

Bureau of Environmental Health
 8930 Stanford Boulevard, Columbia, MD 21045
 Main: 410-313-2640 | Fax: 410-313-2648
 TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
 Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: 12-11-25 **ONSITE SEWAGE DISPOSAL SYSTEM** P 590297

APPROVAL DATE: 4/17/26 **PERMIT: NEW CONSTRUCTION** A _____

PROPERTY ADDRESS: 4256 Maisel Farm Lane

SUBDIVISION: Buckskin Woods LOT: 68 TAX ID: 05-405521

CONTRACTOR: Hatfields Equipment EMAIL: _____

CONTRACTOR ADDRESS: P.O. Box 519 Annapolis Junction, MD 20701 PHONE: 301-490-4289

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: Williamsburg Builders EMAIL: chriswine@williamsburgllc.com

OWNER ADDRESS: 5485 Harpers Farm Road, Columbia, MD 21044 PHONE: 410-997-8800

BAT UNIT MODEL: Norweco TNTLP ⁷⁵⁰ ~~1000~~ _{ME} PUMP SIZE: Goulds WE15H PUMP TANK CAPACITY: 2000

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 7/16/25 DATE RECORDED: 7/21/25

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 6 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>210 (3@70)</u>	INLET DEPTH: <u>See Plan</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5</u>

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

NOTES: Revised OSDS for BAT unit to 750

ISSUED BY: Melanie Eskenburg ISSUE DATE: 12-11-25 EXPIRATION DATE: 12-11-26

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR REGISTERED WITH THE STATE OF MD ON-SITE WASTEWATER PROFESSIONALS BOARD: CONFIRMED
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRAIENT 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 25007136
- NOTE: THE HCHD DOES NOT WARRANTY ANY SYSTEM AND CANNOT GUARANTEE THE PERFORMANCE OF THIS SYSTEM AS DESIGNED. BY ACCEPTING THIS PERMIT, THE OWNER AND/OR APPLICANT ACKNOWLEDGE THAT THE SPECIFICATIONS DETAILED IN THIS DESIGN ARE ONE POSSIBLE OPTION AND THAT THE HCHD WILL REVIEW OTHER PROPOSALS. YOU HAVE THE OPTION TO SEEK THE ADVICE OF A QUALIFIED DESIGN CONSULTANT OR PROFESSIONAL ENGINEER FOR FURTHER GUIDANCE.
- NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM. PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT. CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

NOT TO SCALE

12/23/25 Septic and pump tanks installed. Hole for SHC drilled and sealed. Sch. 40 pipe used.
 2x full from house to ST. Pipe is backfilled with 57 Stone. Tanks are level. Contractor
 will be installing 3' risers. OK to backfill from line. (MB)

12/23/25 Contractor stubbed out 2" to 3" FM 5' after septic tanks. Told contractor that we are
 unable to inspect tomorrow due to holiday. Any trench work done needs to be left open. (MB)

12/26/25 Contractor completed trench 3 and backfilled. Not on site. (MB)

12/29/29 Contractor completed 3" FM from ST to connection between Trenches 1 and
 2 outside of the Super silt fence. Sch. 40 260 PSI rated. Contractor sleeved FM
 for 20' in front of the electric box. Contractor added 57 stone around pipe for trench
 1 & struck my tape measure down the observation ports and lateral turn ups
 to confirm appropriate depths due to backfilling trenches without inspection. Contractor
 stated they backfilled due to threat of rain. (MB)

4/17/26 Pump + alarm + est. 1.5 hp golds pump used. Pump on 6" block, float levels
 Per plan contractor confirmed. Pump and alarm on separate circuits. Distal handles
 on each lateral > 2.0'. Control panel only 28" above grade, contractor dug out dirt to make
 30" P+Al-passed. (MB)

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH 3 INLET 3.32'/2.5'/1.5' BOTTOM 6'

NUMBER OF TRENCHES 3

TOTAL LENGTH 210'

ABSORPTION AREA 630 ft² + Sidewall

DISTRIBUTION BOX LEVEL N/A

DISTRIBUTION BOX BAFFLE N/A

DISTRIBUTION BOX PORT N/A

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL Yes

MANUFACTURER Wardco

CAPACITY 750 GAL

SEAM LOC Top

TANK LID DEPTH 3'-2.5'

BAFFLES N/A

BAFFLE FILTER N/A

MANHOLE LOC Front/Back

6" PORT LOC N/A

WATERTIGHT TEST N/A

SLOTTED Yes

DATE ON LID 5-20-24

PUMP/SEPTIC TANK LEVEL Yes

MANUFACTURER Babylon

CAPACITY 2,000 GAL

SEAM LOC Top

TANK LID DEPTH 3'-2'

BAFFLES N/A

BAFFLE FILTER -

MANHOLE LOC Front/Back

6" PORT LOC N/A

WATERTIGHT TEST N/A

SLOTTED N/A

DATE ON LID 11-12-25

SEPTIC CONTRACTOR ONSITE INSTALLING SYTEM: Todd Tracy

SEPTIC CONTRACTOR ONSITE LICENSED WITH THE STATE OF MD: YES/NO

PRE-CONSTRUCTION NOTES:

12/18/2025 - Contractor provide for pro-con. SPA staked per plan. Trenches
 staked per plan, not as contractor moved beginning of fall & trenches up 3'-4' to be as contractor
 distance between trenches 13'. P1 OK. 1.750 BAY staked @ same loc as previous 1.000 BAY.
 confirmed w/ Engineer that edge of BAY @ same loc as previous plan. Inspector does not have celling plan yet

INSTALLATION NOTES: OK to START with (SP/MB)

12/22/25 Contractor has Trench 3 dig 4' of #2 Stone, then 6" of 57 stone, 2" lateral with 5/16" perforations every 5.26' for
 6 holes 1.5" inlet 57 stone will be added to top of pipe with geotextile fabric. (MB)

12/22/25 Trench #2 Complete - pipe inlet at 2.5', distance between trench #1 & #2 is 11'. Perforations are 4.5' apart with 7 holes
 57 and #2 Stone used #2 Stone is marginal even though it is double washed. Some pipes attached. (MB)

12/22/25 Contractor has 3" FM line situated at trench 1. He is done digging for today. Tank on site will be digging the tanks hole
 and trench 1 tomorrow. (MB)

CONTROL PANEL DATA

CONTROL PANEL HEIGHT 31"
 (MIN 30")

INSPECTION DATE 4/17/26

INSPECTION: PASS/FAIL (CIRCLE ONE)

FINAL INSPECTOR M Burns

DATE OF APPROVAL 4/17/26

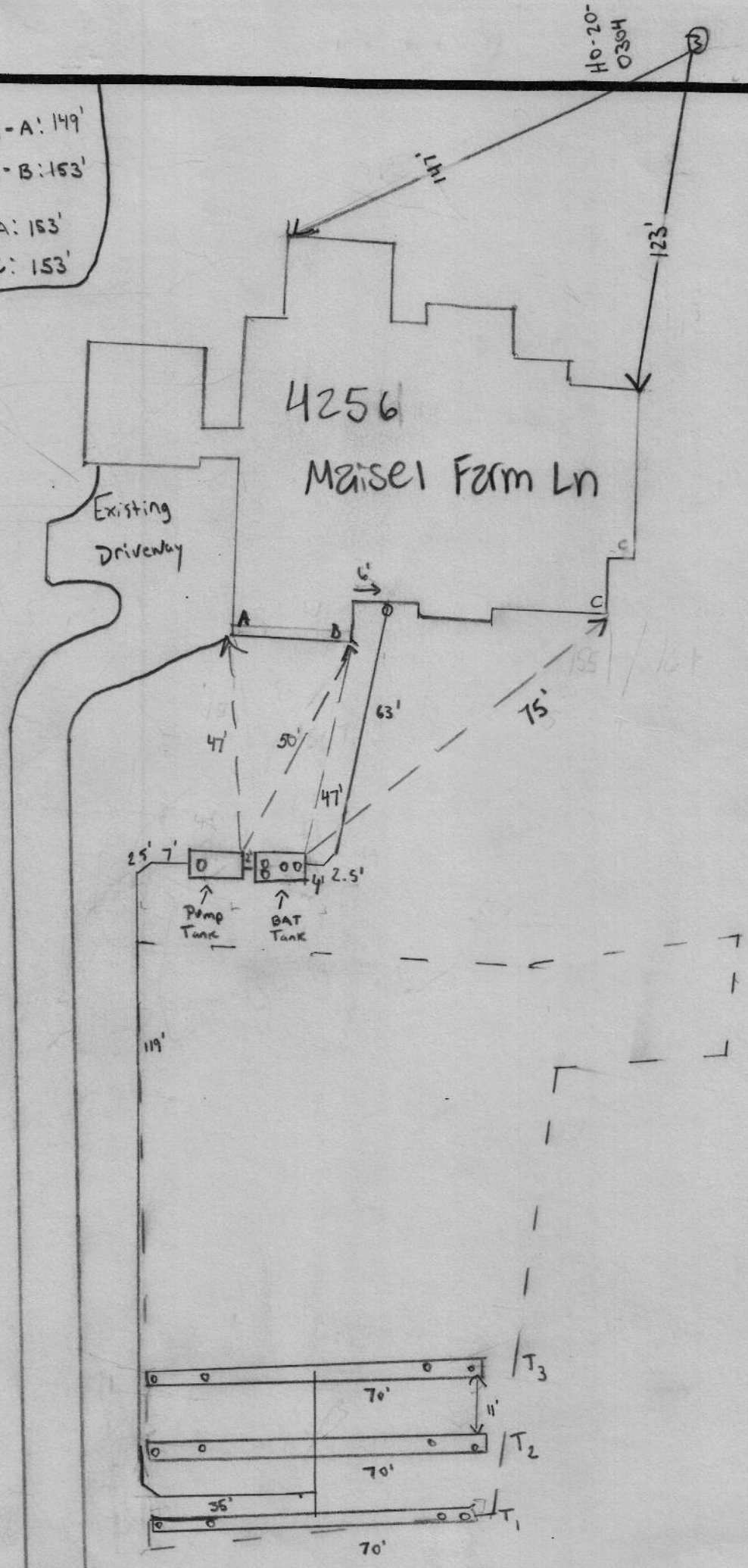
HO-20-0304

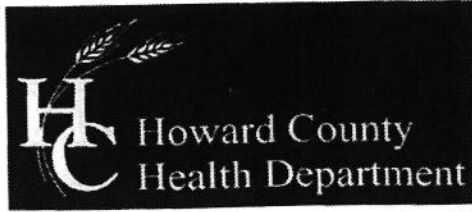
Measurements
 Trench 3 Beginning - A: 149'
 Trench 3 Beginning - B: 153'
 Trench 3 End - A: 153'
 Trench 3 End - C: 153'

4256
 Maisel Farm Ln

Existing
 Driveway

NOT TO SCALE





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Twitter: HowardCoHealthDep

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

**APPLICATION FOR VARIANCE
TO COMAR ONSITE WATER/SEWER FOR MDE APPROVAL**

Date Submitted _____

4252, 4256, and 4260 Maisel Farm Lane, Ellicott City, MD 21042

Property Address

Buckskin Woods

67-69

22

22

535

05-415195, 05-405521, 05-405513

Subdivision

Lot

Tax Map

Grid

Parcel

Tax Account#

Provide a brief site history including previously submitted and active plans with the Health Department or the County (subdivision plans, perc test applications, Building Permit applications):

Subdivision Perc Cert. needs variance request for proposed wells downgrade of proposed OSDS.

In the area below, list the specific section of the Code of Maryland Regulations (COMAR) to which a variance is being requested and provide a brief summary of the regulation and an explanation of why the variance is being requested (Attach a separate sheet if necessary).

Regulation Section

Summary and Explanation

1

26.04.02.05.B.(2)

OSDS must be located downgrade of any private water supply.

Lots 67-69 are proposing wells downgrade of their proposed OSDS.

2.

Property Owner's Signature _____

Health Department Use Only

Reviewed by

Zack Silvest

6/14/24

HCHD Staff

Date

Recommendation:

Recommended

Not Recommended

HCHD Supervisor

Date

Comments/Conditions:

This was a previously approved variance for the subdivision of these lots. Now property lines have changed as well as previous proposed well locations.

Approved by: BAT and LPD Required on Lots 68 and 69.

MDE Representative

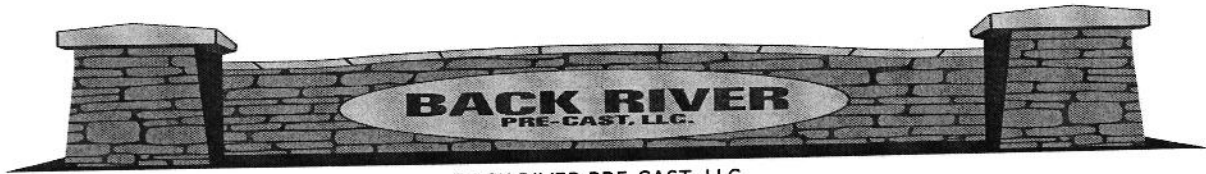
Date

DocuSigned by:

Steven R. Krieg LEHS REHS/RS

6/17/2024

CF93693181E947A...



