



**Howard County
Health Department**

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

Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

RECEIPT DATE: 9-30-21 **ONSITE SEWAGE DISPOSAL SYSTEM** P 570175

APPROVAL DATE: 2/10/22 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 6009 BRICKER ROAD, CLARKSVILLE, MD 21029

SUBDIVISION: WILLOWSHIRE LOT: 3 TAX ID: 05-602991

CONTRACTOR: CHAVIS ENTERPRISES & SEPTIC SERVICES EMAIL: sedrick@chavisenterprisesllc.com

CONTRACTOR ADDRESS: 23 EAST ELLENDALE, BEL AIR, MD 21014 PHONE: (410)872-9165

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: TOLL MID-ATLANTIC LP COMPANY, INC EMAIL: Sriley1@tollbrothers.com

OWNER ADDRESS: 250 GIBRALTER ROAD, HORSHAM, PA 19044 PHONE: (410)872-9165

BAT UNIT MODEL: NORWECO TNTLP 750 PUMP SIZE: 0.5 PUMP TANK CAPACITY: 2000

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 10/27/21 DATE RECORDED: 10/27/21

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 6 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>157.5</u>	INLET DEPTH: <u>2.5</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>7.0</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3.5</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: **Install at least one cleanout on SHC.**
BAT unit installation must be certified by manufacturer prior to Final Approval of this permit.
The installed septic system must pass a Pump & Alarm test prior to Health Department release of Use and Occupancy. Ashland EP50M1-20 pump, or equivalent, is recommended.

ISSUED BY: R BRICKER ISSUE DATE: 10-7-21 EXPIRATION DATE: 9-30-22

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM
 ELECTRICAL PERMIT ISSUED E _____
- 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

* see attached

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	2.5'	7'
NUMBER OF TRENCHES 2		
TOTAL LENGTH 170'		
ABSORPTION AREA 510 sq ft + sidewalk		
DISTRIBUTION BOX LEVEL N/A		
DISTRIBUTION BOX BAFFLE		
DISTRIBUTION BOX PORT ↓		

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL yes

MANUFACTURER Back River / Norweco

CAPACITY 750 GAL

SEAM LOC top

TANK LID DEPTH 3'

BAFFLES N/A

BAFFLE FILTER -

MANHOLE LOC inlet, middle, outlet

6" PORT LOC -

WATERTIGHT TEST -

SLOTTED N/A

DATE ON LID 4-2-21

PUMP/SEPTIC TANK LEVEL yes

MANUFACTURER Back River

CAPACITY 2000 GAL

SEAM LOC top

TANK LID DEPTH 3.5'

BAFFLES N/A

BAFFLE FILTER -

MANHOLE LOC inlet + outlet

6" PORT LOC -

WATERTIGHT TEST -

SLOTTED no

DATE ON LID 10-16-21

PRE-CONSTRUCTION:

10/29/2021 LAID OUT 2x85' TRS on contour + CONFIRMED SPEC ON LID. ϕ
 RECONSTRUCTING OF DAMAGED AREA ϕ
 11/5/21 Laid out 2x85' trenches on contour. Adjusted the upper trench about 3' towards road to be on contour. SDA near driveway disturbed and compacted with tire tracks - however regrading it could cause more damage. ϕ

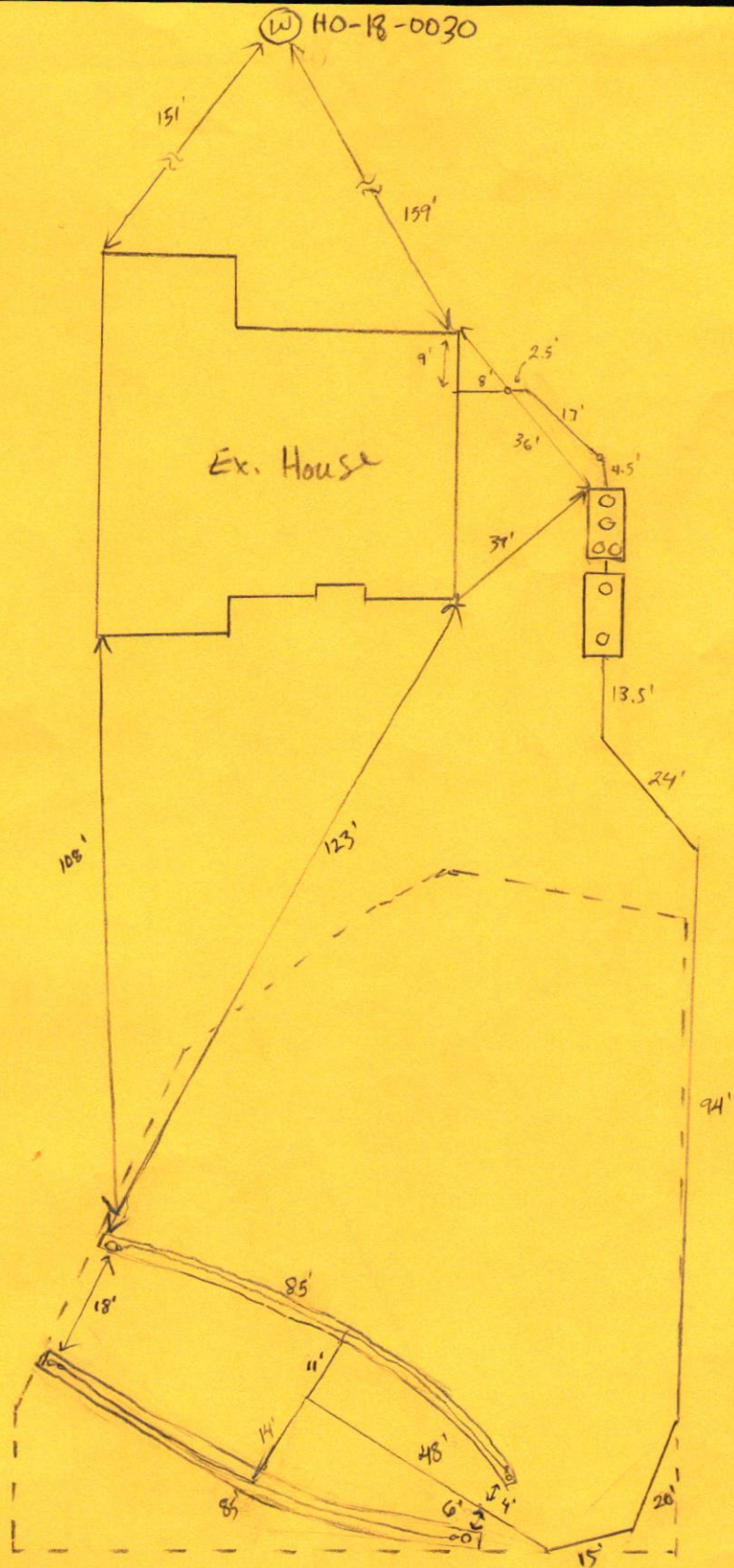
INSTALLATION: 11/8/21 Both tanks set and SL constructed. ϕ
 11/10/21 Most of force main constructed. ϕ 11/12/21 2x85' trenches constructed. Laterals have correct number of perforations spread according to plan. Manifold constructed and connected. OK to backfill. ϕ
 2/10/22 Alarm observed to function. Norweco aerator functions. Pump functions - 4'+ head pressure on lower trenches and 2'+ head on upper trenches. Control box with alarm located on wall outside house. ϕ

