree plantings.

Jeff

**From:** Tony Fertitta <tonyf@fcc-eng.com>  
**Sent:** Wednesday, October 27, 2021 2:06 PM  
**To:** Williams, Jeffrey <jewilliams@howardcountymd.gov>  
**Subject:** FW: OSDS Plan\_5016 Ten Oaks Road

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

Good afternoon Jeff, I was told to ask you about the force main being run like I have it on the plan. It has been done in the past with out any problems. Our concern is if the property owners decide to landscape along the property line by adding trees the force main would be under it. There is a use-in-common drive on the back side of the property. Attached I added a approved install that was done earlier in the year.

Thanks  
Tony

- 1.) Run force main around SDA to avoid damaging it during future repairs.  
We have run them up the middle in the past. Attached is one that was approved on 2-26-21

**From:** Oswald, Hank <hoswald@howardcountymd.gov>  
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- 10.) Does the 0.5 HP pump require a 220v? If so, is there a pump that would work on a 120v?

Let me know if you have any questions.

Thanks,

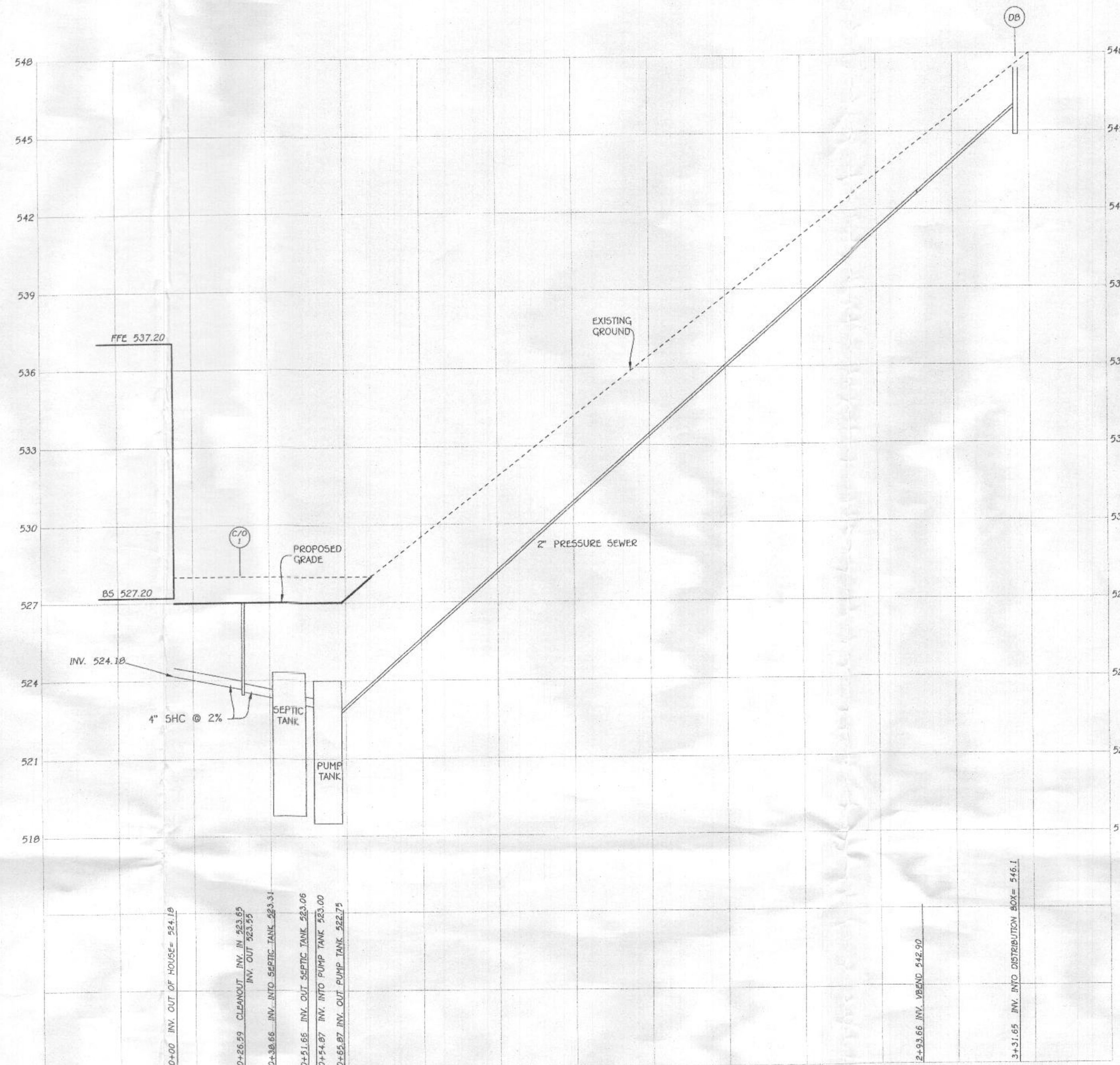
Hank

Hank Oswald, L.E.H.S.  
Howard County Health Department  
Well & Septic Program  
410.313.1786  
[hoswald@howardcountymd.gov](mailto:hoswald@howardcountymd.gov)