BACK RIVER PRE-CAST, LLC
 PO BOX 329
 GLYNDON, MD 21071
 PH# 410-833-3394

NORWECO CERTIFICATION

PROPERTY OWNER: OSAMUYIMEN IGINGSA	INSTALLATION COMPANY: HATFIELD'S
ADDRESS: 4256 MAISEL FARM RD	CERTIFIED INSTALLER: TODD TRACEY
CITY, ZIPCODE & COUNTY: ELLICOTT CITY, 21042, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 12-23-25
750 GPD CONCRETE	START-UP DATE: 4-22-26
NUMBER OF BEDROOMS:	DATE OF FINAL INSPECTION:
TYPE OF INSTALLATION: NEW	DATE OF ELECTRICAL INSPECTION:
ELECTRICAL WIRING PER ELECTRICAL INSTRUCTIONS: YES	TANK LEVEL: YES
HT. OF CONTROL PANEL ABOVE FINAL GRADE: 38"	BURIAL DEPTH OF TANK: 36"
SYSTEM WIRED ON A 15-AMP DEDICATED CIRCUIT WITH STD. BREAKER: YES	RISERS 4" - 6" ABOVE GRADE: NO
LENGTH(S) OF UF WIRE PAST LAST AERATION RISER(S): 30"	VENTED LID(S) ON AERATION CHAMBER(S): YES
FEMALE PLUG(S) WIRED TO UF WIRE: YES	ANY GROUND SETTLING AROUND TANK: NO
CONDUIT(S) ENTERING AERATION RISER MADE WITH A WATERTIGHT CONNECTION: YES	
ISTHE INSIDE OF THE CONDUIT ENTERING THE CONTROL PANEL(S) AND AERATION RISER(S) SEALED WITH DUCT SEAL: YES	

ON 2ND PAGE MAKE A ROUGH SKETCH OF THE HOUSE ,WHERE THE SYSTEM IS LOCATED, WHERE THE CONTROL PANEL IS LOCATED , WHERE THE FRONT OF THE IS AND DIRECTIONS TO THE PROPERTY.

DIRECTIONS CAN START A FEW STREETS AWAY

EXAMPLE: RT. X LEFT ONTO XX STREET RIGHT ONTO PRIVATE DRIVEWAY 5TH HOUSE OF THE LEFT.

I certify that the Norweco Singulair TNT Wastewater Treatment System was installed according to the manufacture's specifications.

Matthew Geckle

April 22, 2026

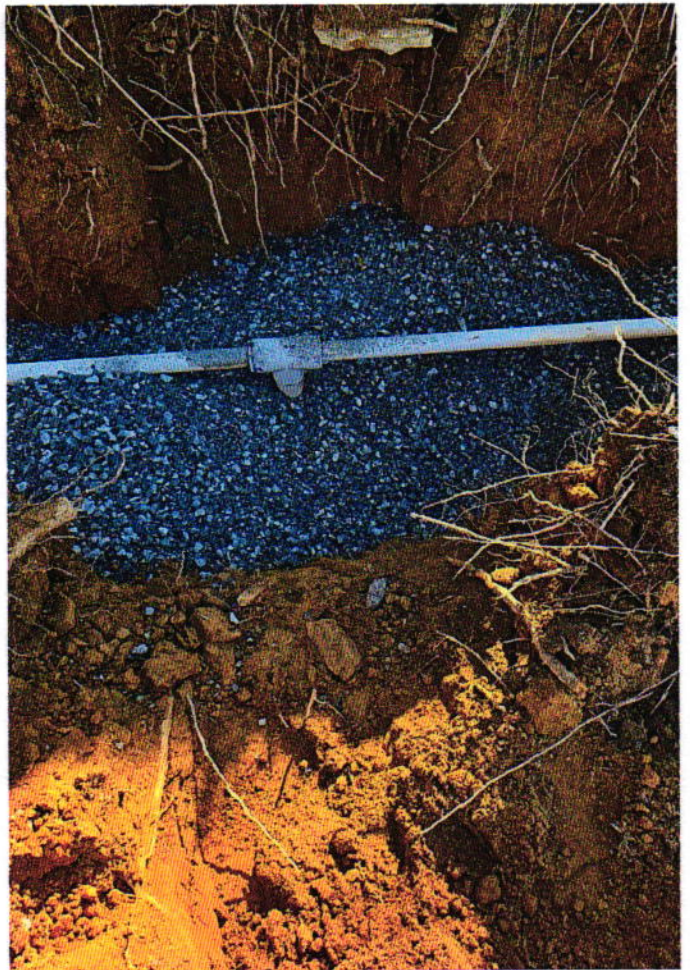
Signature of BRP Representative

Vice-President

Date



2' trench dug for FM between trench 1 & 2



Trench 1 install



Trench 1 install



Trench 1 install

S.W. BARRICK - BARRICK QUARRY
 PH: (301) 845-6341
 11609 Legore Bridge Road * Woodsboro, MD 21798

Scale:1 TKT: 2063486

Cust#: KENHAT 12/22/2025
 HATFIELDS EQUIP & DEDICATION SVSC,) 7:22:59AM
 Job#: MAIFAR MAISEL FARM LANE
 4256 MAISEL FARM LANE, ELLICOTT CITY
 NATHEN 443-398-4526

TRK#: 952A - WCS TRUCKING, LLC

Zone#: K-11 - BARRICK DELIVERY ZONE Gross: 69580 * P. T.
 P.O.#: Tare: 24840
 Proj#: Net: 44740
 Mat'ls: 22W-D&L W&KED AASHTO #2 STONE TONS: 22.37

	Loads	Tons
Job/Daily:	5	107.15
Job/Total:	18	396.72

S.W. BARRICK - BARRICK QUARRY
 PH: (301) 845-6341
 11609 Legore Bridge Road * Woodsboro, MD 21798

Scale:1 TKT: 2063475

Cust#: KENHAT 12/22/2025
 HATFIELDS EQUIP & DEDICATION SVSC,) 6:43:39AM
 Job#: MAIFAR MAISEL FARM LANE
 4256 MAISEL FARM LANE, ELLICOTT CITY
 NATHEN 443-398-4526

TRK#: 740C - DAVID COBLENTZ

Zone#: K-11 - BARRICK DELIVERY ZONE Gross: 68720 * P. T.
 P.O.#: Tare: 26200
 Proj#: Net: 42520
 Mat'ls: 26W-D&L-W&H AASHTO #57 TONS: 21.26

	Loads	Tons
Job/Daily:	2	42.56
Job/Total:	2	42.56



Trench 1 install

Stone buckets. Stone was marginal with fines.



Trench 1 install



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8930 Stanford Blvd | Columbia, MD 21045
410.313.2640 - Voice/Relay
410.313.2648 - Fax
1.866.313.6300 - Toll Free

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

**OPERATION AND MAINTENANCE AGREEMENT
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 14th day of July, among _____
Williamsburg Homes, hereinafter collectively referred to as
"Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at
4256 Maisel Farm Lane, in the 5th Election District of Howard
County, Maryland, and the deed and subdivision plat of the property is recorded among the Land
Records of Howard County, Maryland, Tax Map # 22, Block # _____, Parcel # 535, Deed
Reference # 15805/452 and Tax Account # 05-405521 ("the Property").

WHEREAS, The Property is suitable for the installation of a conventional on-site sewage
disposal system with an advanced pre-treatment system, utilizing best available technology to
perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07,
effective November 24, 2016. The pre-treatment device being installed is
Norweco BAT tank.

NOW, THEREFORE, the parties hereto agree as follows:

A. Owner hereby grants to the County the right to enter upon the Property at any reasonable time
with prior notice for access to the system to make periodic inspections and the Owner agrees to
provide any information and data in Owner's possession reasonably requested and needed by the
County.

B. Owner acknowledges and agrees that neither the County nor any of its agents or employees,
either officially or individually, underwrites the operation of any system approved by them.

C. The Owner will devote reasonable care and effort to the operation and maintenance of the
system in perpetuity or until a public sewer connection is made so that a system malfunction is
not the result of poor maintenance, faulty operation, or neglect.

D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County
with a private entity to operate and maintain on a regularly scheduled basis an approved
advanced pre-treatment system. The owner shall supply a copy of the contract to the County
when it is renewed or altered.

E. This agreement shall run with the land and upon Owner's taking title to the Property shall
bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as

20
40
cash

the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Property that the system shall require maintenance or other attention. Upon taking title to the Property, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed this agreement on the date indicated above.

[Signature] 7/16/25
Howard County Health Department

Owner #1 Signature Date

Bruce A. Harvey, President
Owner #1 Print Name

Owner #2 Signature Date

Owner #2 Print Name

Buyer #1 Signature Date

Buyer #1 Print Name

Buyer #2 Signature Date

Buyer #2 Print Name

DATE AVAILABLE 07/17/2025. 1 1111 07/17/2025.



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- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Property shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as

the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Property that the system shall require maintenance or other attention. Upon taking title to the Property, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

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Mick J. Owen 7/16/25
Howard County Health Department