FINAL INSPECTOR Susan Thomas DATE OF APPROVAL 2/10/22

6009 Bricker Rd

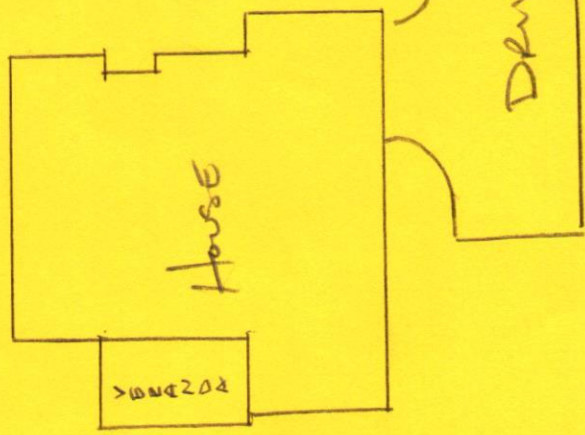
NOT TO SCALE

1" = 30'



Bricker Rd

Ho-18-0030



NOT TO SCALE [1:30]

BICKER ROAD.

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

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

THIS AGREEMENT is made this 15th day of August, among James Holdorf and James Allen, 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 lot 3, 6009 Bricker Rd. Dayton, MD 21036, 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 # 27, Block # 18, Parcel # 36, Deed Reference # 25500-09 and Tax Account # 602991 ("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 Model TNTLP-750 GPD

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

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.

Michael J. Love 10/27/21
Howard County Health Department

[Signature] 8/15/21
Owner #1 Signature Date

James R. Holdorf
Owner #1 Print Name

[Signature] 8/15/21
Owner #2 Signature Date

James R. Allen
Owner #2 Print Name

Buyer #1 Signature Date

Buyer #2 Signature Date

Buyer #1 Print Name

Buyer #2 Print Name

Thomas, Susan

From: Matthew Geckle <mattbackriver@gmail.com>
Sent: Friday, February 11, 2022 3:11 PM
To: Thomas, Susan
Subject: Re: FW: DEEP NORWECO 750's

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

Then we are good.

Matt Geckle
Back River Pre-Cast, LLC
410-833-3394

On Fri, Feb 11, 2022 at 2:52 PM Thomas, Susan <sathomas@howardcountymd.gov> wrote:

Yes

From: mattbackriver <mattbackriver@gmail.com>
Sent: Friday, February 11, 2022 2:51 PM
To: Thomas, Susan <sathomas@howardcountymd.gov>
Subject: RE: FW: DEEP NORWECO 750's

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

Is 6009 less than 5 ft?

Sent from my T-Mobile 4G LTE Device

----- Original message -----

From: "Thomas, Susan" <sathomas@howardcountymd.gov>

Date: 2/11/22 2:46 PM (GMT-05:00)

To: Matthew Geckle <mattbackriver@gmail.com>

Subject: FW: DEEP NORWECO 750's

Hi Matt,

I know you sent this email regarding 6010 Bricker Rd & 6516 Mare Ct – can you confirm the same for the tanks at 6009 Bricker?

Thanks,

Susan

Susan M. Thomas

Environmental Health Specialist

Well & Septic Program

Bureau of Environmental Health

8930 Stanford Blvd.

Columbia, MD 21045

410-313-6287

sathomas@howardcountymd.gov

www.hchealth.org

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From: Matthew Geckle <mattbackriver@gmail.com>
Sent: Thursday, September 30, 2021 9:09 AM
To: Thomas, Susan <sathomas@howardcountymd.gov>
Cc: Wolf, Kevin <KWolf@howardcountymd.gov>; Ryan Frick <ryan@chavisenterprisesllc.com>
Subject: Re: DEEP NORWECO 750's

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

Susan,

This also applies to the 2000 gal. pump chambers.

They also have an interior support wall.

Thanks,

Matt Geckle

Back River Pre-Cast, LLC

410-833-3394

On Thu, Sep 30, 2021 at 8:54 AM Thomas, Susan <sathomas@howardcountymd.gov> wrote:

Dear Matt,

Thank you. Does this apply to the pump tank as well?

Thanks,

Susan

Susan M. Thomas

Environmental Health Specialist

Well & Septic Program

Bureau of Environmental Health

8930 Stanford Blvd.

Columbia, MD 21045

410-313-6287

sathomas@howardcountymd.gov

www.hchealth.org

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From: Matthew Geckle <mattbackriver@gmail.com>

Sent: Thursday, September 30, 2021 8:42 AM

To: Thomas, Susan <sathomas@howardcountymd.gov>; Wolf, Kevin <KWolf@howardcountymd.gov>; Ryan Frick <ryan@chavisenterprisesllc.com>

Subject: DEEP NORWECO 750's

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

Susan,

The Norweco 750 GPD's used at 6010 Bricker Rd & 6516 Mare Ct. have extra reinforcement in them to allow them to be buried up to 5 feet.

If you need anything else please let me know.

Thanks,

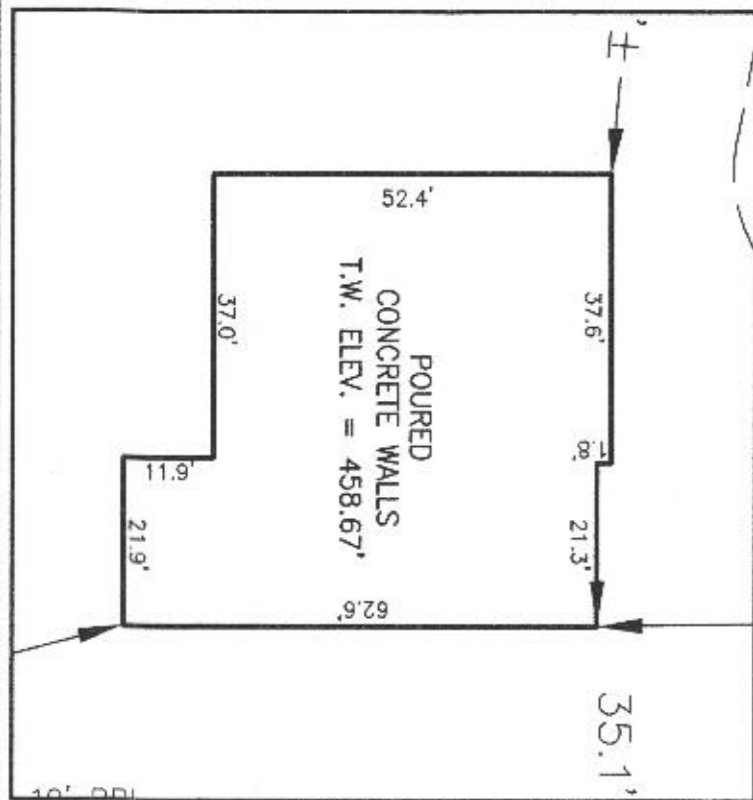
Matt Geckle

Back River Pre-Cast, LLC

410-833-3394

LEGEND:

