



**Howard County  
Health Department**

**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: \_\_\_\_\_ **ONSITE SEWAGE DISPOSAL SYSTEM** P \_\_\_\_\_

APPROVAL DATE: \_\_\_\_\_ **PERMIT: CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 7414 HAVEN CT, HIGHLAND, MD 20777

SUBDIVISION: ESTATES AT SCHOOLEY MILL LOT: 2 TAX ID: 05-600710

CONTRACTOR: Hatsfeldt EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:  MDE  MANUFACTURER: Norweco

PROPERTY OWNER: WBG ESM LLC EMAIL: MikeLemon@WilliamsburgLLC.com

OWNER ADDRESS: 5485 HARPERS FARM ROAD, COLUMBIA, MD 21044 PHONE: (443)865-2353

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

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: \_\_\_\_\_ DATE RECORDED: \_\_\_\_\_

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

TRENCHES:	LINEAR FEET REQUIRED: <u>125</u>	INLET DEPTH: <u>2.0</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8.0</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5.0</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: Alternate Inlet approved for Norweco BAT unit  
Install Cleanout on SHC.  
The system must PASS a Pump and Alarm test for Final Approval of this permit prior to release of Use and Occupancy.

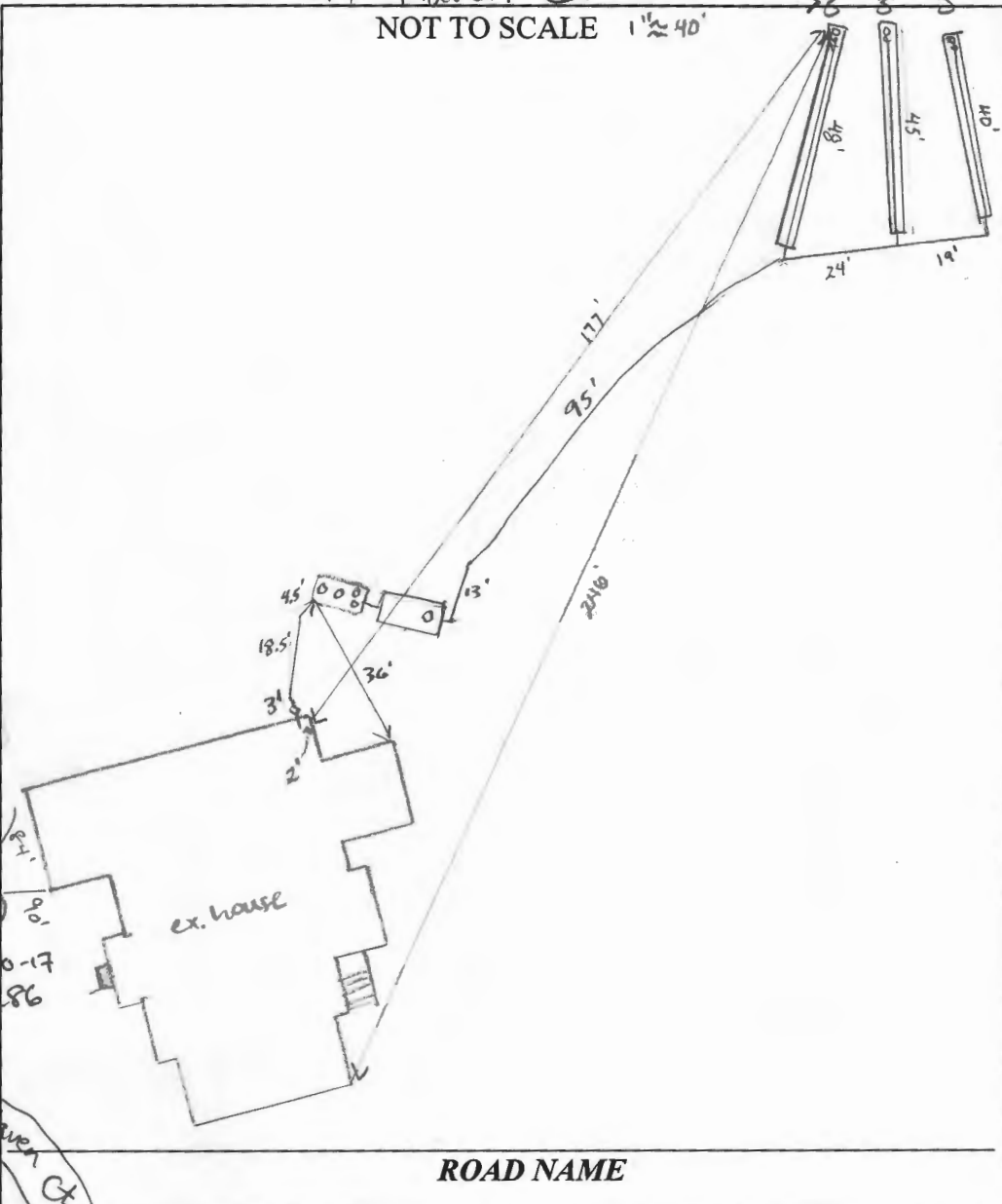
ISSUED BY: R BRICKER ISSUE DATE: \_\_\_\_\_ EXPIRATION DATE: \_\_\_\_\_