Bruce A. Harvey 4-10-2025
Owner #1 Signature Date

Bruce A. Harvey, President
Owner #1 Print Name

Owner #2 Signature Date

Owner #2 Print Name

Buyer #1 Signature Date

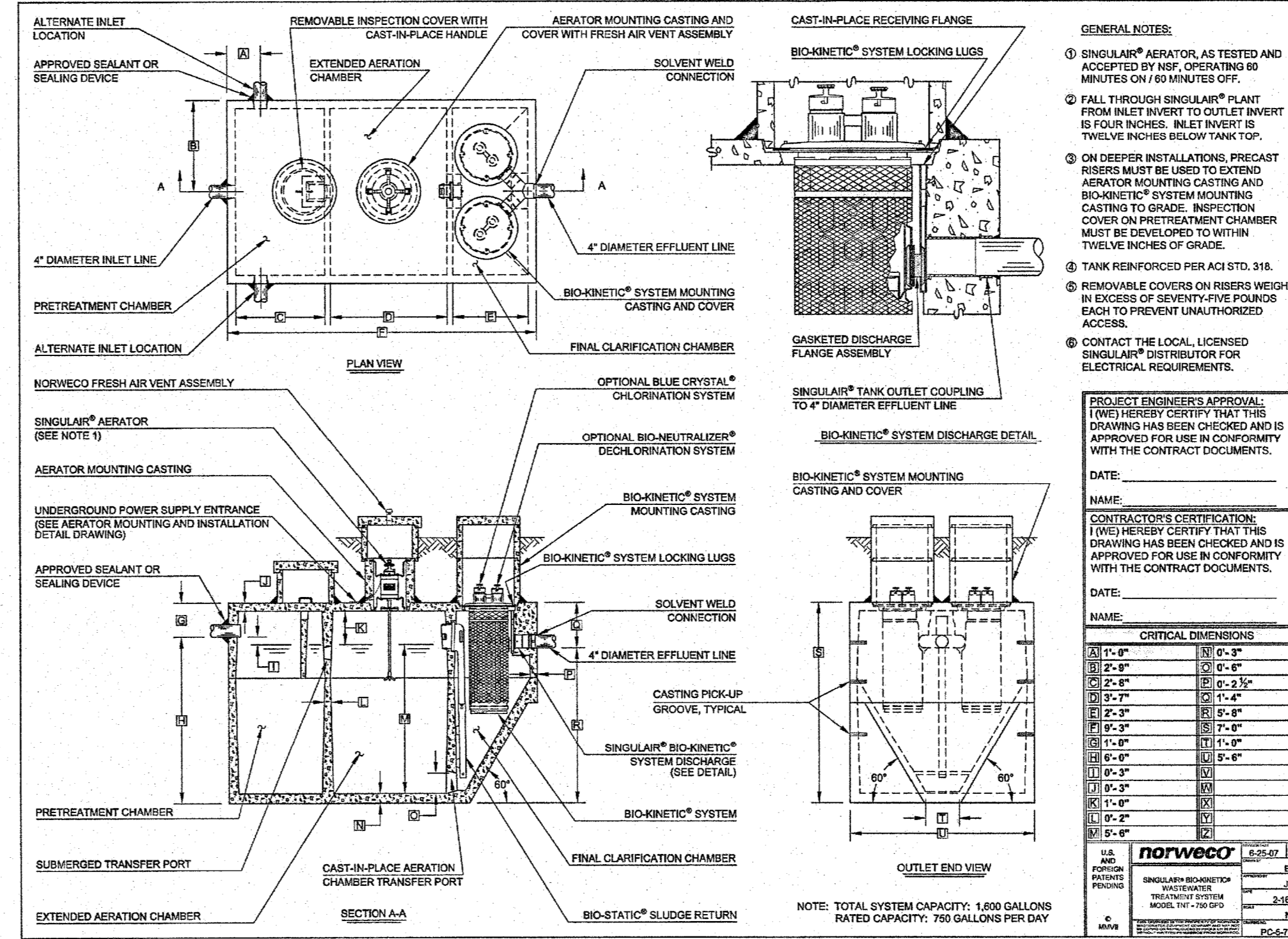
Buyer #2 Signature Date

Buyer #1 Print Name

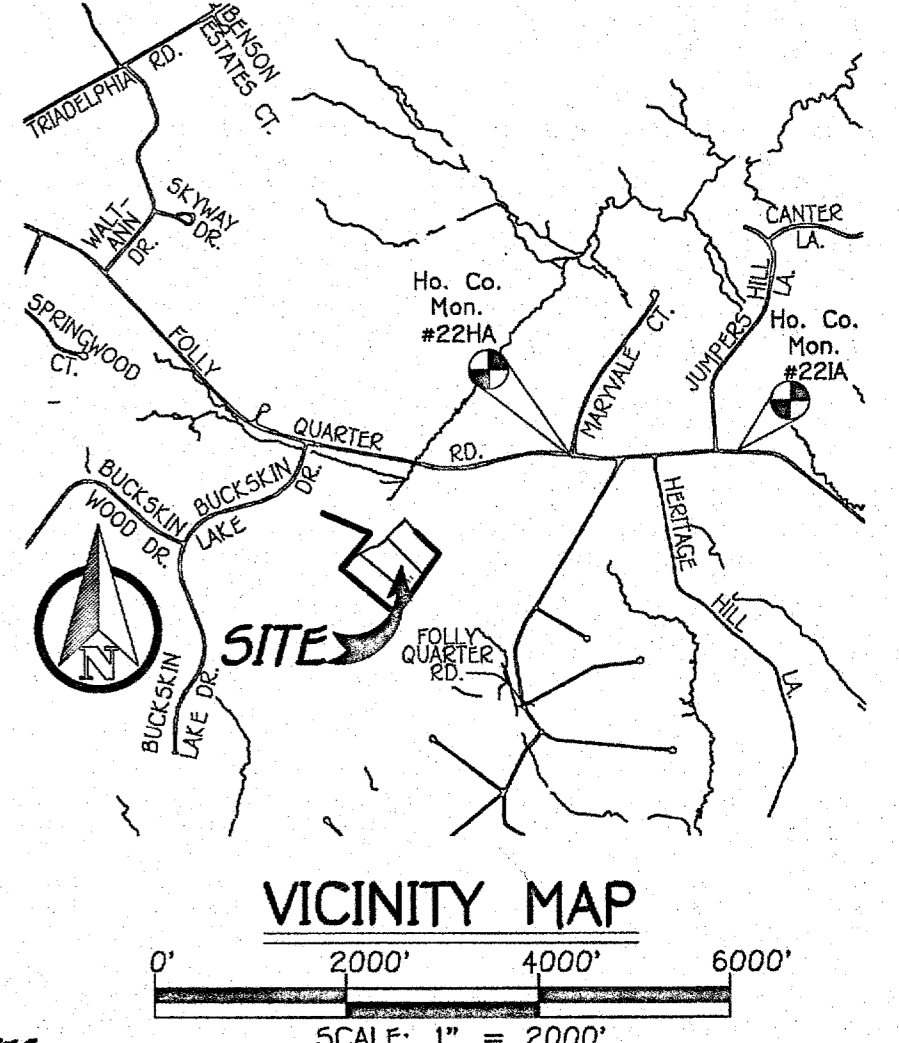
Buyer #2 Print Name

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-20-0309 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 PROVIDE ON-SITE WASTEWATER SERVICE IN MARYLAND.

7. THE SEPTIC SYSTEM IS DESIGNED FOR A MAXIMUM OF 6 BEDROOMS AND WILL NOT BE ABLE TO INCREASE BEYOND A 6 BEDROOM HOUSE. THERE IS NO AVAILABLE AREA LEFT TO PERC TEST ON THIS LOT TO EVER INCREASE THE SEPTIC FLOW BEYOND 900 GALLONS PER DAY.
8. CONTRACTOR TO PERFORM CONSTRUCTION PER CURRENT OSHA STANDARDS.
9. TOPOGRAPHY IS BASED ON FIELD RUN SURVEY BY FISHER, COLLINS, AND CARTER, INC. IN APRIL 2023 AND SUPPLEMENTED WITH HOWARD COUNTY GIS.
10. BASEMENT SERVICES REQUIRES USE OF AN EJECTOR PUMP.
11. THE PROPOSED M-6 MICRO-BIORETENTION IS TO HAVE AN IMPERIOUS LINER BECAUSE OF THE PROXIMITY TO THE ALTERNATE WELL LOCATION.



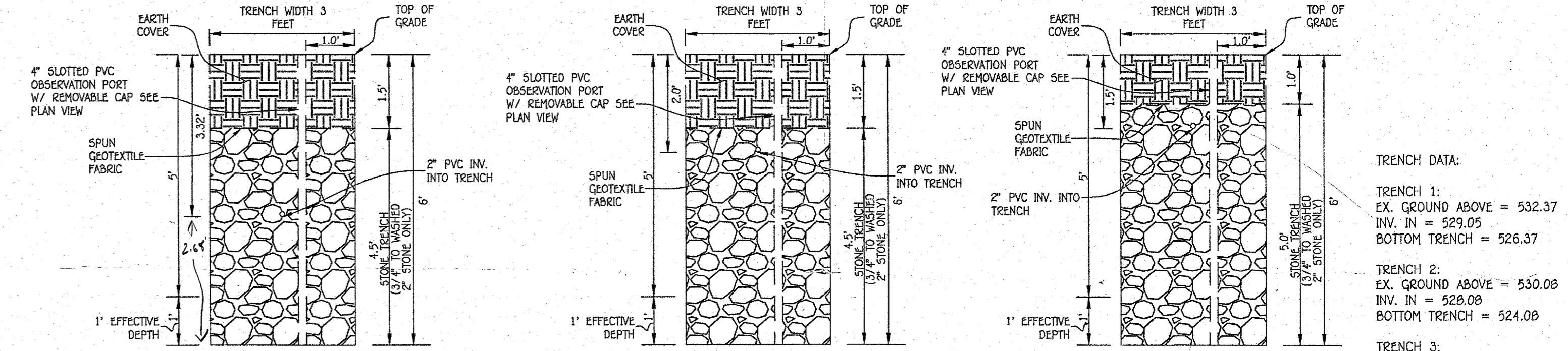
- ### LEGEND
- - - - - EXISTING 2' CONTOURS
 - - - - - EXISTING 10' CONTOURS
 - EXISTING TREE LINE
 - ⊙ DENOTES WELL LOCATION
 - DENOTES FAILED PERC 7/1992
 - DENOTES PASSED PERC 7/1992
 - ▨ DENOTES SEWAGE DISPOSAL AREA
 - △ DENOTES PASSED PERC 7/2022
 - △ DENOTES FAILED PERC 7/2022
 - △ DENOTES PASSED PERC 10/12/2022
 - △ DENOTES FAILED PERC 10/12/2022
 - ▨ DENOTES 15%-24.9% SLOPES
 - ▨ DENOTES 25% & - SLOPES



BAT NOTES

1. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
2. THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
3. WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
4. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
5. SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.
6. 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.
7. ELECTRICAL WORK FOR BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
8. AN OPERATIONS AND MAINTENANCE AGREEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDED OF HOWARD COUNTY.

FFE 511.66
 BSE 501.81
 INV. OUT OF HOUSE = 506.01
 PROP. GROUND AT CLEANOUT #1 = 510.00
 INV. INTO CLEANOUT = 505.91
 INV. OUT OF CLEANOUT = 505.81
 EX. GROUND AT SEPTIC TANK = 507.62
 PROP. GRADE ABOVE SEPTIC TANK = 507.92
 TOP OF SEPTIC TANK = 505.60
 INV. INTO SEPTIC TANK = 504.60
 INV. OUT OF SEPTIC TANK = 504.27
 EX. GROUND AT PUMP TANK = 507.05
 PROP. GRADE ABOVE PUMP TANK = 507.96
 TOP OF PUMP TANK = 505.34
 INV. INTO PUMP TANK = 504.17
 INV. OUT OF PUMP TANK = 503.92

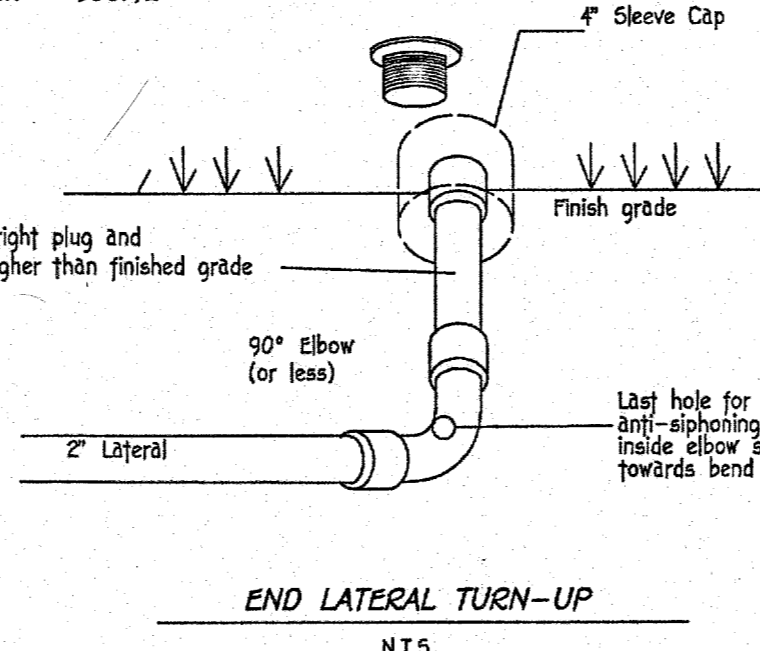


TRENCH DATA:

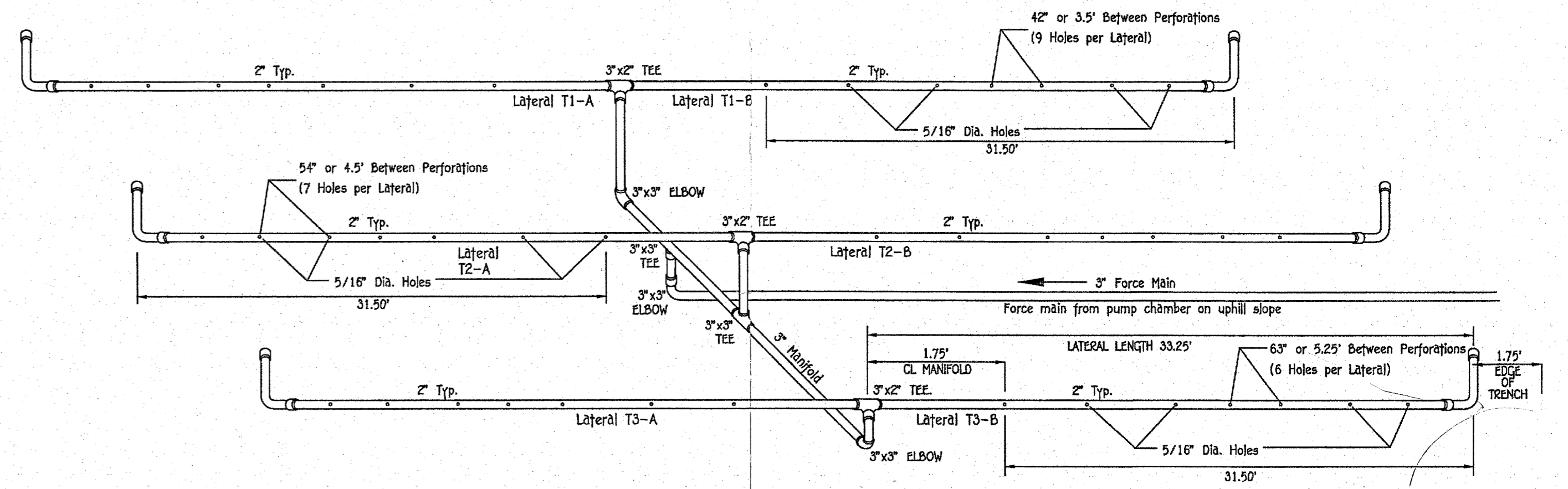
TRENCH 1:
 EX. GROUND ABOVE = 532.37
 INV. IN = 529.05
 BOTTOM TRENCH = 526.37

TRENCH 2:
 EX. GROUND ABOVE = 530.08
 INV. IN = 528.08
 BOTTOM TRENCH = 524.08

TRENCH 3:
 EX. GROUND ABOVE = 527.55
 INV. IN = 526.05
 BOTTOM TRENCH = 521.55



TRENCH NO.	LATERAL NO.	RELATIVE ELEV.	TRENCH LENGTH	LATERAL LENGTH	LATERAL DIA. (IN)	HEAD (FT)	ORIFICE DIA. (IN)	ORIFICE FLOW RATE (GPM)	ORIFICE SPACING (FT)	NO. OF ORIFICES	LATERAL FLOW RATE (GPM)
1	T1-A	528.05	70'	33.25'	2"	2.07'	5/16"	1.63	3.5'	9	14.7
2	T2-A	528.08	70'	33.25'	2"	2.97'	5/16"	1.99	4.5'	7	13.9
2	T2-B	528.08	70'	33.25'	2"	2.97'	5/16"	1.99	4.5'	7	13.9
3	T3-A	528.05	70'	33.25'	2"	3.07'	5/16"	2.57	5.25'	6	15.4
3	T3-B	528.05	70'	33.25'	2"	3.07'	5/16"	2.57	5.25'	6	15.4

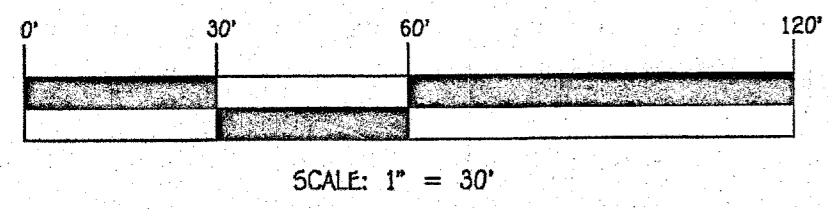


TRENCH LATERAL AERIAL/PLAN VIEW WITH LINEAR DIMENSIONS
 (Modified from EPA Design Manual) N.T.S.