- BRL BUILDING RESTRICTION LINE
- (W) WELL LOCATION
- T.W. TOP OF WALL
- [] SEPTIC RESERVE AREA
- [] WELL BOX AREA



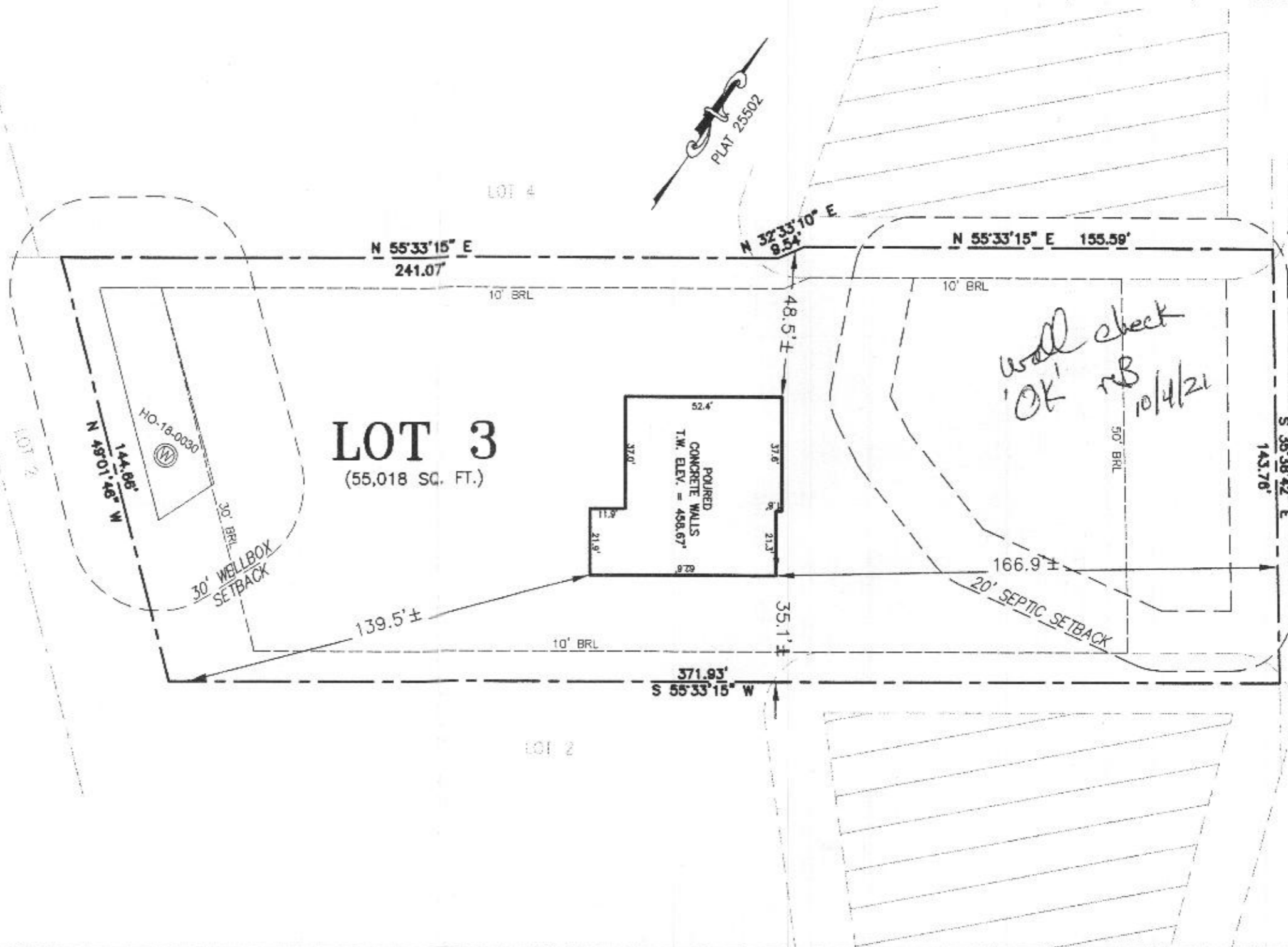
HOUSE ENLARGEMENT
NOT TO SCALE

WELL NUMBER: HO-18-0030

ADDRESS: 6009 BRICKER ROAD
DAYTON, MD 21036

PERMIT No.: B21001454

BUILDING SETBACKS (B.R.L.'s) SHOWN HEREON PER SITE DEVELOPMENT PLAN
SETBACK DISTANCES SHOWN HEREON AS "±" HAVE AN ACCURACY OF ±0.1' FOOT.



BRICKER ROAD

*Wall check
'OK' RB
10/4/21*

SURVEYOR'S CERTIFICATE

THIS WALLCHECK WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. THIS PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS, RIGHT-OF-WAYS, COVENANTS, AND RESTRICTIONS, ETC. OF RECORD, SOME OR ALL OF WHICH MAY OR MAY NOT BE SHOWN AND/OR REFERENCED HEREON. BEARINGS AND DISTANCES OF THE PROPERTY BOUNDARY LINES SHOWN HEREON ARE PER AVAILABLE RECORDS AND HAVE NOT BEEN FIELD VERIFIED. THIS IS NOT A "LOCATION DRAWING" AND IS NOT TO BE USED FOR SETTLEMENT PURPOSES.