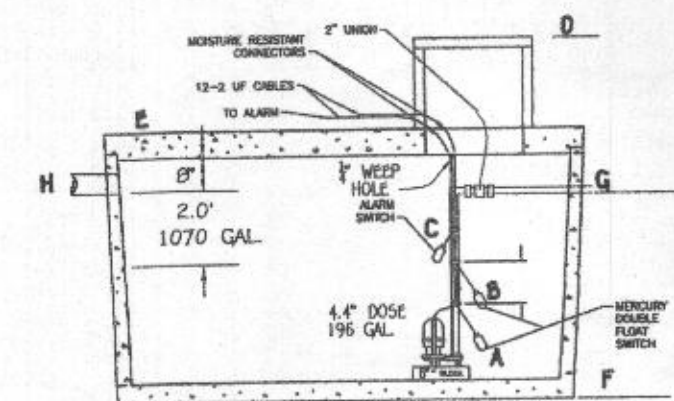








**PUMP ALARMS / INFORMATION**  
 A PUMP OFF : 517.42  
 B PUMP ON : 517.80  
 C HIGH WATER ALARM : 518.25  
 D TOP OF ACCESS COVER : 524.00  
 E TOP OF TANK : 521.00  
 F BOTTOM OF TANK : 515.25  
 G DISCHARGE OUT OF TANK : 519.75  
 H INVERT INTO TANK : 520.00



1070 + 200 = 1270 GALLONS 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.

### SEPTIC PROFILE

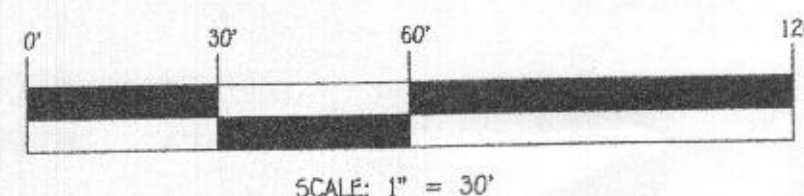
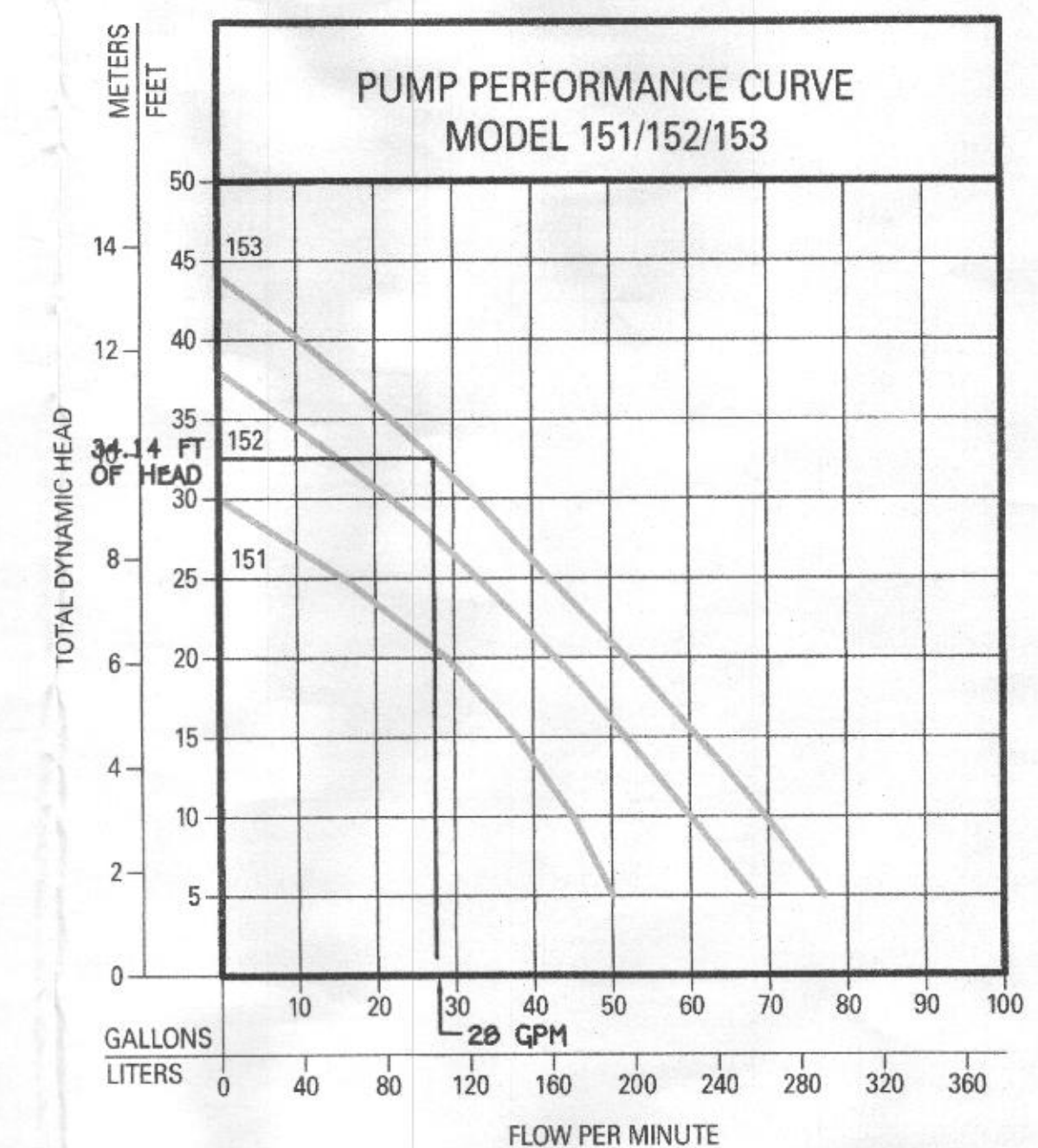
SCALE: 1"=30'