EACH LATERAL SHALL HAVE 5/16\"/>



PLAN
 SCALE: 1" = 30'



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE BLDG. - 10725 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

OWNER
 THOMAS H. PRICE III
 4254 MAISEL FARM LANE
 ELLICOTT CITY, MARYLAND 21042



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. 27080 EXPIRATION DATE: 01/25/26.
 PAUL G. CAVANAUGH
 DATE: DEC 12, 2025

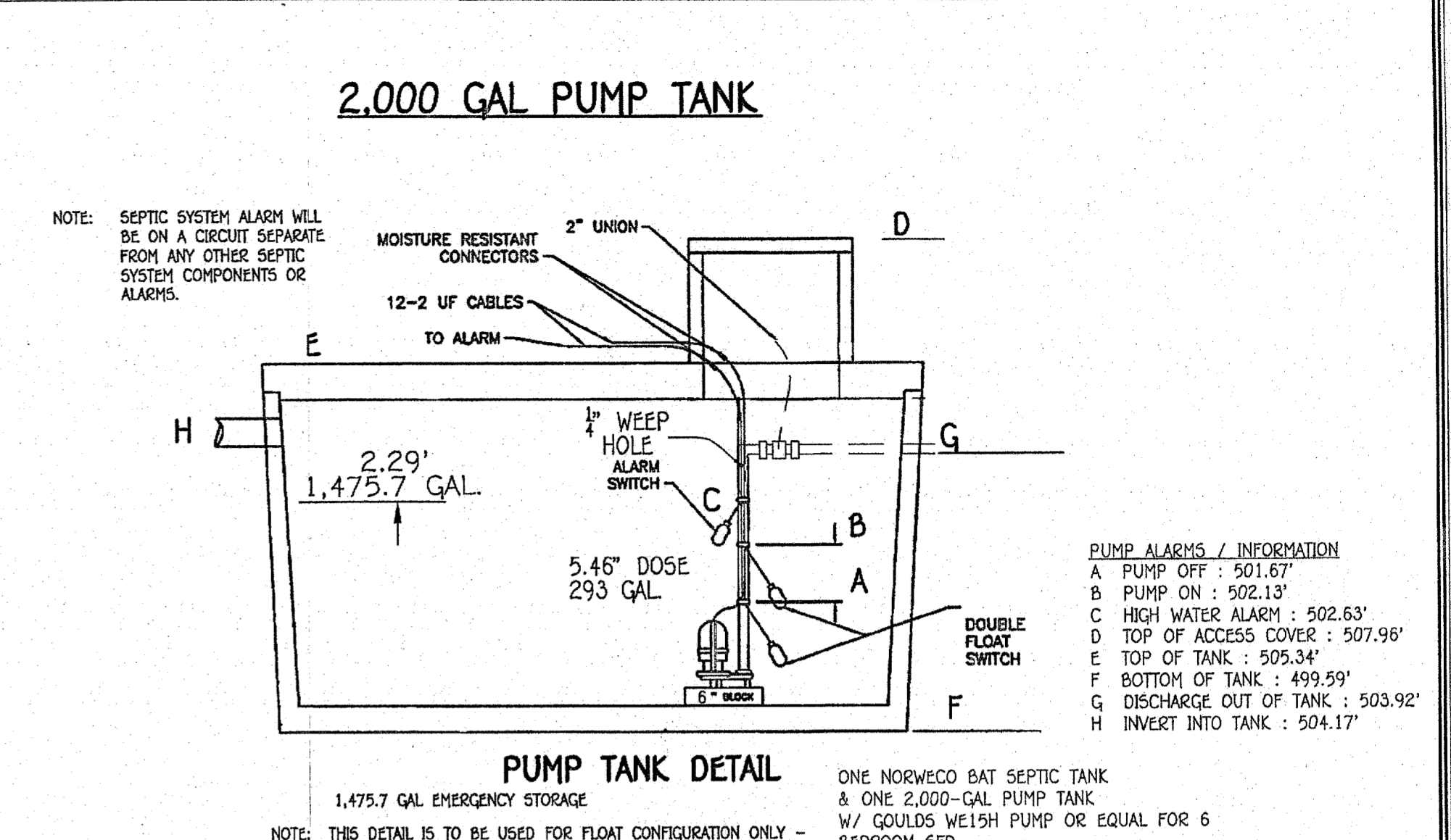
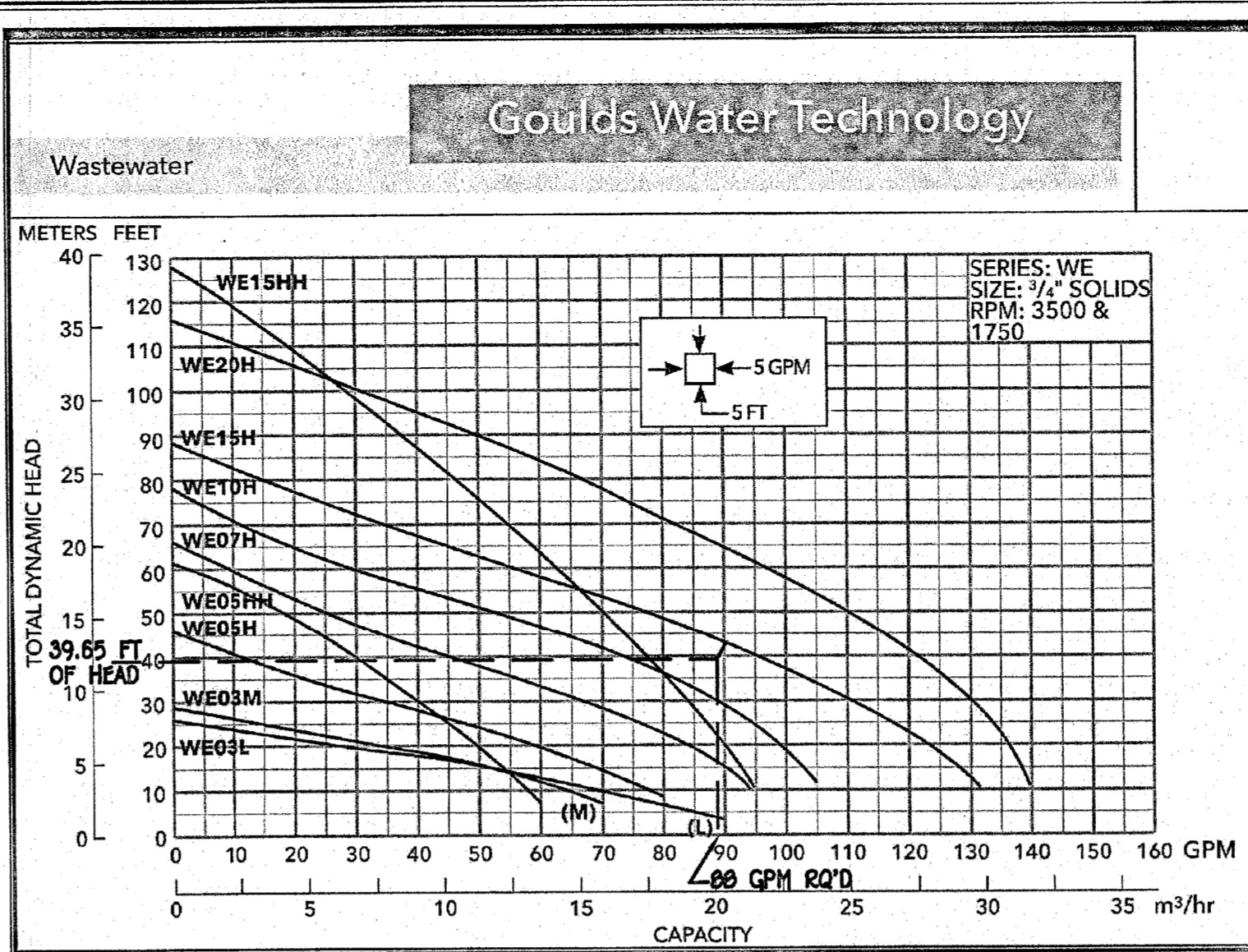
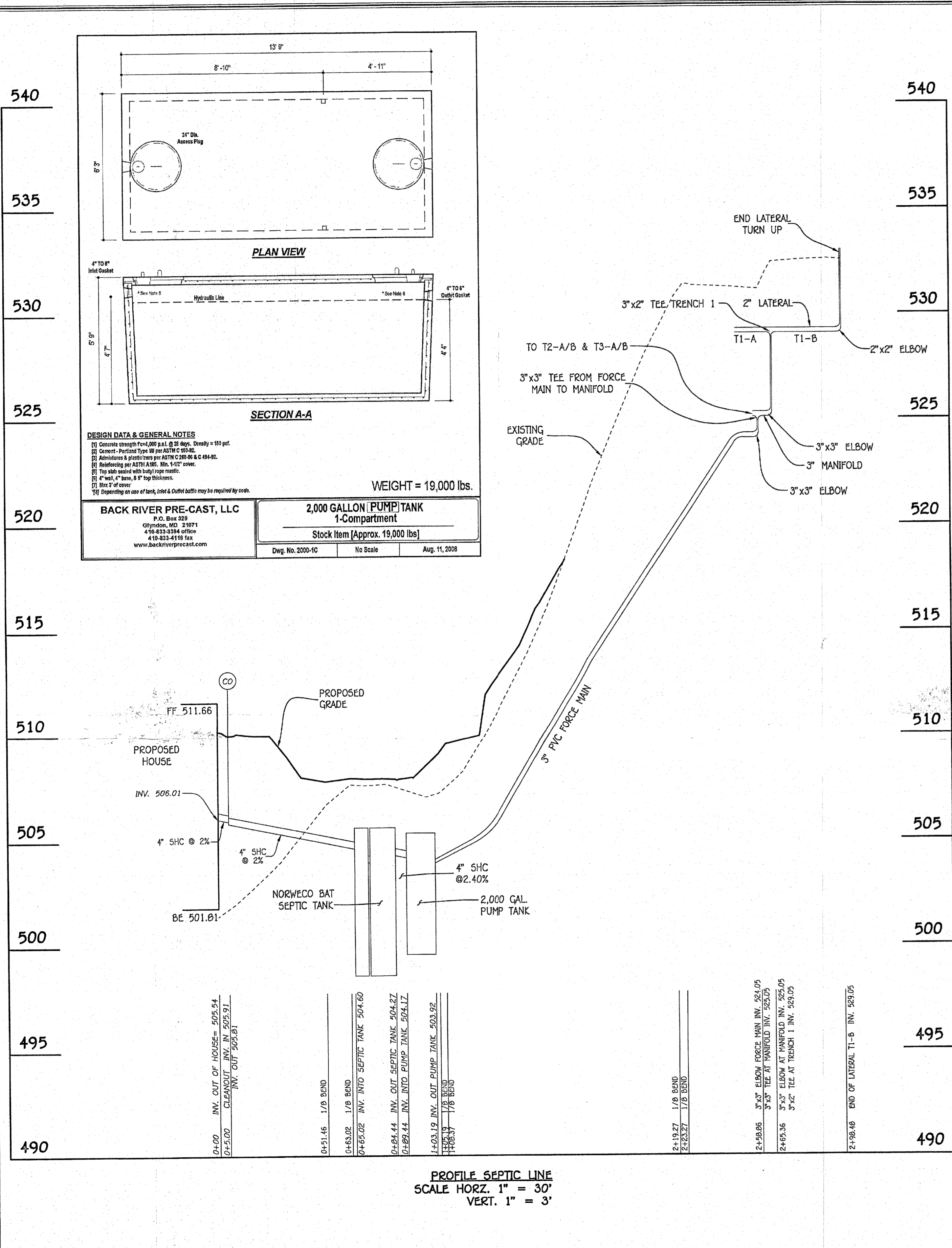
INITIAL SYSTEM
 SEWAGE DISPOSAL SYSTEM DATA DESIGN FOR 6 BEDROOMS
 LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD
 APPLICATION RATE = 1.2
 EFFECTIVE SIDEWALL BEGINS AT 5 FEET
 TRENCH DEPTH = 6 FEET
 TRENCH WIDTH (W) = 3 FEET
 EFFECTIVE DEPTH (D) = 1 FEET
 5F OF DRAINFIELD = 900 GPD / 1.2 = 750 SF
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833
 TRENCH LENGTH = 250 SF x 0.833 = 210 FEET (USE 3 TRENCHES AT 70 L.F.)
 TRENCH SPACING = 2D+W = ((2x1) + 3) = 5' USE 10'

1ST REPLACEMENT SYSTEM
 SEWAGE DISPOSAL SYSTEM DATA DESIGN FOR 6 BEDROOMS
 LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 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
 5F OF DRAINFIELD = 900 GPD / 0.8 = 1,125 SF
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833
 TRENCH LENGTH = 375 SF x 0.833 = 312.38 FEET (USE 4 TRENCHES AT 78 L.F.)
 TRENCH SPACING = 2D+W = ((2x1) + 3) = 5' USE 10'

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 3 FEET
 TRENCH DEPTH = 5 FEET
 TRENCH WIDTH (W) = 3 FEET
 EFFECTIVE DEPTH (D) = 2 FEET
 5F OF DRAINFIELD = 900 GPD / 1.2 = 750 SF
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2)) = 0.625
 TRENCH LENGTH = 250 SF x 0.625 = 156.25 FEET (USE 3 TRENCHES AT 52 L.F.)
 TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