Michael Joe Boyce 21328 9/20/21
SIGNATURE: MICHAEL JOE BOYCE MD. LIC NO. DATE

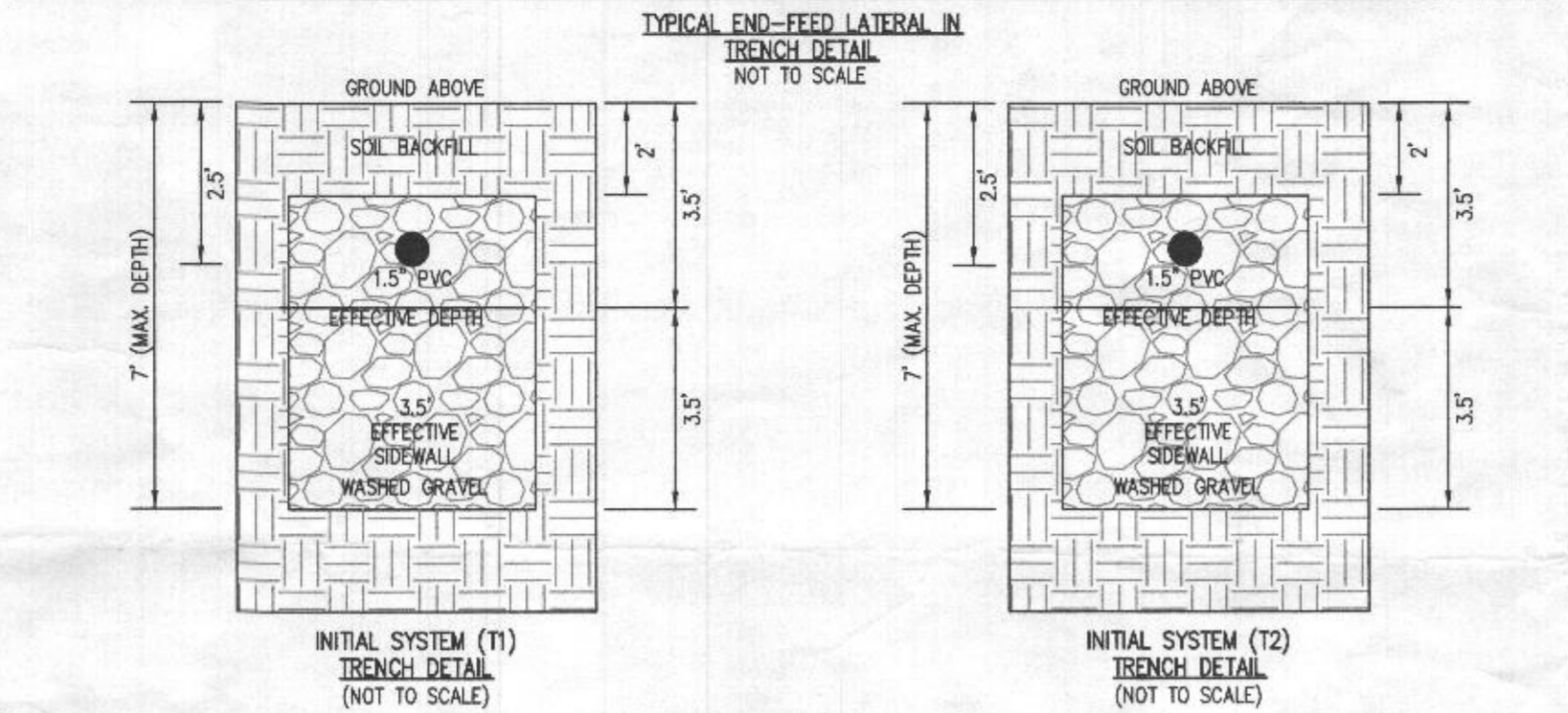
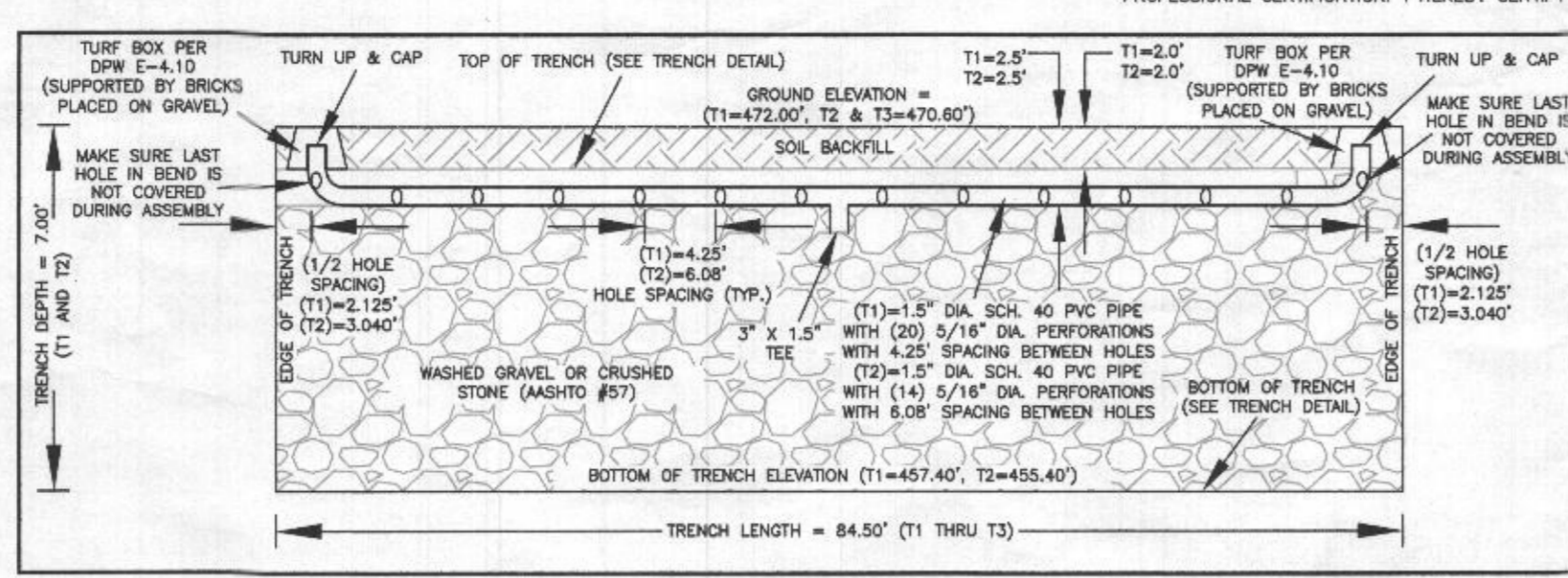
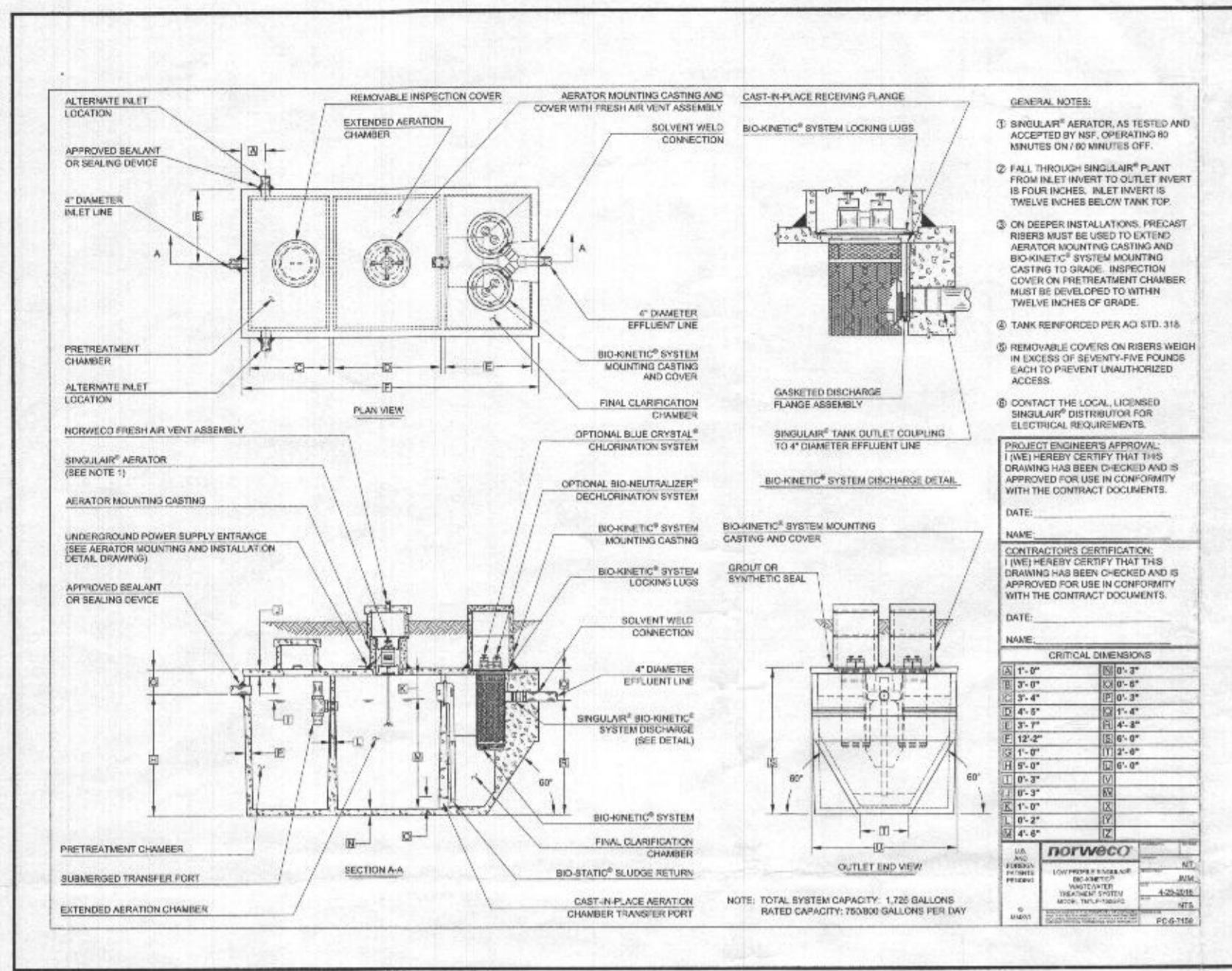
WALLCHECK
LOT 3
WILLOWSHIRE
LIBER 18479, FOLIO 296
PLAT NO. 25502
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ESE CONSULTANTS