- 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.**

7417 Haven Ct

NOT TO SCALE 1" = 40'



**TRENCH/DRAINFIELD DATA**

WIDTH	INLET	BOTTOM
3'	2'	8'
NUMBER OF TRENCHES		3
TOTAL LENGTH		133'
ABSORPTION AREA		399 sq ft + sidewall
DISTRIBUTION BOX LEVEL		N/A
DISTRIBUTION BOX BAFFLE		N/A
DISTRIBUTION BOX PORT		N/A

**SEPTIC TANK DATA**

NORWECO TAPER 750	SEPTIC TANK I LEVEL	yes
	MANUFACTURER	Norweco
	CAPACITY	750 GAL
	SEAM LOC	top
	TANK LID DEPTH	2'
	BAFFLES	-
	BAFFLE FILTER	-
	MANHOLE LOC	inlet, middle, outlet
	6" PORT LOC	-
	WATERTIGHT TEST	-
SLOTTED	-	
DATE ON LID	N/A	
PUMP/SEPTIC TANK LEVEL		yes
MANUFACTURER	Baygon	
CAPACITY	2000 GAL	
SEAM LOC	top	
TANK LID DEPTH	2'	
BAFFLES	-	
BAFFLE FILTER	-	
MANHOLE LOC	outlet	
6" PORT LOC	-	
WATERTIGHT TEST	-	
SLOTTED	no	
DATE ON LID	12-21-20	

**PRE-CONSTRUCTION:**

2/18/21 Tank, FM, SDA, TRENCHES STAKED. CONFIRMED CONTOUR + LPD; TANK SPEC. OK TO START. (FD)

**INSTALLATION:** 2/19/21 Three trenches constructed along w/ FM. Verified that perforations were spaced in laterals according to plan. (SP)

2/10/21 Both tanks set and connected to SHC and FM. (ST)

05/21/2021 R PANEL 24 ALARM 26 BAT PUMP 20 SEPTIC PUMP; ALARM FUNCTIONS - PUMP FUNCTIONS DHP OK. AWAITING BAT START UP. (JP) Received -Kow 5/25/21

FINAL INSPECTOR

J.C.