Approved Septic System Plan
 Howard County Health Department
 Signature: [Signature] Date: 12/15/2025

SITE PLAN FOR
 BAT INSTALLATION
 4256 MAISEL FARM LANE
 LOT 68 ZONED: RR-DEO
 TAX MAP NO.: 22 GRID NO.: 22 PARCEL NO.: 535
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1"=30' DATE: DECEMBER, 2025
 SHEET 1 OF 2



TOTAL DYNAMIC HEAD CALCULATIONS

STATIC HEAD (FT)	27.38
FRICITION HEAD (FT)	10.27
DISTAL END HEAD (FT)	2
TOTAL DYNAMIC HEAD (FT)	39.65
GALLONS PER MINUTE	80 GPM
DOSE	289 GAL
PUMP RUN TIME	3.28 MIN

DYNAMIC HEAD
370.3 LF X 1.80 FT PER 100 LF OF 3" PIPE = 6.18 FT OF FRICTION HEAD
199.5 LF X 2.05 FT PER 100 LF OF 2" PIPE = 4.09 FT OF FRICTION HEAD
VERTICAL FROM PUMP OFF TO HIGH POINT IN PUMP CHAMBER = 2.25 FT OF HEAD
HIGH POINT IN PUMP CHAMBER TO HIGHEST ELEV OF SYSTEM = 25.13 FT (PUMP OUT IS THE HIGHEST POINT)
2.0 FT DISTAL END HEAD
TOTAL DYNAMIC HEAD = 39.65 FT

(VOLUME OF LATERALS) 199.5 FT OF 2" LATERALS X 0.632 = 32.6 X 7 = 228.2 GALLONS
(VOLUME FORCE MAIN) 162.2 FT OF 3" FM X 0.3672 = 60 GALLONS
228.2 + 60 = 288.2
USE 289 GALLON DOSE

(TOTAL DOSE FROM PUMP FOR EACH TRENCH)
TRENCH 1 DOSE GPM = 1.63 (2 X 9 PERFORATION PER LATERAL) = 29.3 GPM
TRENCH 2 DOSE GPM = 1.99 (2 X 7 PERFORATION PER LATERAL) = 27.9 GPM
TRENCH 3 DOSE GPM = 2.57 (2 X 6 PERFORATION PER LATERAL) = 30.8 GPM
(TRENCH 1) 29.3 GPM + (TRENCH 2) 27.9 GPM + (TRENCH 3) 30.8 GPM = 88 GPM
(RUN TIME = 3.28 MIN (80 GPM X 3.28 = 262 GALLON DOSE)
PUMP NEEDS TO HANDLE 80 GPM AT 39.65 FT OF HEAD
USE 1.5 HP (WE15H GOULDS PUMP)

LOW PRESSURE DOSING TRENCH SEWAGE DISPOSAL SYSTEM INSPECTION CHECKLIST

I. SITE PREPARATION Date: _____

A. Dosing trenches correctly staked out in proper location _____

B. Area cleared of brush _____

C. Fill cap (if required) properly placed: N/A _____

D. Soil moisture level low enough to permit construction _____

E. Location of pretreatment unit, septic tank (s) and pumping station properly staked out _____

F. Site protected from compaction by vehicles or heavy equipment _____

II. CONSTRUCTION Date: _____

A. Septic Tank (s) or BAT units _____

- Number of tanks _____
- Tank type and construction meet specifications (i.e., top-seam, baffled, etc.) _____
- Vegetation removed before placement _____
- Site disked or plowed before placement _____
- Proper installation _____
- Inlet and outlet pipes at proper elevations and sealed at tank connections _____
- Raffles and/or tees properly installed _____
- Tank water tightness checked _____
 - Weep hole in tank wall/bottom sealed if present _____
 - 24-hour leakage test conducted if necessary _____

B. Pump Chamber Date: _____

- Design specifications met _____
- Six-inch block present under pump _____
- Control panel meets specifications _____
- Event counter/timer time meter/flow meter installed _____
- Proper float elevations (on/off/alarm) _____
- Quick disconnect/siphon hole present (if required) _____
- Proper elevation of inlet/outlet pipe _____
- Pipes through tank walls sealed _____
- Valves meet specifications _____
- Tank joints above seasonal high water level _____
- Access provided _____
- One-day design flow storage capacity above high level alarm _____
- Force main diameter as specified _____
- High water alarm on separate circuit _____

C. Trench Construction Date: _____

- Absorption trenches dug to proper depth _____
- Absorption trenches of proper width _____
- Absorption trenches level on bottom _____
- Spacing of trenches correct _____
- Earthen dam in trenches (if required) properly installed _____
- Trenches protected from slitting-in during construction _____

D. Distribution System Date: _____

- Proper fittings used at joints (pressure-type) _____
- Fittings adequately bonded _____
- Proper diameter of manifold (s) _____
- Proper diameter of lateral piping _____
- Proper lateral length _____
- Proper diameter of lateral perforations _____
- Perforations oriented downward _____
- End perforations suitable (staggered/in end cap/on turn up radius) _____
- Laterals at proper elevation in trench _____
- Proper depth of gravel below laterals _____
- Proper depth of gravel above laterals _____
- Suitable gravel used in trenches _____
 - Size and type 3/4" - 2" #20-40 _____
 - Clean _____

E. Trench Cover and Site Stabilization Date: _____

- Span Geotextile fabric in place above gravel layer _____

III. Monitoring Apparatus Date: _____

F. Monitoring Apparatus Date: _____

- Observation ports _____
 - Proper location and number _____
 - Installed to proper depth _____
- Lateral turn-ups in place (staked) _____
- Groundwater monitoring wells (if required) _____
 - Specified diameter _____
 - Specified depth _____
 - Screened in proper stratum _____
 - Grouted _____

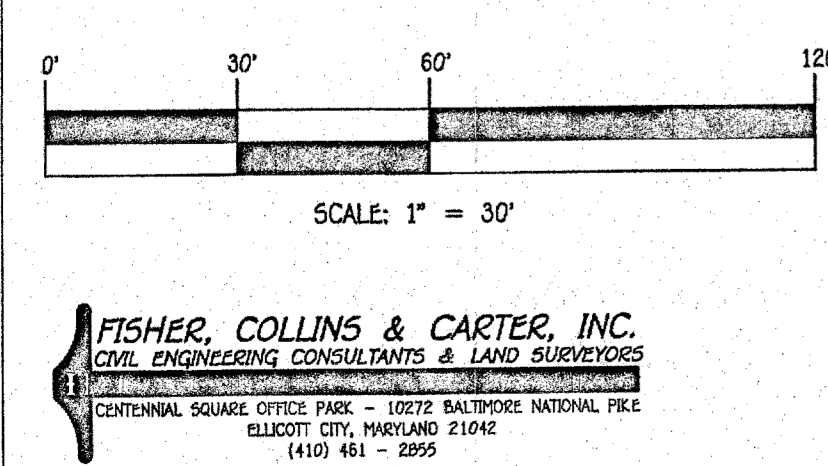
G. Site Drainage (if required) Date: _____

- Surface water diversion _____
- Curtain drain _____
 - Width _____
 - Depth _____
 - Length _____
- Vertical drain _____
 - Width _____
 - Depth _____
 - Length _____

III. Pumping System Test Date: _____

- Pump-on switch is operational _____
- Pump-off switch is operational _____
- High level alarm switch is operational _____
- Volume of drawdown corresponds with specified dose _____
- System achieves specified pressure _____

IV. Comments Date: _____



OWNER
THOMAS H. PRICE III
4254 MAISEL FARM LANE
ELLCOTT CITY, MARYLAND 21042

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. 21020, EXPIRATION DATE: 01/25/26.

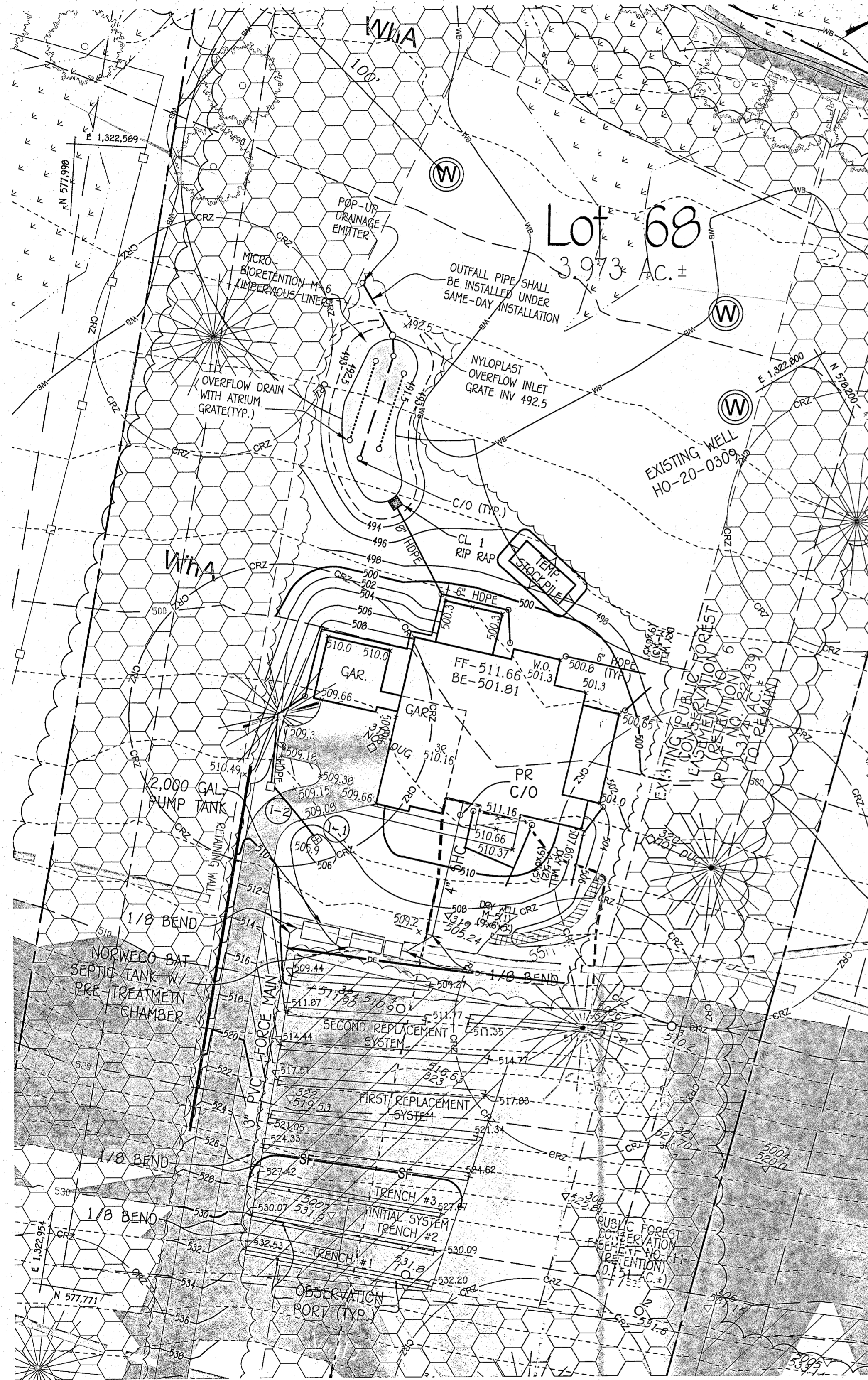
Paul G. Cavanaugh
PAUL G. CAVANAUGH
DEC. 12, 2025
DATE

SITE PLAN FOR BAT INSTALLATION
4256 MAISEL FARM LANE
LOT 68 ZONED: RR-DEO
TAX MAP NO.: 22 GRID NO.: 22 PARCEL NO.: 535
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: DECEMBER, 2025
SHEET 2 OF 2