ENGINEERING • PLANNING • SURVEYING • ENVIRONMENT

ESE Consultants, Inc.
7164 Columbia Gateway Drive • Suite 230 • Columbia, MD 21046
T: 410-872-9105

DATE: 09/20/2021 SCALE: 1" = 40' FILE: WC LOT 3
CHK'D: M.J.B. JOB NO: 4520 DRAWN: V.X.P.

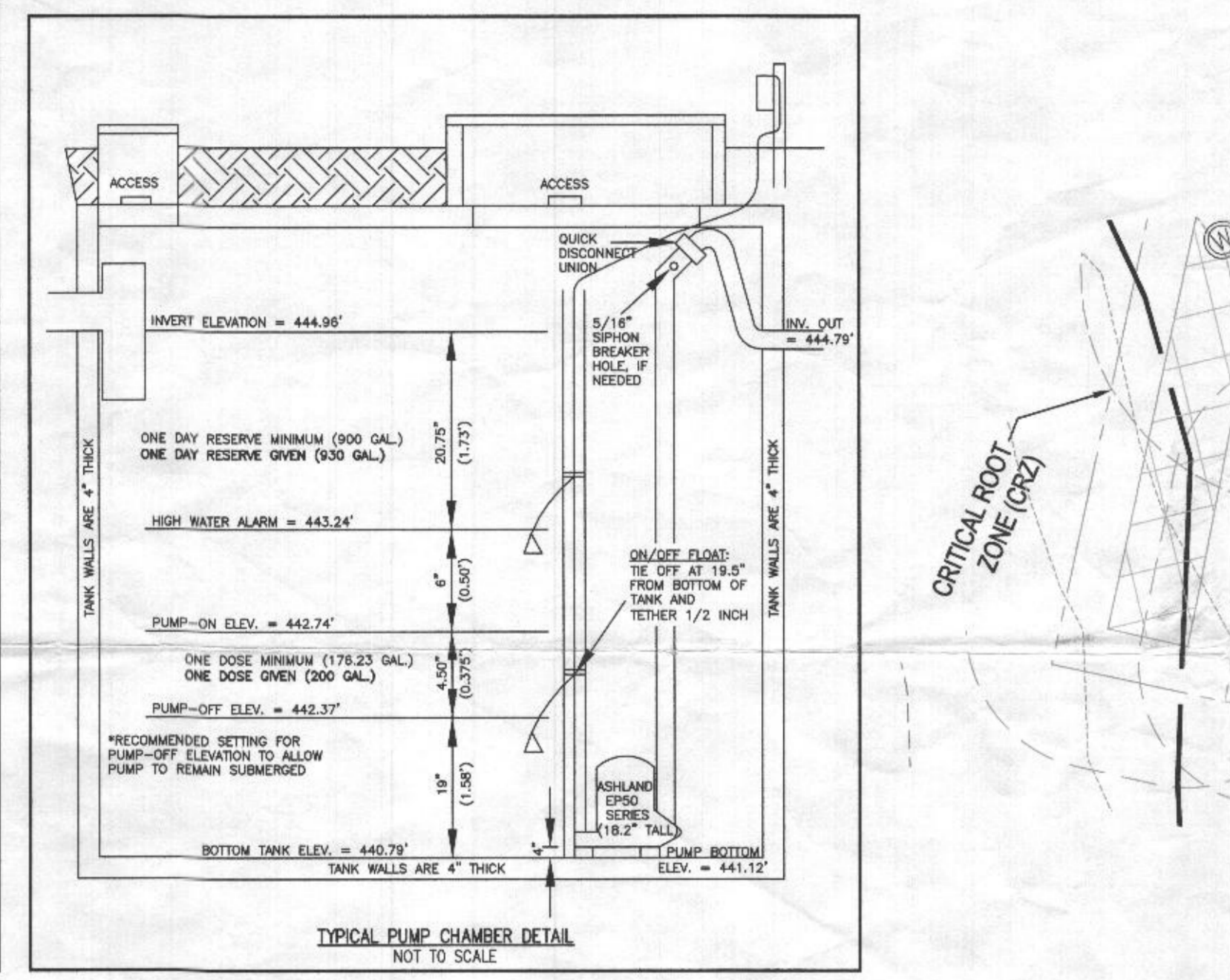
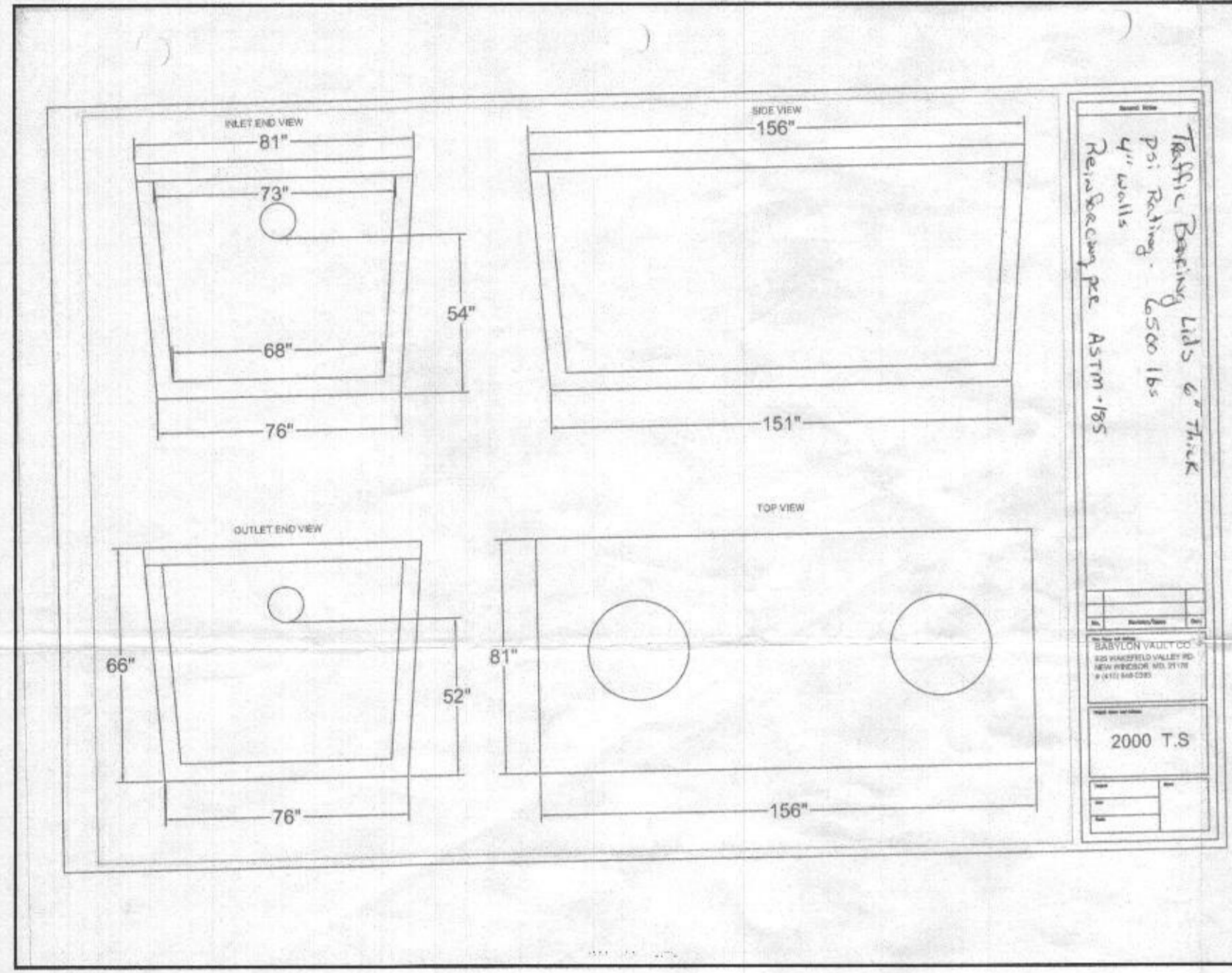