DATE OF APPROVAL

5/25/21



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

**NORWECO CERTIFICATION**

PROPERTY OWNER: WBG ESM, LLC	INSTALLATION COMPANY: HATFIELD
ADDRESS: 7414 HAVEN CT.	CERTIFIED INSTALLER: TODD TRACEY
CITY, ZIPCODE & COUNTY: HIGHLAND, 20777, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 2/10/21
750 GPD CONCRETE	START-UP DATE: 05-22-21
NUMBER OF BEDROOMS:	DATE OF FINAL INSPECTION:
TYPE OF INSTALLATION: NEW CONSTRUCTION	DATE OF ELECTRICAL INSPECTION:
ELECTRICAL WIRING PER ELECTRICAL INSTRUCTIONS: YES	TANK LEVEL: YES
HT. OF CONTROL PANEL ABOVE FINAL GRADE: 16"	BURIAL DEPTH OF TANK: 18"
SYSTEM WIRED ON A 15-AMP DEDICATED CIRCUIT WITH STD. BREAKER: YES	RISERS 4" - 6" ABOVE GRADE: YES
LENGTH(S) OF UF WIRE PAST LAST AERATION RISER(S): 2"	VENTED LID(S) ON AERATION CHAMBER(S): YES
FEMALE PLUG(S) WIRED TO UF WIRE: YES	ANY GROUND SETTLING AROUND TANK:
CONDUIT(S) ENTERING AERATION RISER MADE WITH A WATERTIGHT CONNECTION: YES	NO
IS THE INSIDE OF THE CONDUIT ENTERING THE CONTROL PANEL(S) AND AERATION RISER(S) SEALED WITH DUCT SEAL: YES	

ON 2<sup>ND</sup> 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 5<sup>TH</sup> HOUSE OF THE LEFT.