2" SCH. 40 PVC = 266 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 = 272 LF

**DYNAMIC HEAD**  
 272 LF X 2.05 FT PER 100 LF OF 2" PIPE = 5.56 FT OF FRICTION HEAD  
 VERTICAL FROM PUMP OFF TO HIGH POINT IN PUMP CHAMBER = 2.33 FT OF FRICTION HEAD  
 HIGH POINT IN PUMP CHAMBER TO HIGHEST ELEV OF SYSTEM = 26.23 FT (PUMP OUT IS THE HIGHEST POINT)  
 TOTAL DYNAMIC HEAD = 34.14 FT

1/6 DESIGN FLOW (900/6=150)  
 USE 194 GALLON DOSE (150 GALLON MINIMUM)  
 RUN TIME = 7 MIN (28 GPM X 7 = 196 GALLON DOSE)

PUMP NEEDS TO HANDLE 28 GPM AT 34.14 FT OF HEAD  
 USE 0.5 HP (ZOLLER MODEL 153 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. 20748, EXPIRATION DATE: 02/22/2023.

*Michael J. Fisher*  
 Signature of Professional Engineer

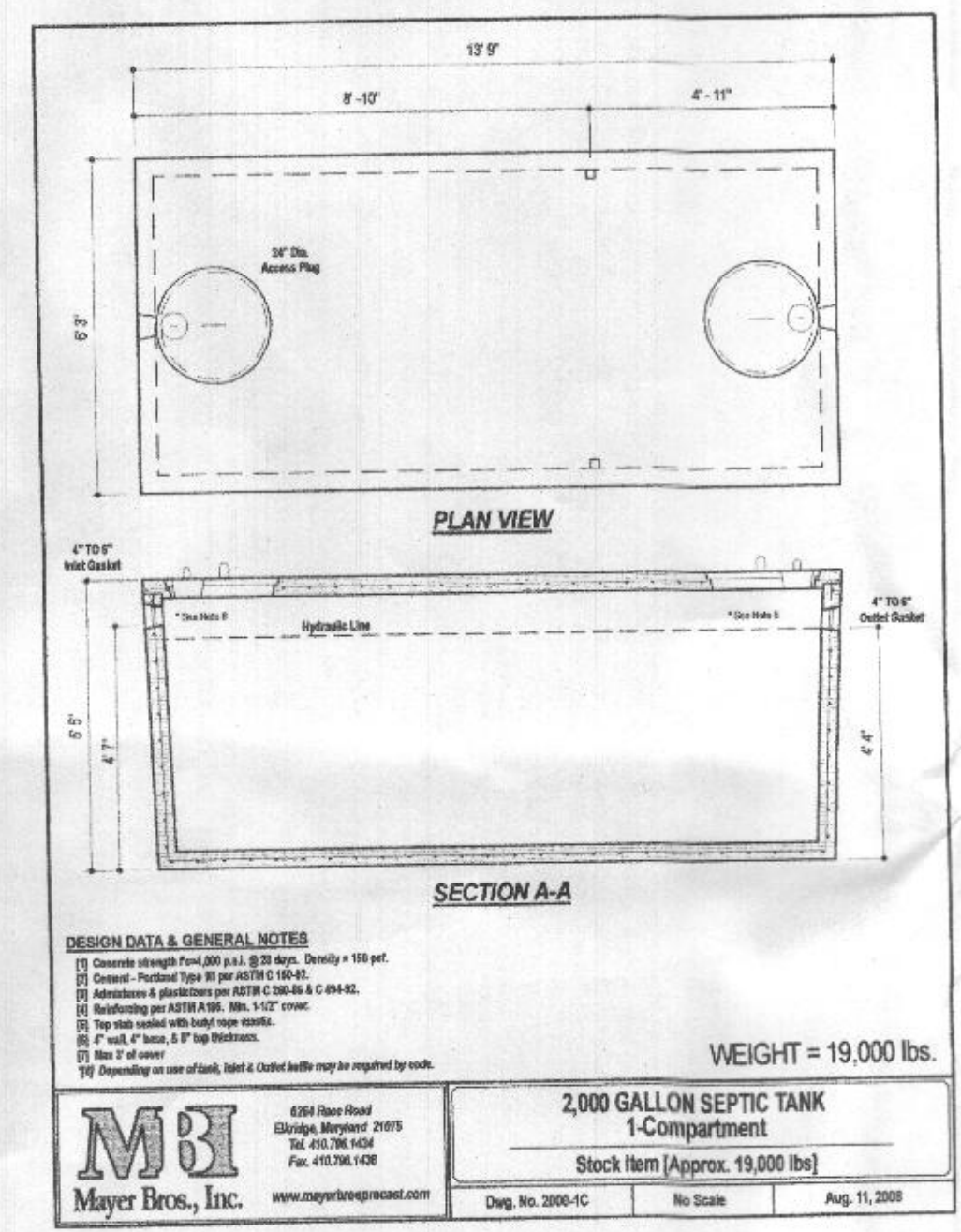
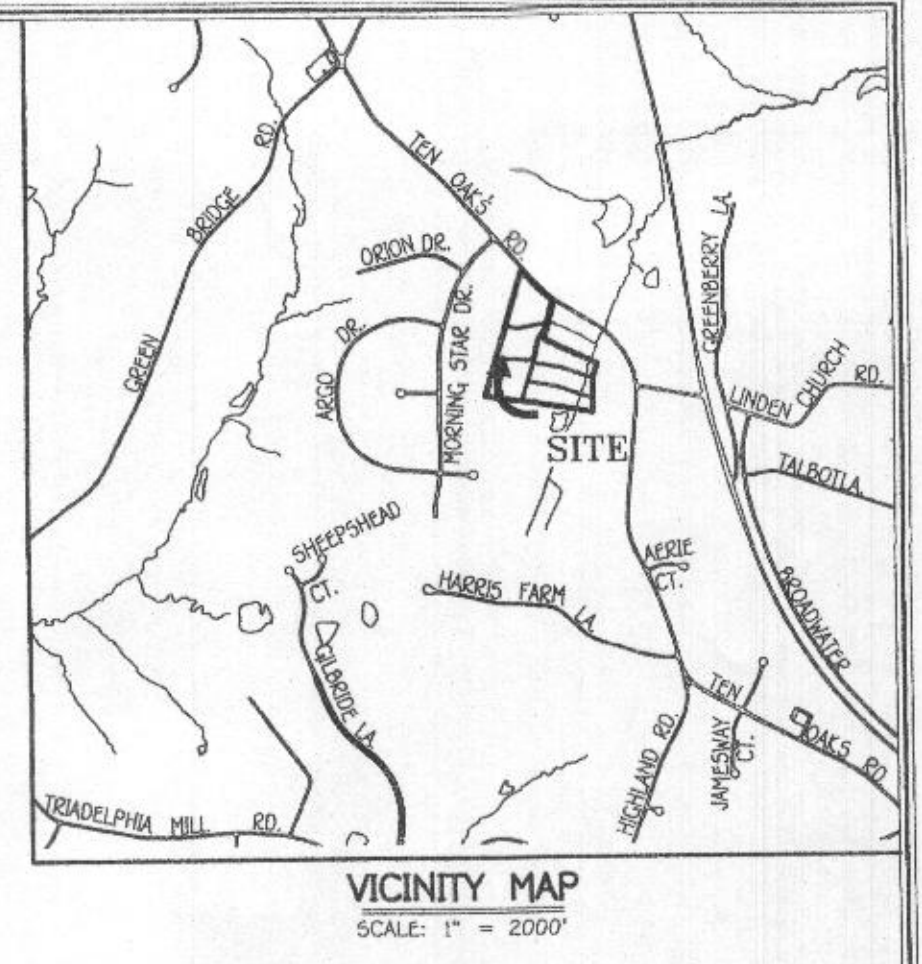
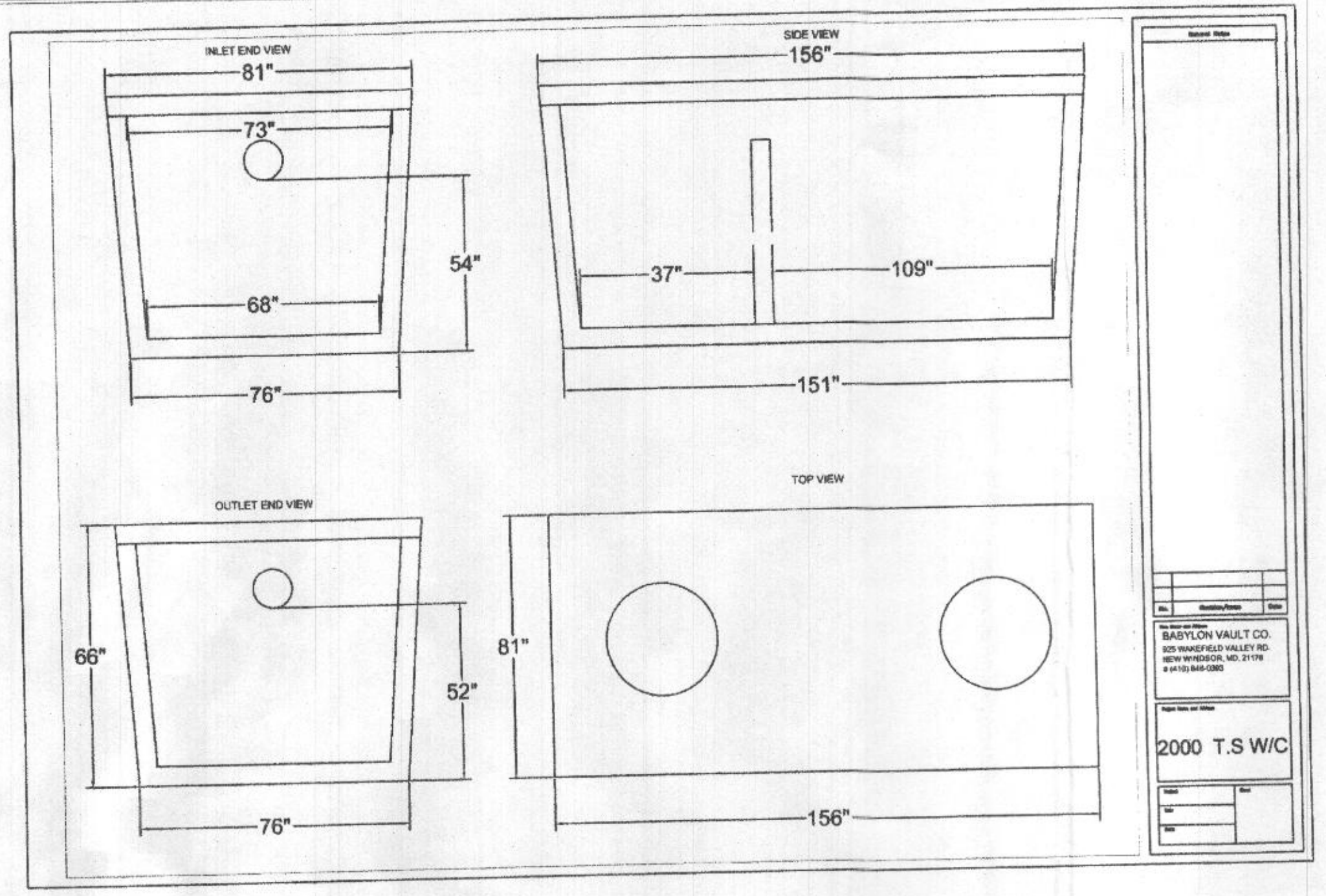
11/4/21  
 DATE