HOUSE OPTIONS:
 TWO CAR SIDE ENTRY GARAGE
 FINISHED LOWER LEVEL
 WALK-OUT BASEMENT
 ADDITIONAL SINGLE WINDOW
 OPTIONAL BATH FOR FINISHED LOWER LEVEL
 OPTIONAL DROP ZONE
 LAUNDRY COVERED DECK
 4 HOPPER WINDOWS INCLUDED IN BASEMENT
 DOUBLE WIDE DRIVEWAY TAIL

OPTION NO. 012
 OPTION NO. 013
 OPTION NO. 017
 OPTION NO. 151
 OPTION NO. 353
 OPTION NO. 263081
 OPTION NO. 263168
 OPTION NO. 90003011
 OPTION NO. 90003012

LEGEND:
 ● PASSED PERC TEST LOCATION
 ⊕ FAILED PERC TEST LOCATION
 ⊕ EXISTING WELL LOCATION
 C/D TOP OF WALL OF GARAGE FLOOR
 BF BASEMENT FLOOR
 BRL BUILDING RESTRICTION LINE
 EZZZ PRIVATE SEWAGE DISPOSAL AREA TO BE REMOVED
 ⊕ PROPOSED TREE LOCATION
 ⊕ EXISTING TREE LOCATION

INITIAL TRENCH DATA:
 BOTTOM MAX. DEPTH (7)
TRENCH 1 (T1): 85.00 L.F.
 GROUND ABOVE = 464.40'
 INV. IN = 461.90'
 BOTTOM TRENCH = 457.40'
TRENCH 2 (T2): 85.12 L.F.
 GROUND ABOVE = 462.40'
 INV. IN = 459.90'
 BOTTOM TRENCH = 455.40'



- GENERAL NOTES:**
- These areas designate a private sewage area of at least 10,000 square feet as required by the Maryland Department of the Environment for individual sewage disposal. Improvements of any nature in this area are restricted until public sewage is available. These areas shall become null and void upon connection to a public sewage system. The County Health Officer shall have the authority to grant variances for encroachments into the private sewage area. Recordation of a modified sewage area shall not be necessary.
 - Existing wells, septic systems, and sewage disposal areas within 100' of the property and those wells within 200' down gradient of existing or proposed septic systems or sewage disposal areas have been shown.
 - Any changes to a private sewage area shall require a revised percolation certification plan.
 - Building setbacks (B.R.L.'s) shown hereon per site development plan setback distances shown hereon as "2" have an accuracy of ±0.1' FOOT.
 - Any changes 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 three (3) feet. Greater earth cover will require a heavy load bearing tank.
 - The lot shown hereon complies with the minimum ownership, width, and lot area as required by the Maryland State Department of the Environment.
 - The existing topography shown hereon is based on a boundary & topographic survey prepared by Bohler Engineering on 9/03/15, and Howard County GS.
 - The BAT system shall be maintained and operated for the life of the BAT system.
 - The BAT system shall be operated by and maintained by a certified service provider.
 - Within one (1) month of installation, a person installing the BAT system shall report to the Maryland Department of the Environment (MDE) in a manner acceptable to MDE, the address and date of completion of the BAT installation and the type of BAT installed.
 - Electrical work for the BAT installation must be performed by a licensed electrician.
 - An agreement and easement must be completed and signed by all applicable parties, and recorded in the land records of Howard County.
 - The health department requires documentation for the start-up certification from the manufacturer prior to the final approval of the BAT installation.
 - After pressure testing the distribution system, the pipe turn-ups at the ends of the laterals are to be cut below grade and capped. The truncated lateral turn-ups should be protected by turf boxes.
 - The existing well for Lot 3 (TAG NO. HO-18-0030) has been field located and is accurately shown hereon.