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

\_\_\_\_\_

Matthew Geckle

May 22, 2021

Signature of BRP Representative

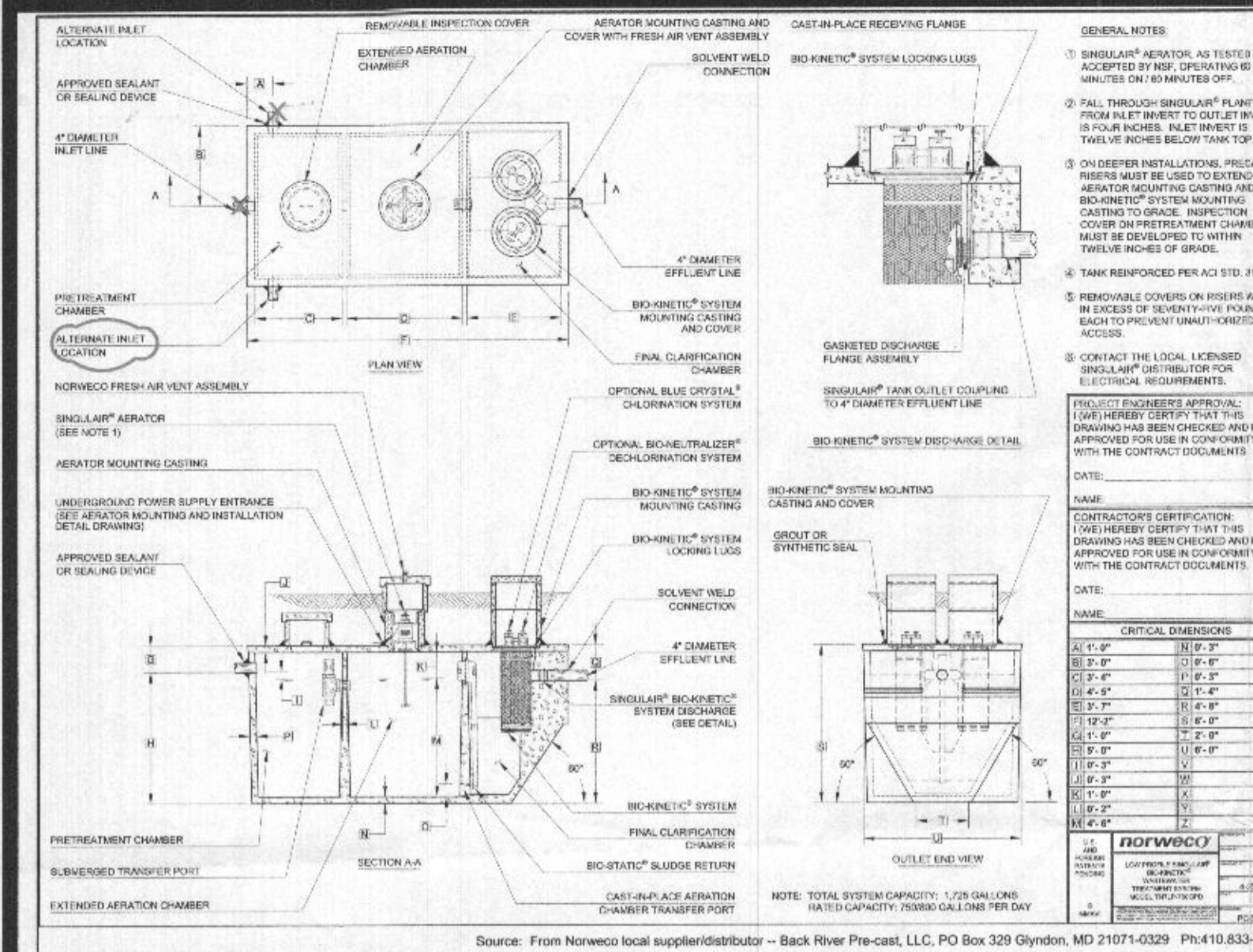
Vice-President

Date

# FILE INQUIRY NOTES

7414 HAVEN CT

DATE	RESULTS OF REVIEW FOR FILE
02/08/2001	Φ Φ 11 TANK, FM, SDA, TRENCHES STAKED.
	CONFIRMED CONTOUR + LPD; TANK SPEC.
	OK TO START. (Φ)