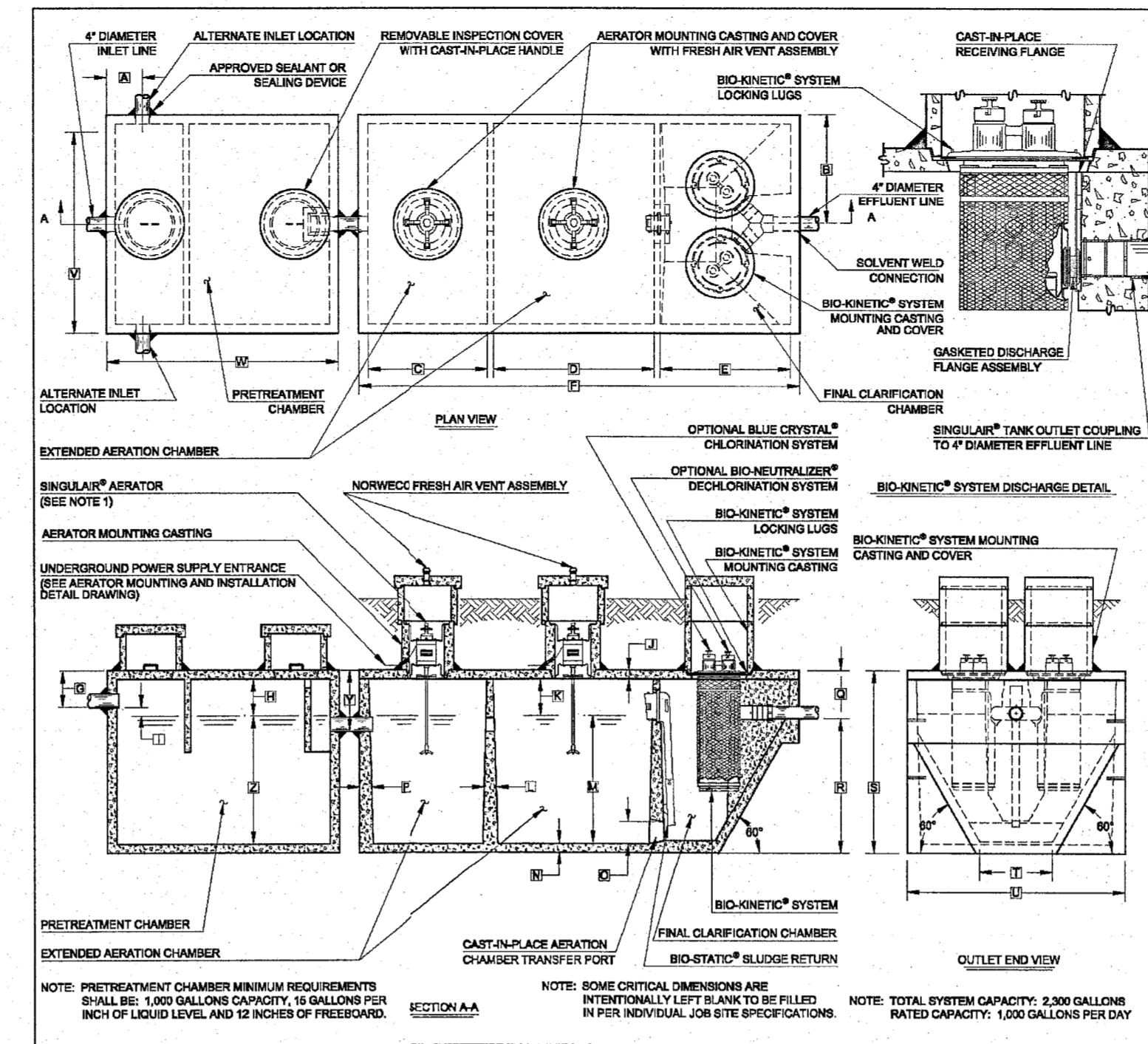
4" #2
6" #1
6" overtop
286 P.S.F.

- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- THE WELL HO-20-0309 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
- 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.
- THE ENGINEER IS REGISTERED WITH MDE TO PROVIDE ON-SITE WASTEWATER SERVICE IN MARYLAND.

- THE SEPTIC SYSTEM IS DESIGNED FOR A MAXIMUM OF 6 BEDROOMS AND WILL NOT BE ABLE TO INCREASE BEYOND A 6 BEDROOM HOUSE. THERE IS NO AVAILABLE AREA LEFT TO PERFORM TEST ON THIS LOT TO EVER INCREASE THE SEPTIC FLOW BEYOND 900 GALLONS PER DAY.
- CONTRACTOR TO PERFORM CONSTRUCTION PER CURRENT OSHA STANDARDS.
- TOPOGRAPHY IS BASED ON FIELD SURVEY BY FISHER, COLLINS, AND CARTER, INC. IN APRIL 2023 AND SUPPLEMENTED WITH HOWARD COUNTY GIS.
- BASEMENT SERVICES REQUIRES USE OF AN EJECTOR PUMP.
- THE PROPOSED M-6 MICRO-BIORETENTION IS TO HAVE AN IMPERIOUS LINER BECAUSE OF THE PROXIMITY TO THE ALTERNATE WELL LOCATION.



FFE 511.66
 S5E 501.81
 INV. OUT OF HOUSE = 506.01
 PROP. GROUND AT CLEANOUT #1 = 510.00
 INV. INTO CLEANOUT = 505.91
 INV. OUT OF CLEANOUT = 505.81
 EX. GROUND AT SEPTIC TANK = 507.62
 PROP. GRADE ABOVE SEPTIC TANK = 507.92
 TOP OF SEPTIC TANK = 505.60
 INV. INTO SEPTIC TANK = 504.60
 INV. OUT OF SEPTIC TANK = 504.27
 EX. GROUND AT PUMP TANK = 507.05
 PROP. GRADE ABOVE PUMP TANK = 507.96
 TOP OF PUMP TANK = 505.34
 INV. INTO PUMP TANK = 504.17
 INV. OUT OF PUMP TANK = 503.92



GENERAL NOTES:

- SINGULAR® AIRATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 80 MINUTES PER HOUR.
- FALL THROUGH SINGULAR® PLANT FROM INLET INVERT TO OUTLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATION, PREPARED RISERS MUST BE USED TO EXTEND AIRATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE. INSPECTION CHAMBER PRETREATMENT CHAMBER MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
- TANK REINFORCED PER ACI STD. 318.
- REMOVABLE COVER ON RISERS WITHIN IN EXCESS OF SEVENTY-FIVE POUNDS IN EXCESS OF SEVENTY-FIVE POUNDS BACK TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL LICENSED SINGLE-PHASE DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEER'S APPROVAL:
 I HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
 DATE: _____
 NAME: _____

CONTRACTOR'S CERTIFICATION:
 I HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
 DATE: _____
 NAME: _____

CRITICAL DIMENSIONS

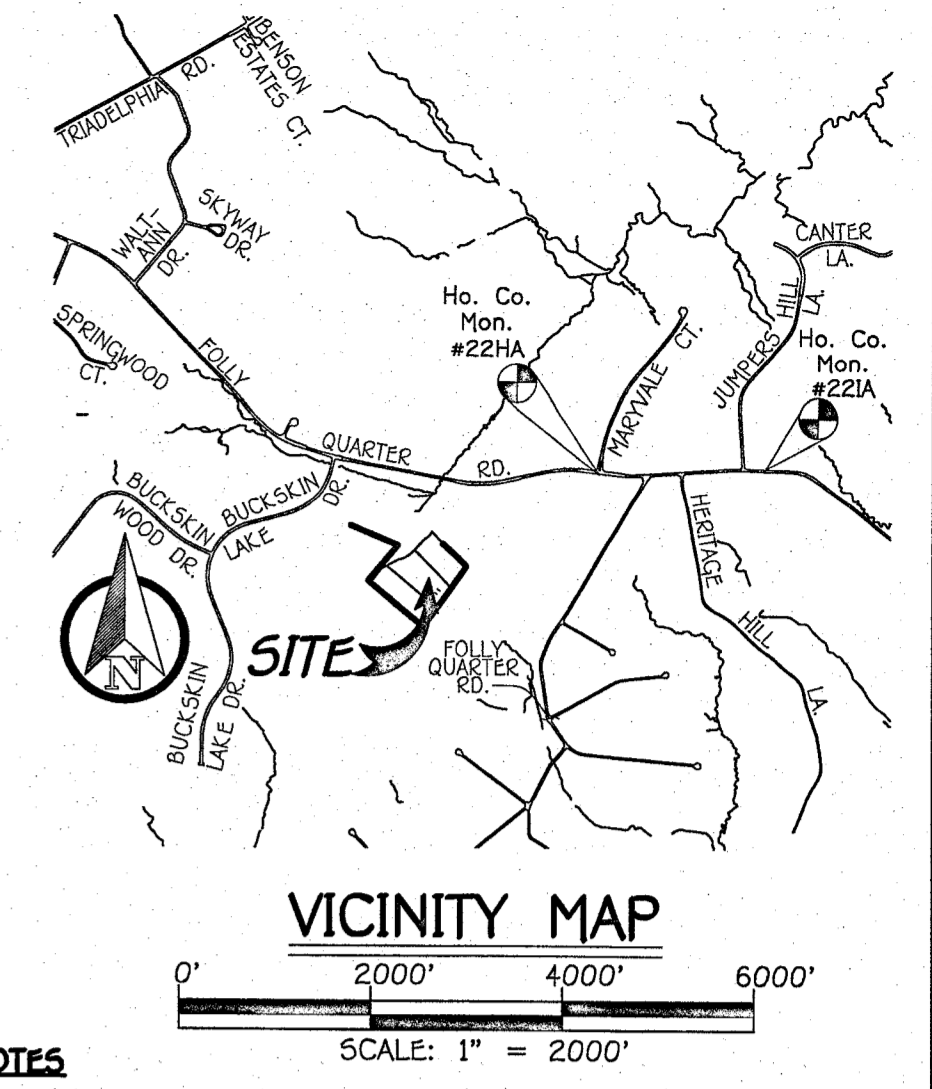
A1-C-6"	A1-C-3"
B-6"	B-3"
C1-C-6"	C1-C-3"
D1-C-6"	D1-C-3"
E1-C-6"	E1-C-3"
F1-C-6"	F1-C-3"
G1-C-6"	G1-C-3"
H1-C-6"	H1-C-3"
I1-C-6"	I1-C-3"
J1-C-6"	J1-C-3"
K1-C-6"	K1-C-3"
L1-C-6"	L1-C-3"
M1-C-6"	M1-C-3"

NOTE: PRETREATMENT CHAMBER MINIMUM REQUIREMENTS SHALL BE: 100 GALLON CAPACITY PER INCH OF LIQUID LEVEL AND 12 INCHES OF FREEBOARD.

NOTE: SOME CRITICAL DIMENSIONS ARE INTENTIONALLY LEFT BLANK TO BE FILLED IN PER INDIVIDUAL JOB SITE SPECIFICATIONS.

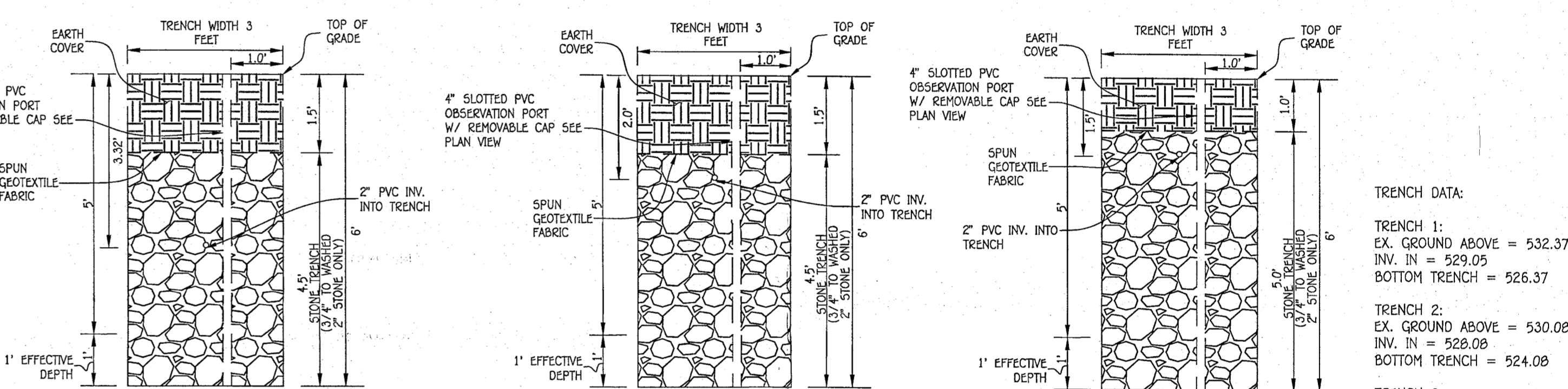
NOTE: TOTAL SYSTEM CAPACITY: 2,000 GALLONS RATED CAPACITY: 1,000 GALLONS PER DAY

- LEGEND**
- EXISTING 2' CONTOURS
 - EXISTING 10' CONTOURS
 - EXISTING TREE LINE
 - DENOTES WELL LOCATION
 - DENOTES FAILED PERC 7/1992
 - DENOTES PASSED PERC 7/1992
 - ▨ DENOTES SEWAGE DISPOSAL AREA
 - △ DENOTES PASSED PERC 7/2022
 - △ DENOTES FAILED PERC 7/2022
 - △ DENOTES PASSED PERC 10/12/2022
 - △ DENOTES FAILED PERC 10/12/2022
 - ▨ DENOTES 15%-24.9% SLOPES
 - ▨ DENOTES 25% & - SLOPES



BAT NOTES

- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING A PERSON SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.
- 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.
- ELECTRICAL WORK FOR BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN OPERATIONS AND MAINTENANCE AGREEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDED OF HOWARD COUNTY.