EFFLUENT PUMPS Model: EP50

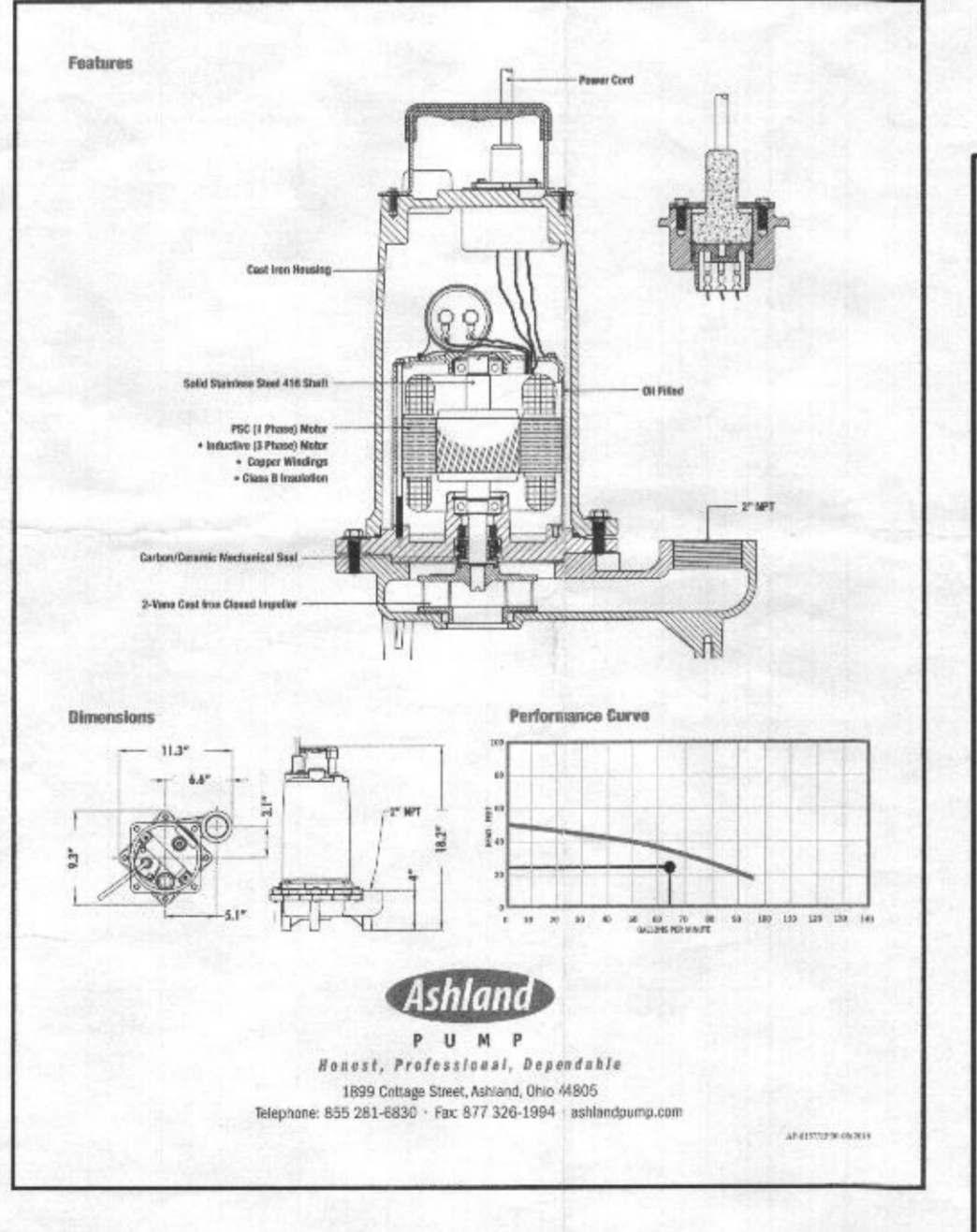
Features:
 • 1/2" NPT outlet for installation
 • 1/2" NPT outlet with 1/2" PVC pipe
 • 1/2" NPT outlet with 1/2" PVC pipe
 • 1/2" NPT outlet with 1/2" PVC pipe

Specifications:
 • 1/2" NPT outlet
 • 1/2" NPT outlet with 1/2" PVC pipe
 • 1/2" NPT outlet with 1/2" PVC pipe

Dimensions:
 • 1/2" NPT outlet
 • 1/2" NPT outlet with 1/2" PVC pipe
 • 1/2" NPT outlet with 1/2" PVC pipe

Performance Curve:

Ashland PUMP
 1809 George Street, Annapolis, MD 21403
 Telephone: 800-241-6800 • Fax: 410-293-1504 • website@ashpump.com



LOW PRESSURE DISTRIBUTION SYSTEM CALCULATIONS

NUMBER OF MANFOLDS = 1
 MANFOLD TYPE = CENTER FEED

DESIGN FLOW = 900 GPD
 PUMP OFF ELEV. = 442.37'
 INV. OUT PUMP TANK = 444.79'
 PUMP BOTTOM ELEV. = 441.12'
 PUMP SELECTED = 1/2 HP

TRENCH 1 (T1) ELEV.=464.40' LENGTH=85.00'
 TRENCH 2 (T2) ELEV.=462.40' LENGTH=85.00'

MANFOLD LENGTH = 22.86' TYPE=SCH40
 FORMER LENGTH = 215.50' TYPE=SCH40

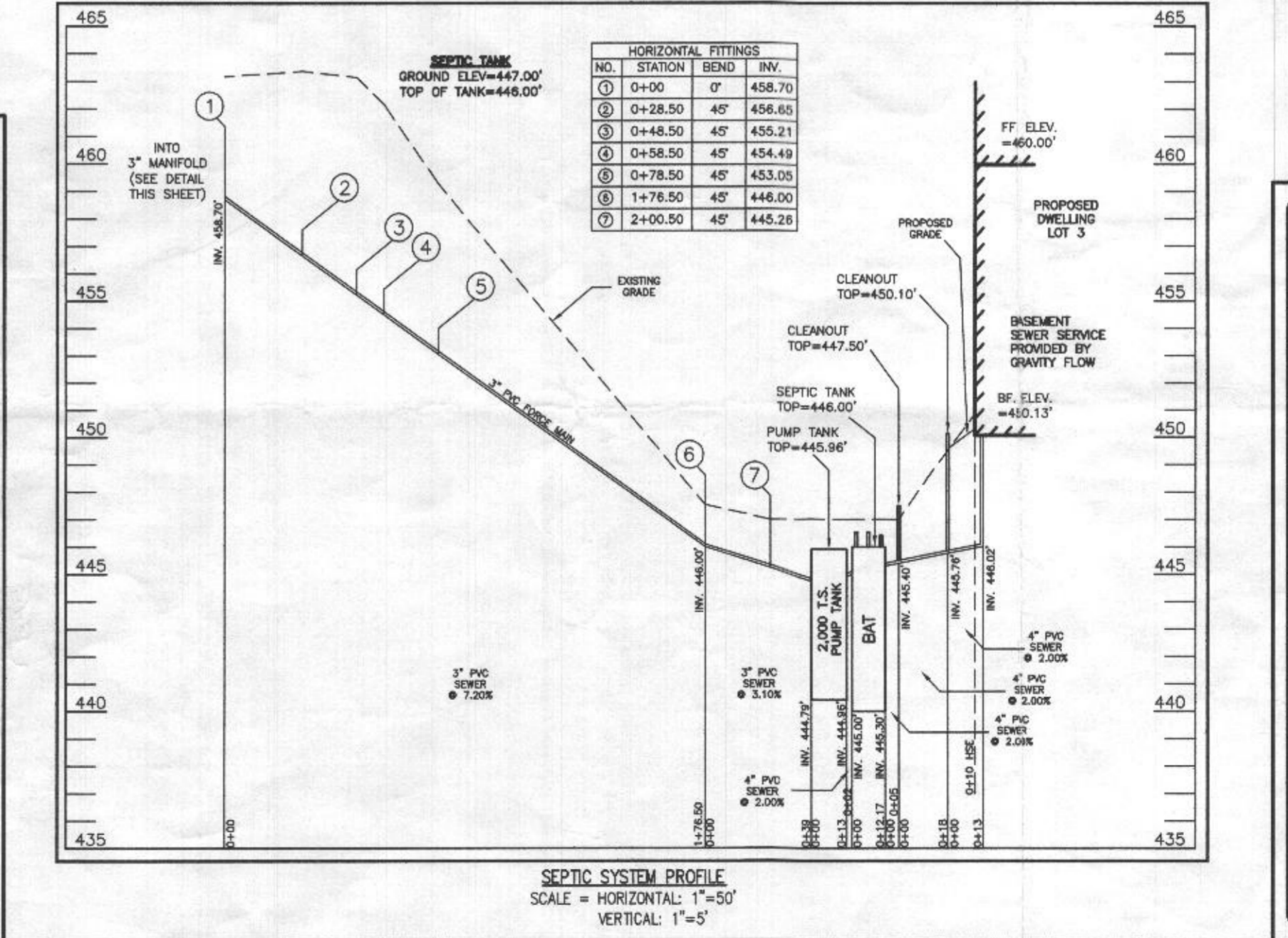
TRENCH	TRENCH LENGTH (FT.)	FEED	PIPE INV. (FT.)	HEAD (FT.)	HOLE DIA. (IN.)	HOLE FLOW RATE (GPM)	#HOLES	TRENCH FLOW RATE (GPM)	LATERAL LENGTH (FT.)	FLOW PER LF TRENCH (GPM)	PER LF TRENCH (GPM)	LATERAL DIAM. (IN.)	TYPE
1	85.00	CENTER	461.90	2	5/8	1.63	4.25	20	32.80	80.75	0.404	1.5	SCH40
2	85.12	CENTER	459.90	4	5/8	2.30	6.08	14	32.20	78.04	0.407	1.5	SCH40