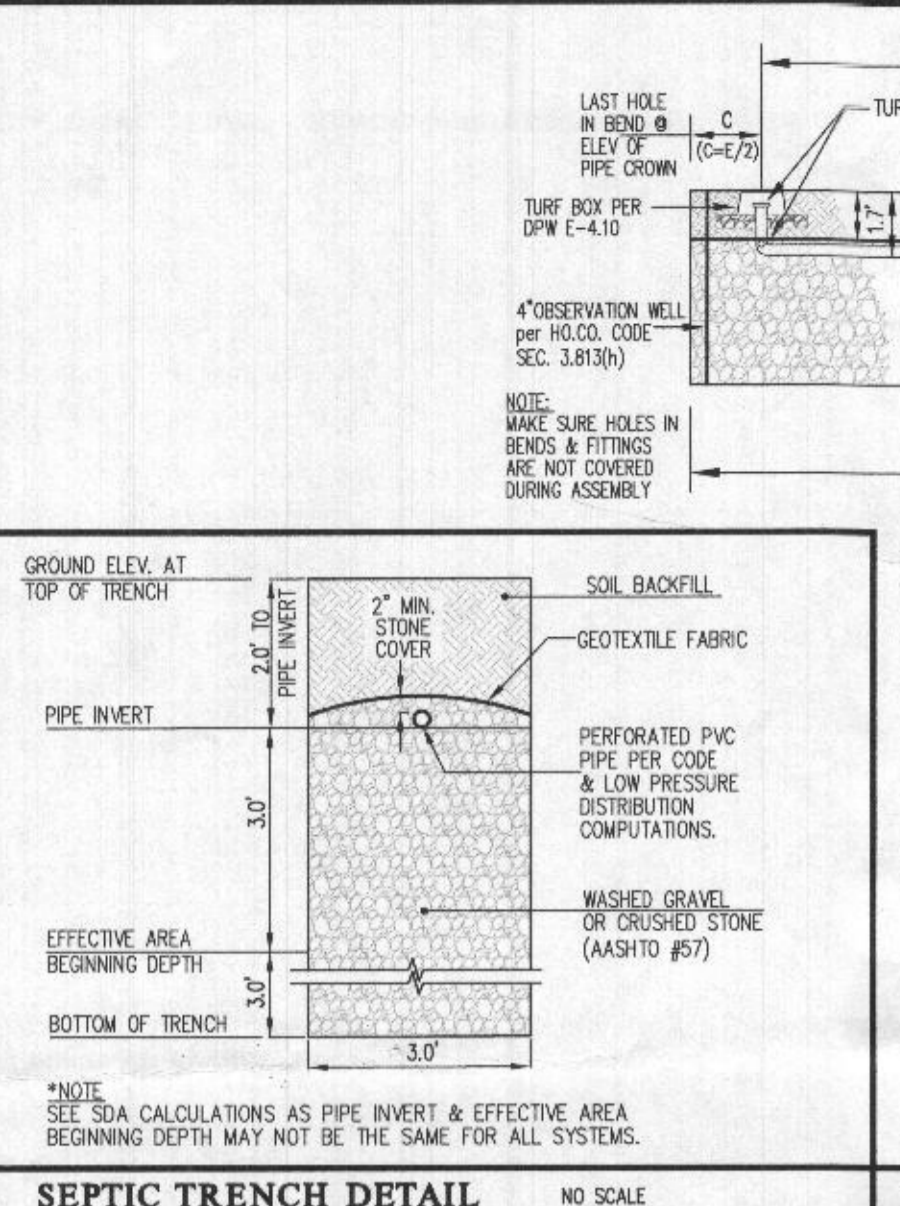
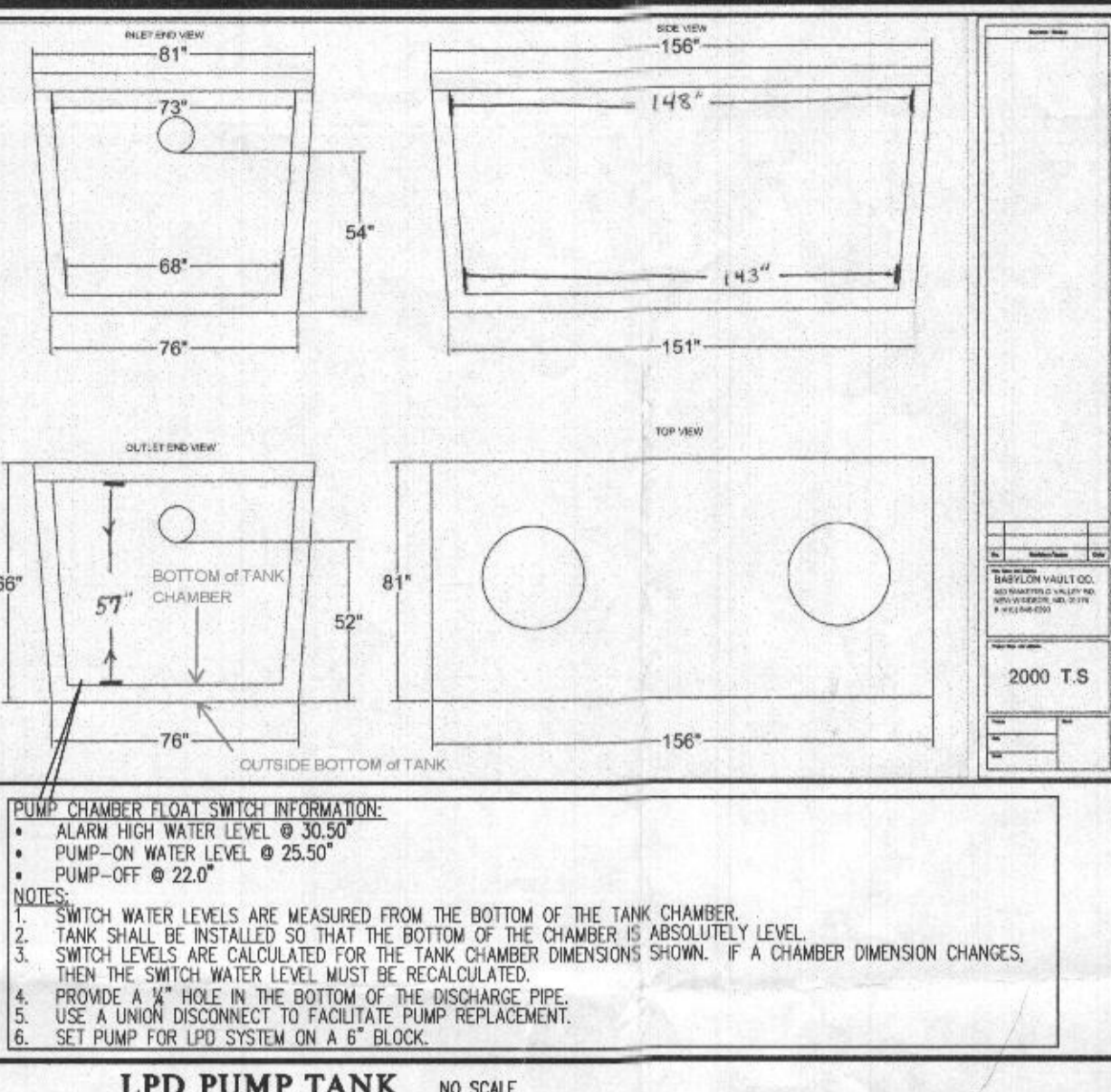
### Rectangular Trapezoidal Pump Chamber Volume Calculations