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL, ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10872 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2895

**SEPTIC SYSTEM  
 INSTALLATION SITE PLAN  
 TEN OAKS FARM, LOT 6  
 5016 TEN OAKS ROAD**

ZONING: RR-OEO  
 TAX MAP No. 28 GRID No. 14 PARCEL No. 140  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=30' DATE: OCTOBER 20, 2021  
 SHEET 2 OF 2





FFE 537.20  
 BSE 527.20  
 INV. OUT OF HOUSE = 524.18  
 PROP. GROUND AT CLEANOUT # 1 = 527  
 INV. INTO CLEANOUT = 523.65  
 INV. OUT OF CLEANOUT = 523.55  
 EX. GROUND AT SEPTIC TANK = 527.00  
 PROP. GRADE ABOVE SEPTIC TANK = 527.00  
 TOP OF SEPTIC TANK = 524.31  
 INV. INTO SEPTIC TANK = 523.31  
 INV. OUT OF SEPTIC TANK = 523.06  
 EX. GROUND AT PUMP TANK = 527.00  
 PROP. GRADE ABOVE PUMP TANK = 527.00  
 TOP OF PUMP TANK = 524.00  
 INV. INTO PUMP TANK = 523.00  
 INV. OUT OF PUMP TANK = 522.75  
 EX. GROUND AT DISTRIBUTION BOX = 548.00  
 INV. INTO DISTRIBUTION BOX = 546.10  
 INV. OUT OF DISTRIBUTION BOX = 546.00