INITIAL TRENCH 1 DETAIL
 SCALE 1" = 2"

INITIAL TRENCH 2 DETAIL
 SCALE 1" = 2"

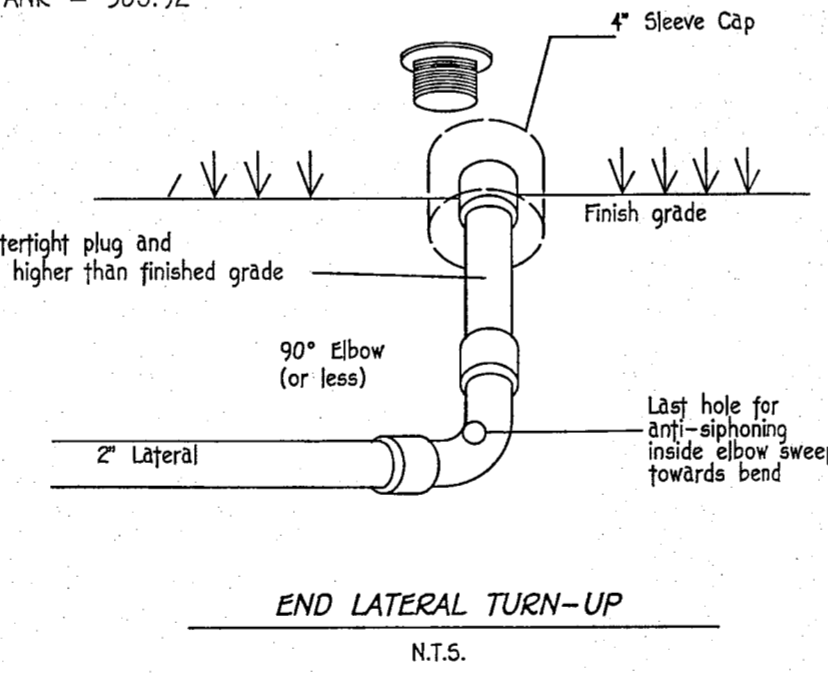
INITIAL TRENCH 3 DETAIL
 SCALE 1" = 2"

TRENCH DATA:

TRENCH 1:
 EX. GROUND ABOVE = 532.37
 INV. IN = 529.05
 BOTTOM TRENCH = 526.37

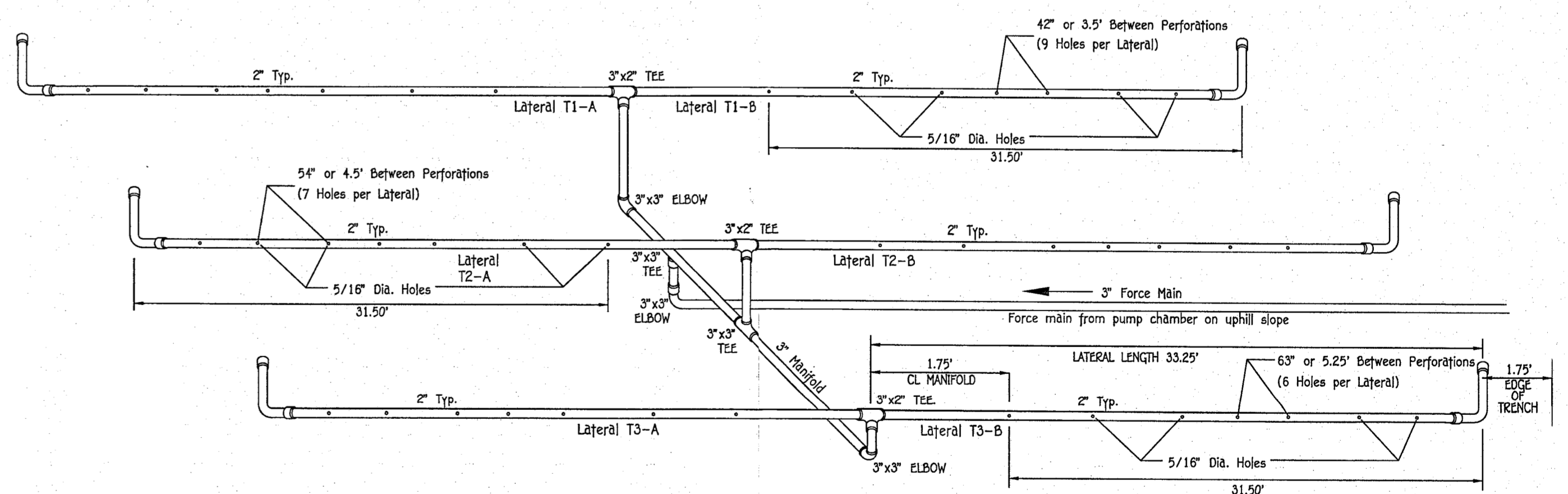
TRENCH 2:
 EX. GROUND ABOVE = 530.08
 INV. IN = 528.08
 BOTTOM TRENCH = 524.08

TRENCH 3:
 EX. GROUND ABOVE = 527.55
 INV. IN = 526.05
 BOTTOM TRENCH = 521.55



LATERAL DETAIL CHART

TRENCH NO.	LATERAL NO.	RELATIVE ELEV.	TRENCH LENGTH	LATERAL LENGTH	LATERAL DIA. (IN)	HEAD (FT)	ORIFICE FLOW RATE (GPM)	ORIFICE DIA. (IN)	ORIFICE SPACING (FT)	NO. OF ORIFICES	LATERAL FLOW RATE (GPM)
1	T1-A	529.05	70'	33.25'	2"	2.00'	5/16"	1.83	3.0'	9	14.7
1	T1-B	529.05	70'	33.25'	2"	2.00'	5/16"	1.83	3.0'	9	14.7
2	T2-A	528.08	70'	33.25'	2"	2.97'	5/16"	1.99	4.5'	7	13.9
2	T2-B	528.08	70'	33.25'	2"	2.97'	5/16"	1.99	4.5'	7	13.9
3	T3-A	526.05	70'	33.25'	2"	5.00'	5/16"	2.57	5.25'	6	15.4
3	T3-B	526.05	70'	33.25'	2"	5.00'	5/16"	2.57	5.25'	6	15.4



TRENCH LATERAL AERIAL/PLAN VIEW WITH LINEAR DIMENSIONS
 (Modified from EPA Design Manual) N.T.S.

EACH LATERAL SHALL HAVE 5/16" DIA. HOLES
 TRENCH LENGTH = 70'
 THREE CENTER FEED LATERALS = 33.25'

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 5 FEET
 TRENCH DEPTH = 6 FEET
 TRENCH WIDTH (W) = 3 FEET
 EFFECTIVE DEPTH (D) = 1 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+(2x1)) = 0.833
 TRENCH LENGTH = 250 SF x 0.833 = 210 FEET (USE 3 TRENCHES AT 70 L.F.)
 TRENCH SPACING = 2D+W = ((2x1) + 3) = 5' USE 10'

1ST REPLACEMENT SYSTEM

SEWAGE DISPOSAL SYSTEM DATA DESIGN FOR 6 BEDROOMS
 LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 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 = 900 GPD / 0.8 = 1,125 SF
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833
 TRENCH LENGTH = 375 SF x 0.833 = 312.38 FEET (USE 4 TRENCHES AT 78 L.F.)
 TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

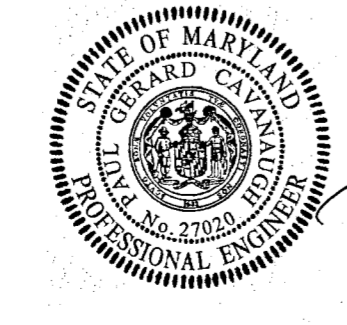
2ND REPLACEMENT SYSTEM

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 3 FEET
 TRENCH DEPTH = 5 FEET
 TRENCH WIDTH (W) = 3 FEET
 EFFECTIVE DEPTH (D) = 2 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+(2x2)) = 0.625
 TRENCH LENGTH = 250 SF x 0.625 = 156.25 FEET (USE 3 TRENCHES AT 52 L.F.)
 TRENCH SPACING = 2D+W = ((2x2) + 3) = 7' USE 10'

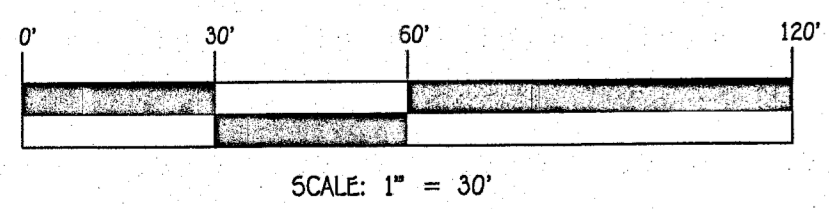
PROFESSIONAL CERTIFICATION

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. 20120, EXPIRATION DATE: 01/25/26.

Paul G. Cavanaugh
 PAUL G. CAVANAUGH
 JULY 14, 2025
 DATE



PLAN
 SCALE: 1" = 30'

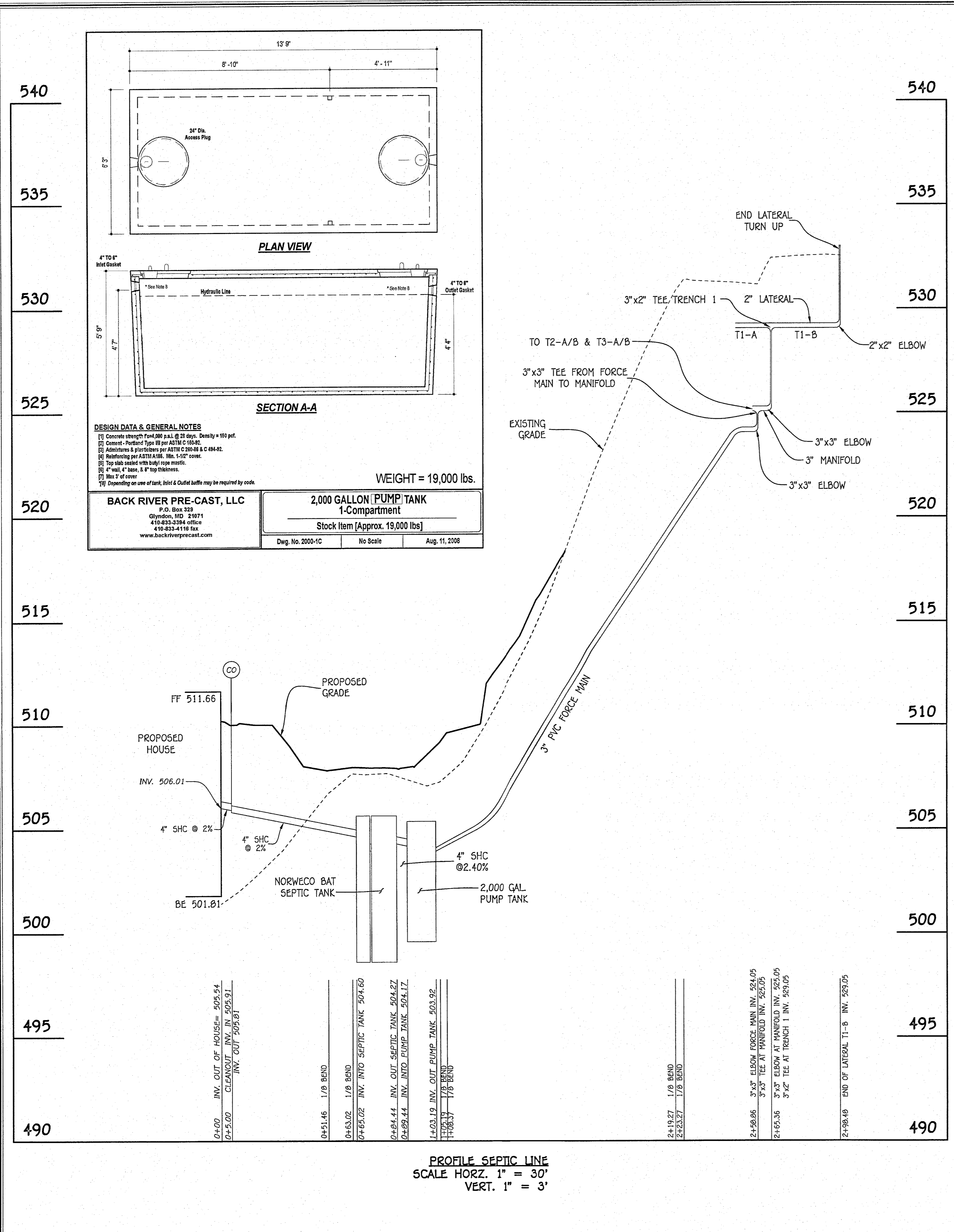


FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10725 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2825

OWNER
 THOMAS H. PRICE III
 4254 MAISEL FARM LANE
 ELICOTT CITY, MARYLAND 21042

Approved Septic System Plan
 Howard County Health Department
Paul G. Cavanaugh
 Signature Date 7/14/2025

SITE PLAN FOR BAT INSTALLATION
4256 MAISEL FARM LANE
 LOT 68 ZONED: RR-DEO
 TAX MAP NO.: 22 GRID NO.: 22 PARCEL NO.: 535
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: JULY, 2025
 SHEET 1 OF 2



PROFILE SEPTIC LINE
SCALE HORZ. 1" = 30'
VERT. 1" = 3'