MIN. SYSTEM DISCHARGE RATE = 64.80 GPM
 MAX./MIN. FLOW RATE (SHOULD BE < 1.10): 0.81
 VELOCITY = 2.78 FPS
 VELOCITY = 2.78 FPS
 FORCE MAIN DIAMETER = 3 IN.
 MINIMUM DOSE = 178.23 GAL.
 (VOL. IN FM MAN, 54 LATERAL=178.23 GAL > 1/8 DESIGN FLOW=900/6=150 GAL)

CALCULATE TOTAL DESIGN HEAD:
 LENGTH OF FM FROM PUMP TANK TO MANFOLD = 215.50' (ADD 5' PER BEND) = 36'
 # OF (45°) BENDS IN FM = N/A (ADD 10' PER BEND) = N/A
 LENGTH OF MANFOLD FROM FM TO TRENCHES = 22.86'
 # OF (45°) BENDS IN MANFOLD = N/A (ADD 5' PER BEND) = N/A
 # OF (90°) BENDS IN MANFOLD = 2 (ADD 10' PER BEND) = 20'
 # OF COUPLINGS (3" TO 1.5") = 2 (ADD 3' PER COUPLING) = 6'
 TOTAL LENGTHS = 238.36' TOTAL ADD'L LENGTHS = 62' TOTAL PIPE/RICTION LOSS = 300.36'
 (64.80 GPM OF 3" PVC = 0.81 PER 100' PIPE); 0.81 / 100' = 0.0081 x 300.36' = 2.43'

FRICITION HEAD = 2.43' FT. (PER ABOVE CALCULATION)
 OPERATING HEAD = 2.99' FT.
 STATIC HEAD = 19.53' FT. (HIGHEST POINT IN DISTRIBUTION SYSTEM - PUMP OFF FLOAT ELEVATION)
 TOTAL DYNAMIC HEAD = 23.96' FT. (FRICITION HEAD + OPERATING HEAD + STATIC HEAD)

THEREFORE A PUMP CAPABLE OF DELIVERING AT LEAST 64.80 GPM AGAINST 23.96' OF HEAD IS REQUIRED.
 EP50M-20, 1/2 HP, IS EFFICIENT



SOILS LEGEND

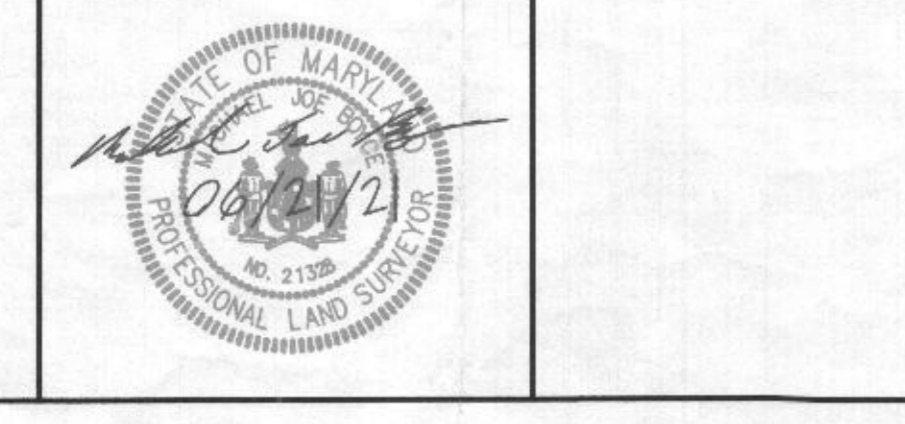
SOIL	NAME	CLASS	Kw
M/C	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	.28
M/D	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	.28

SEPTIC TRENCH SIZE CALCULATIONS

SYSTEM INPUT INFORMATION	INITIAL SYSTEM	1ST REPLACEMENT SYSTEM	2ND REPLACEMENT SYSTEM
APPLICATION RATE (GPH)	0.8	1.2	0.8
EFFECTIVE AREA BEGINNING DEPTH (GPH)	3.5	3.5	4.5
BOTTOM MAXIMUM DEPTH (GPH)	7	7	7
NUMBER OF BEDROOMS	6	6	6
DESIGN FLOW (150 GAL./DAY/BEDROOM)	900	900	900
ABSORPTION TRENCH CALCULATIONS			
DRAINFIELD AREA REQUIRED (DESIGN FLOW/APP RATE)	1,125	750	1,125
EFFECTIVE SIDEWALL DEPTH "D" (DEPTH BETWEEN THE EFFECTIVE BEGINNING DEPTH OR PIPE DEPTH (WHICHEVER IS DEEPER) AND MAX. TRENCH BOTTOM)	3.5	3.5	2.5
TRENCH WIDTH "W" (2 OR 3 FEET)	3	3	3
SIDEWALL REDUCTION (W+2)/(W+20)	0.45	0.45	0.56
LINEAR FEET OF TRENCH REQUIRED (DRAINFIELD AREA X SIDEWALL REDUCTION)/W	168.75	112.50	210.00
TRENCH LAYOUT INFORMATION			
NUMBER OF TRENCHES USED	2	3	6
TOTAL LINEAR FEET USED	170.12	112.50	210.00
MINIMUM TRENCH SPACING			
FOR TRENCHES WITH NO SIDEWALL CREDIT, THE SPACING IS 6' FOR A 2' WIDE TRENCH AND 9' FOR A 3' WIDE TRENCH (MEASURED EDGE TO EDGE). ALL TRENCHES UTILIZING SIDEWALL REDUCTION CREDIT MUST BE SPACED A MIN. OF 10' FOR EFFECTIVE SIDEWALL NOT OVER 3.5' IF MORE THAN 3.5' THEN SPACING FORMULA IS (20+W) UP TO A MAX. OF 18'	10	10	10

PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21328, EXPIRATION DATE 1/8/23.

Michael Joe Boyce
 06/21/21
 DATE



DESIGNED BY: R.C.K.	DATE	REVISION	BY	APPROVED
DRAWN BY: R.C.K.				
CHECKED BY: M.J.B.				

SITE PLAN FOR BAT INSTALLATION LOT 3 WILLOWSHIRE
 LIBER 18479, FOLIO 311
 PLAT NO. 25502
 TAX NO. 05-602991
 FIFTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 ADDRESS: 6009 BRICKER ROAD
 DAYTON, MARYLAND 21036

ESE CONSULTANTS
 ENGINEERING • PLANNING • SURVEYING • ENVIRONMENTAL

ESE Consultants, Inc.
 7164 Columbia Gateway Drive • Suite 230 • Columbia, MD 21046
 T: 410-872-9105

DATE: 06/21/2021 SCALE: 1"=30' FILE: 4520 0555 LOT 3.rvt2
 CHK'D: M.J.B. JOB NO: 4520 DRAWN: R.C.K.

SHEET 1 OF 1