**INITIAL SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 6 BEDROOMS  
 LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 3 FEET  
 TRENCH DEPTH = 0 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 5 FEET  
 SF OF DRAINFIELD = 900 GPD / 1.2 = 750 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH =  $(W+2)/(W+1+2D) = (3+2)/(3+1+(2 \times 5)) = .357$   
 TRENCH LENGTH = 250 SF X 0.357 = 89.25 FEET  
 (USE 2 TRENCHES AT 44.63 L.F.)  
 TRENCH SPACING = 20+W = ((2x5) + 3) = 13' USE 13'

**1ST REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 6 BEDROOMS  
 LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 3 FEET  
 TRENCH DEPTH = 0 FEET  
 TRENCH WIDTH (W) = 3 FEET  
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 TRENCH LENGTH = 250 SF X 0.357 = 89.25 FEET  
 (USE 2 TRENCHES AT 44.63 L.F.)  
 TRENCH SPACING = 20+W = ((2x5) + 3) = 13' USE 13'

**2ND REPLACEMENT SYSTEM**

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 6 BEDROOMS  
 LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD  
 APPLICATION RATE = 1.2  
 EFFECTIVE SIDEWALL BEGINS AT 2.5 FEET  
 TRENCH DEPTH = 0 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 2.5 FEET  
 SF OF DRAINFIELD = 900 GPD / 1.2 = 750 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH =  $(W+2)/(W+1+2D) = (3+2)/(3+1+(2 \times 2.5)) = .55$   
 TRENCH LENGTH = 250 SF X 0.55 = 137.50 FEET  
 (USE 2 TRENCHES AT 68.75 L.F.)  
 TRENCH SPACING = 20+W = ((2x2.5) + 3) = 8' USE 10'



**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: 02/22/2023.

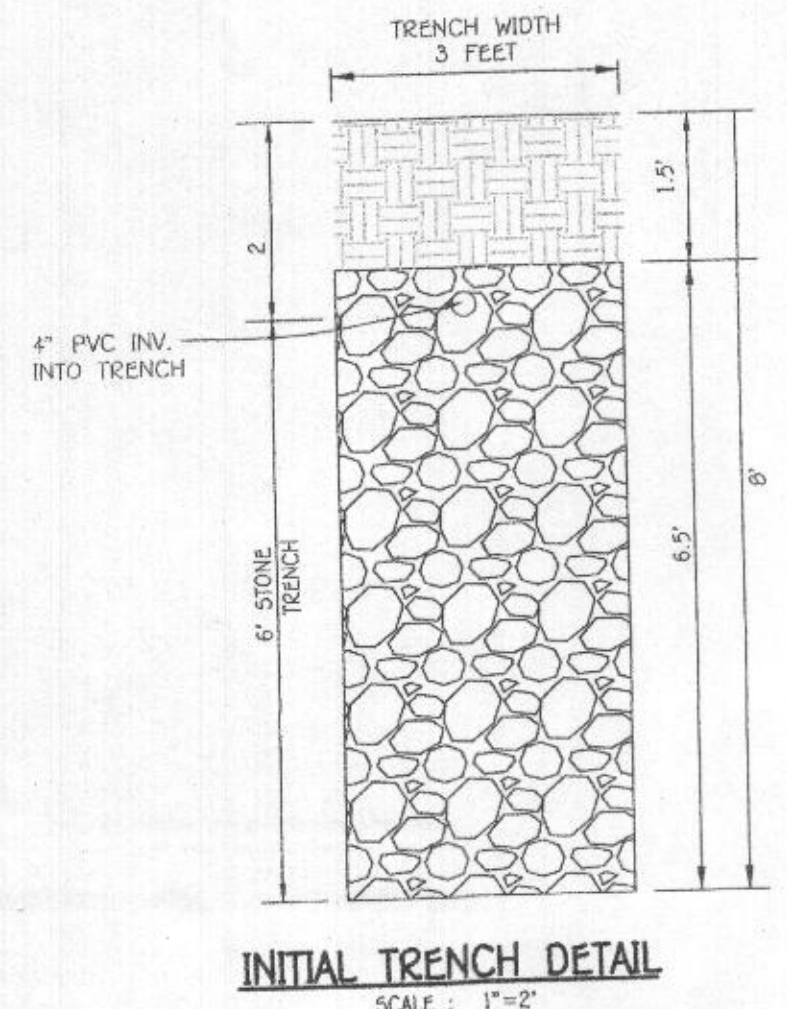
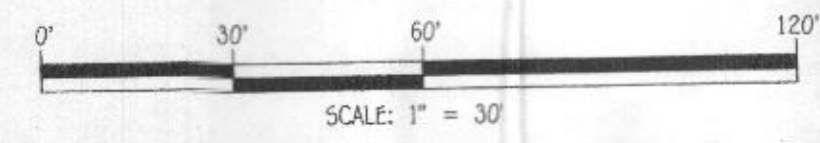
*Michael Vitucci*  
 ALDO MICHAEL VITUCCI