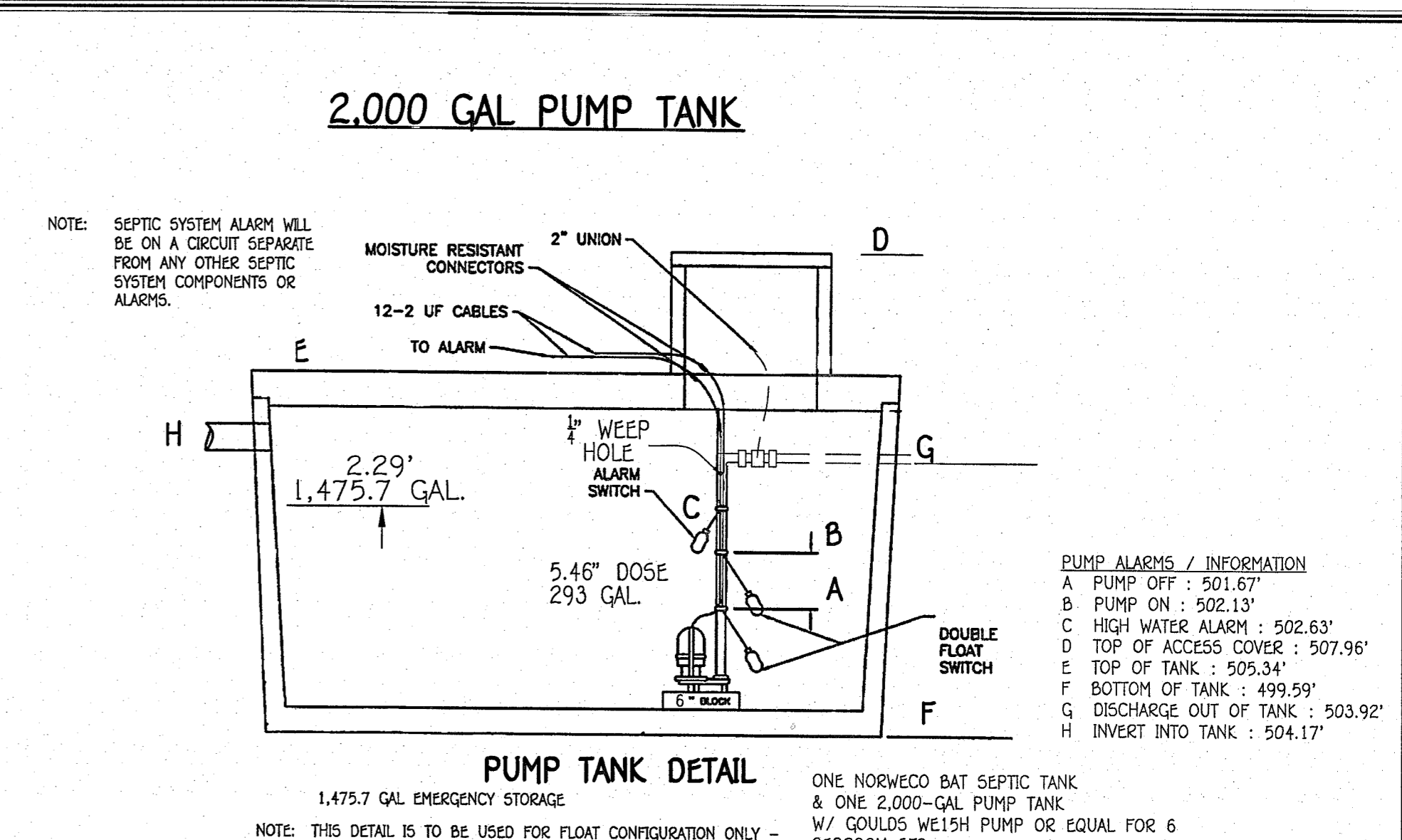
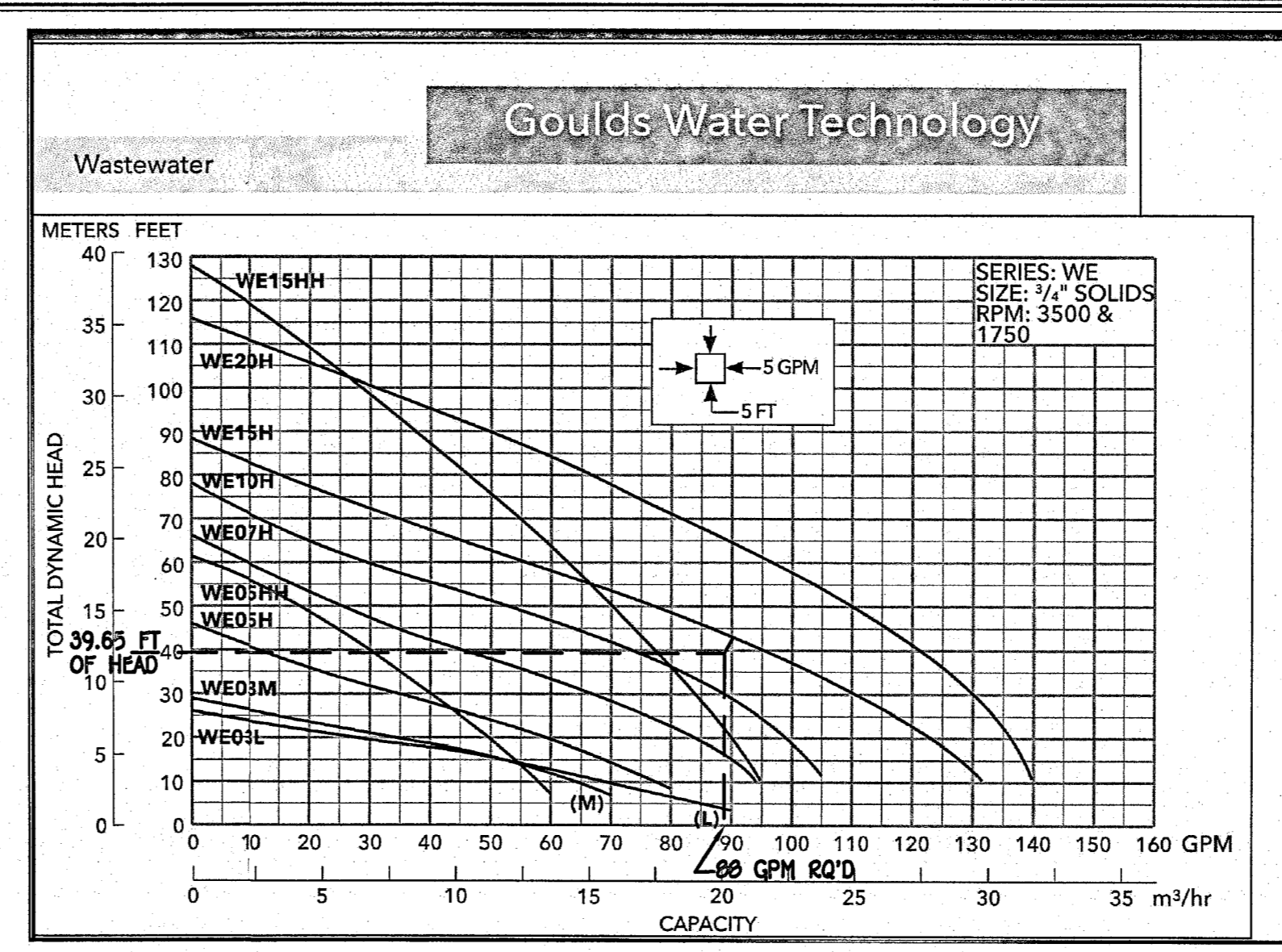
DESIGN DATA & GENERAL NOTES

- 1) Covers strength 7500 psf @ 12" depth. Density = 150 pcf.
- 2) Covers - Portland Type III per ASTM C-155-92.
- 3) Admittance & partitions per ASTM C-155-92 & C-494-02.
- 4) Reinforcing per ASTM A-618, Min. 1.0" cover.
- 5) Top steel welded with 3/8" pipe inside.
- 6) 4" max. 4" max. 4" top thickness.
- 7) Max. 7" of cover.
- 8) Depending on use of tank, inlet & outlet baffles may be required by code.

BACK RIVER PRE-CAST, LLC
P.O. Box 329
Glyndon, MD 21874
410-833-3384 office
410-833-4116 fax
www.backriverprecast.com

2,000 GALLON PUMP TANK
1-Compartment
Stock Item (Approx. 19,000 lbs)
Dwg. No. 2003-1C No Scale Aug. 11, 2008

WEIGHT = 19,000 lbs.



- 3" SCH. 40 PVC = 162.2 LF
1 UNION @ 2 EQUIVALENT FEET = 2 LF
4 45° BENDS @ 6 EQUIVALENT FEET = 24 LF
3 90° ELBOW @ 10 EQUIVALENT FEET = 30 LF
5 TEE @ 25 EQUIVALENT FEET = 125 LF
TOTAL LINEAR FEET OF 3" SCH. 40 PVC = 343.2 LF
- 6 2" SCHED. 40 PVC LATERALS = 200 LF

DYNAMIC HEAD
370.3 LF X 1.80 FT PER 100 LF OF 3" PIPE = 6.19 FT OF FRICTION HEAD
199.5 LF X 2.05 FT PER 100 LF OF 2" PIPE = 4.09 FT OF FRICTION HEAD
VERTICAL FROM PUMP OFF TO HIGH POINT IN PUMP CHAMBER = 2.25 FT OF HEAD
HIGH POINT IN PUMP CHAMBER TO HIGHEST ELEV OF SYSTEM = 25.13 FT (PUMP OUT IS THE HIGHEST POINT)
2.0 FT DISTAL END HEAD
TOTAL DYNAMIC HEAD = 39.65 FT

(VOLUME OF LATERALS) 199.5 FT OF 2" LATERALS X 0.632 = 32.6 X 7 = 228.2 GALLONS
(VOLUME FORCE MAIN) 162.2 FT OF 3" FM X 0.3672 = 60 GALLONS
228.2 + 60 = 288.2
USE 289 GALLON DOSE

(TOTAL DOSE FROM PUMP FOR EACH TRENCH)
TRENCH 1 DOSE GPM = 1.63 (2 X 9 PERFORATION PER LATERAL) = 29.3 GPM
TRENCH 2 DOSE GPM = 1.99 (2 X 7 PERFORATION PER LATERAL) = 27.9 GPM
TRENCH 3 DOSE GPM = 2.57 (2 X 6 PERFORATION PER LATERAL) = 30.8 GPM
(TRENCH 1) 29.3 GPM + (TRENCH 2) 27.9 GPM + (TRENCH 3) 30.8 GPM = 88 GPM
(RUN TIME = 3.28 MIN (88 GPM X 3.28 = 289 GALLON DOSE)

PUMP NEEDS TO HANDLE 88 GPM AT 39.65 FT OF HEAD
USE 1.5 HP (WE15H GOULDS PUMP)

TOTAL DYNAMIC HEAD CALCULATIONS

STATIC HEAD (FT)	27.38
FRICTION HEAD (FT)	10.27
DISTAL END HEAD (FT)	2
TOTAL DYNAMIC HEAD (FT)	39.65
GALLONS PER MINUTE	88 GPM
DOSE	289 GAL
PUMP RUN TIME	3.28 MIN

LOW PRESSURE DOSING TRENCH SEWAGE DISPOSAL SYSTEM INSPECTION CHECKLIST

I. SITE PREPARATION Date: _____

- Dosing trenches correctly staked out in proper location
- Area cleared of brush
- Fill cap (if required) properly placed:
 1. Proper depth
 2. Paced without compacting soil
 3. Vegetation removed before placement
 4. Site diked or plowed before placement
- Soil moisture level low enough to permit construction
- Location of pretreatment unit, septic tank (s) and pumping station properly staked out
- Site protected from compaction by vehicles or heavy equipment

II. CONSTRUCTION Date: _____

- Septic Tank (s) or BAT units**
 1. Number of tanks
 2. Tank type and construction meet specifications (i.e., top-seam, baffled, etc.)
 3. Capacity requirements met
 4. Proper installation
 5. Inlet and outlet pipes at proper elevations and sealed at tank connections
 6. Baffles and/or tees properly installed
 7. Tank water tightness checked
 - a. Weep hole in tank wall/bottom sealed if present
 - b. 24-hour leakage test conducted if necessary
- Trench Construction** Date: _____
 1. Design specifications met
 2. Six-inch block present under pump
 3. Control panel meets specifications
 4. Event counter/elapsed time meter/flow meter installed
 5. Proper float elevations (on/off/alarm)
 6. Quick disconnect/siphon hole present (if required)
 7. Proper elevation of influent pipe
 8. Pipes through tank walls sealed
 9. Valves meet specifications
 10. Tank joints above seasonal high water level
 11. Access provided
 12. One-day design flow storage capacity above high level alarm
 13. Force main diameter as specified
 14. High water alarm on separate circuit
- Distribution System** Date: _____
 1. Proper fittings used at joints (pressure-type)
 2. Fitting adequately bonded
 3. Proper diameter of manifold (s)
 4. Proper diameter of lateral piping
 5. Proper lateral length
 6. Proper diameter of lateral perforations
 7. Proper spacing of lateral perforations
 8. Perforations oriented downward
 9. End perforation suitable (sleeved/in end cap/on turn up radius)
 10. Laterals at proper elevation in trench
 11. Proper depth of gravel below lateral
 12. Proper depth of gravel above lateral
 13. Suitable gravel used in trenches
 - a. Size and type
 - b. Clean
- Trench Cover and Site Stabilization** Date: _____
 1. Span Geotextile fabric in place above gravel layer

III. Monitoring Apparatus Date: _____

- Observation ports
 - a. Proper location and number
 - b. Installed to proper depth
- Lateral turn-ups in place (sleeved)
- Groundwater monitoring wells (if required)
 - a. Specified diameter
 - b. Specified depth
 - c. Screened in proper stratum
 - d. Grouted
- Site Drainage (if required) Date: _____
 1. Surface water diversion
 2. Curtain drain
 - a. Width
 - b. Depth
 - c. Length
 3. Vertical drain
 - a. Width
 - b. Depth
 - c. Length

IV. Pumping System Test Date: _____

- Pump-on switch is operational
- Pump-off switch is operational
- High level alarm switch is operational
- Volume of drawdown corresponds with specified dose
- System achieves specified pressure

V. Comments Date: _____

SCALE: 1" = 30'

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JULY 2025
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SHEET 2 OF 2