11/10/21  
 DATE

Approved Septic System Plan  
 Howard County Health Department  
*Hank Oswald*  
 Signature  
 11/10/21  
 Date

**SEPTIC SYSTEM  
 INSTALLATION SITE PLAN  
 TEN OAKS FARM, LOT 6  
 5016 TEN OAKS ROAD**

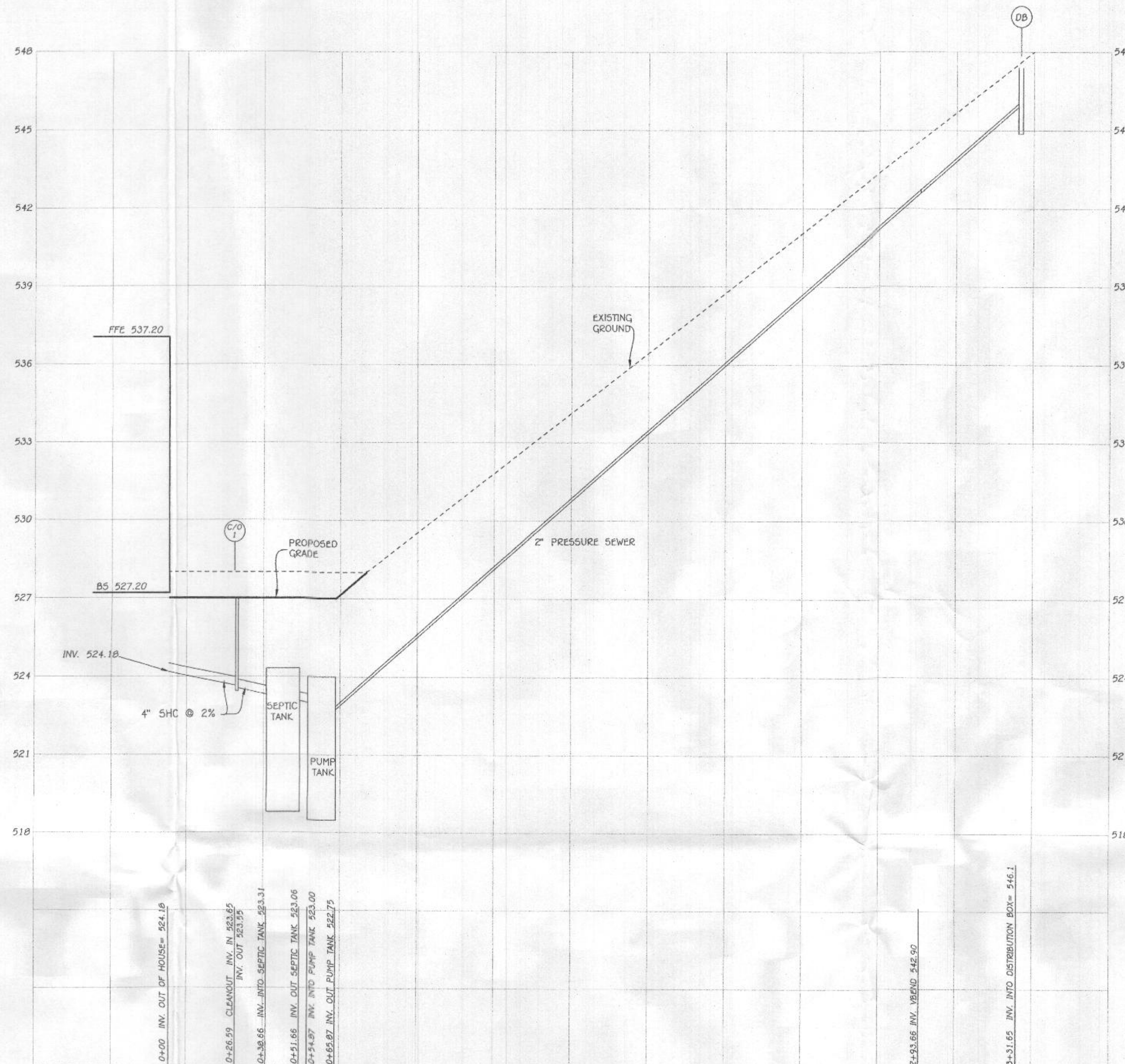
ZONING: RR-DEO  
 TAX MAP No. 2B GRID No. 14 PARCEL No. 140  
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=30' DATE: OCTOBER 29, 2021  
 SHEET 1 OF 2



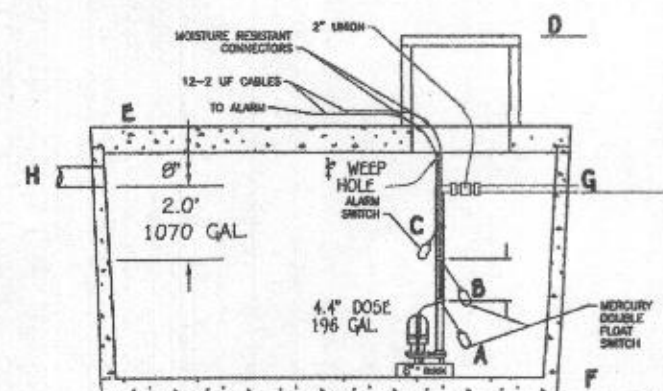
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL HO-15-0316 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 FORCEMAIN LINE NEEDS TO HAVE MARKING TAPE IN SECTION INSIDE THE SDA

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
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 (410) 461-2995





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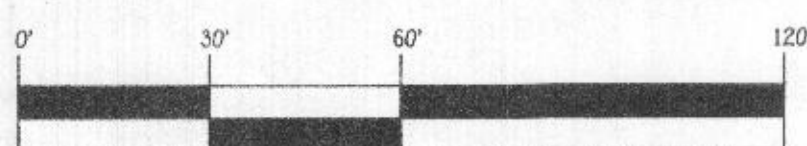
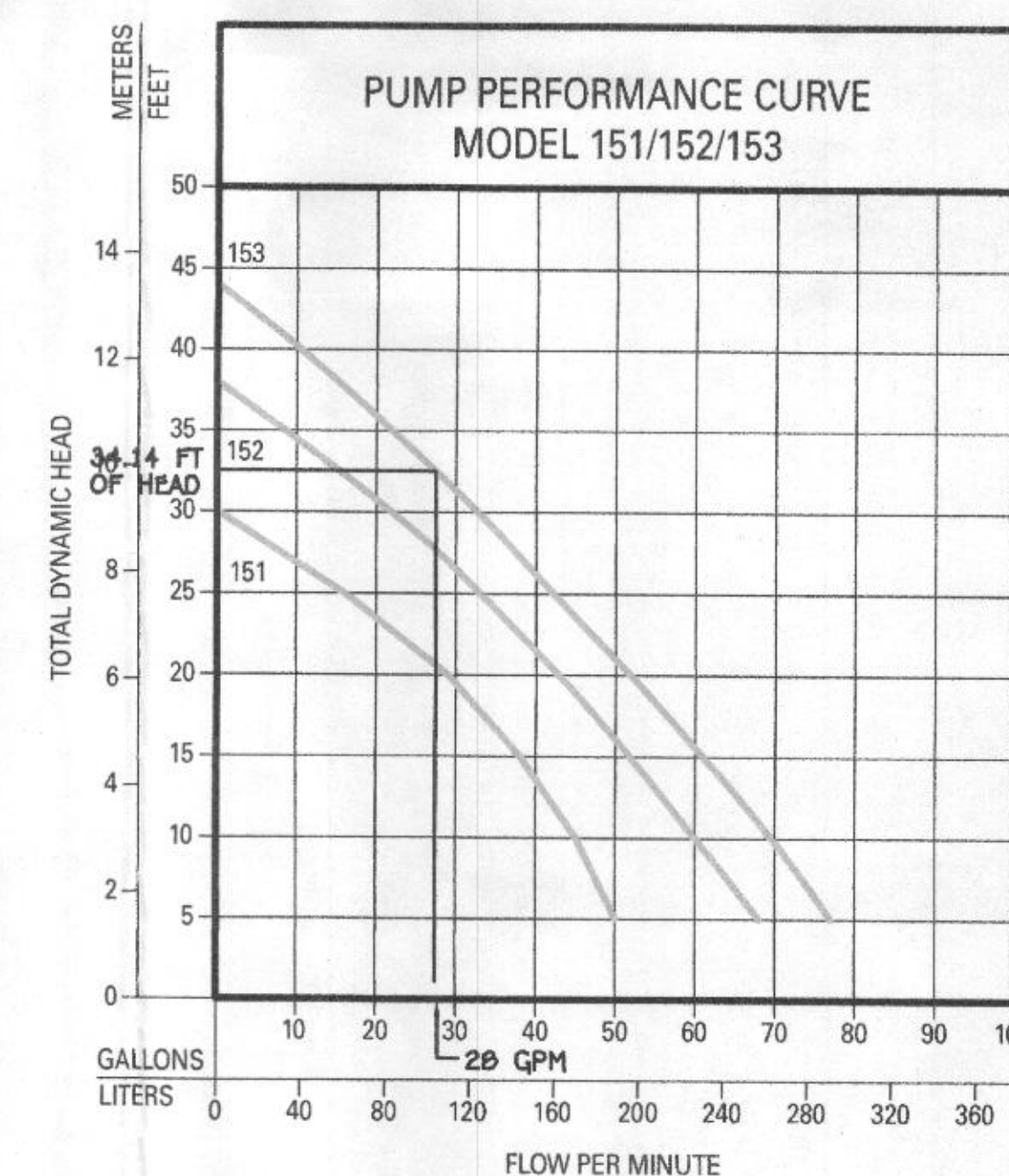
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Signature Of Professional Engineer  
 Date: 11/9/21

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