H: Height (inside dimension from bottom of chamber to top seam/celling)  
 W: Top Width (inside dimension)  
 L: Top Length (inside dimension)  
 a: Bottom Width (inside dimension)  
 b: Bottom Length (inside dimension)

Chamber Bottom Area (a x b)	9724.0 sq. in.	2532 gal.
Chamber Volume to top seam/celling (Vc)	58481.1 cu. in.	1632.0 gal.
Height from bottom of chamber to inlet invert level (S)	50.0 in.	
Chamber length at inlet level (C)	147.39 in.	
Chamber Sectional Area at inlet level (C x D)	10668.7 sq. in.	2965.7 gal.
Chamber Volume at inlet level (V)	50965.7 cu. in.	1442.0 gal.

### Float Switch Setting Parameters & Volume Calculations

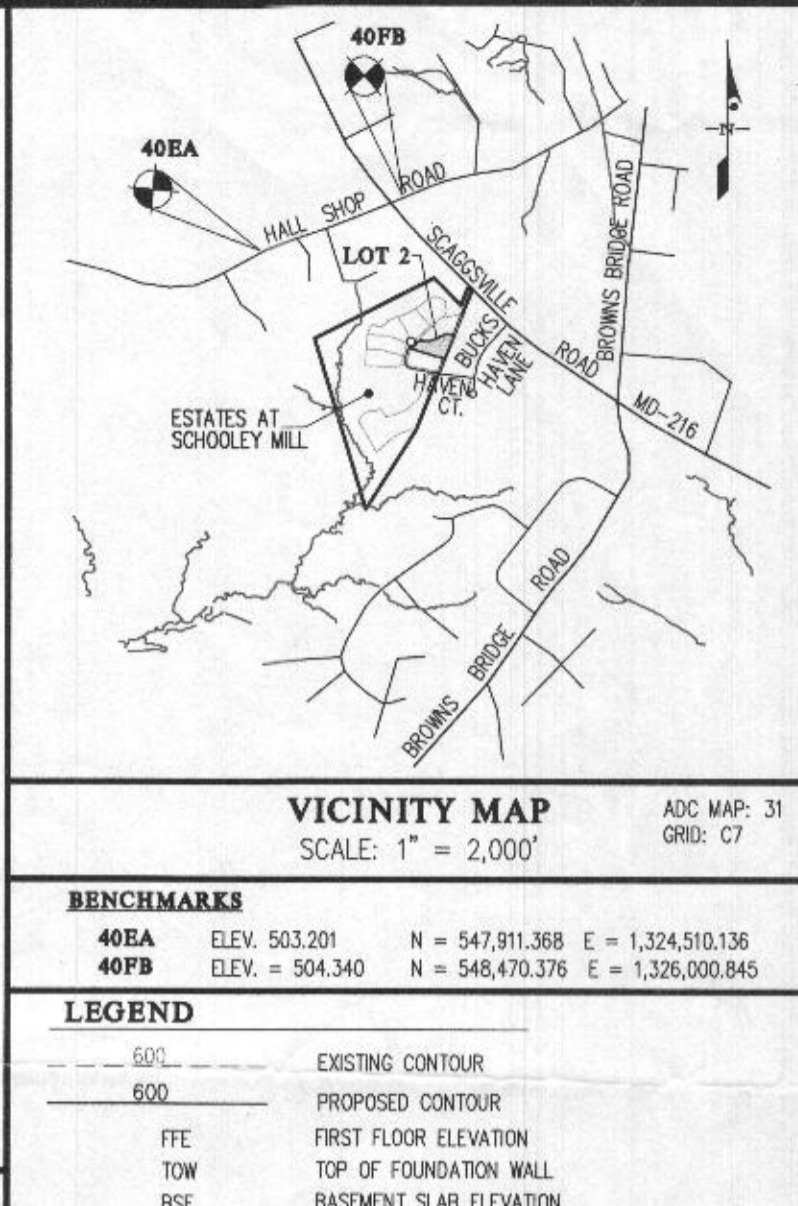
Design Flow per day (min. reserved capacity to set alarm level)	6 doses at 150.0 gal./dose	
Water level (S) to switch on alarm	30.50 in.	
Chamber width at alarm level (Ca)	70.00 in.	
Chamber length at alarm level (Da)	145.68 in.	
Chamber Sectional Area at alarm level (Ca x Da)	10295.7 sq. in.	2821.1 gal.
Water volume at alarm level (Va)	30526.4 cu. in.	855.3 gal.
Reserved Capacity between alarm level and inlet invert level (V-Va)	20439.3 cu. in.	570.7 gal.
Additional capacity in the pump chamber above the inlet level to be utilized since the BAT tank outlet invert is 2 inches higher than the pump tank inlet invert level:	2190.7 cu. in.	60.8 gal.
<b>Total Reserved Capacity Available</b>	<b>22630.0 cu. in.</b>	<b>631.5 gal.</b>



### HOLE SPACING CHART

Trench No.	Feed Type	A	B	C	D	E
1	End	40.0 ft	38.33 ft	1.67 ft	12	3.33 ft
2	End	42.5 ft	40.57 ft	1.93 ft	11	3.86 ft
3	End	44.0 ft	41.8 ft	2.2 ft	10	4.4 ft

A: Trench Length  
 B: Lateral Length (of pipe within trench)  
 C: Distance from the end of the trench to the first and last holes.  
 D: Total number of holes including the first and last holes.  
 E: Orifice Spacing (distance between holes)



### Goulds Water Technology

**Wastewater**

**Single phase (60 Hz)**

- Capacitor overload protection for maximum starting torque.
- Water transfer.
- Light industrial.
- Commercial applications.

**Three phase (480 Hz)**

- Class 10 overload protection must be provided in separately enclosed motor unit.
- STOW cover on all heavy base load ends.
- Bearing: Upper and lower heavy duty ball bearing construction.
- Designed for Continuous Operation. Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without derating when fully submerged.
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil leakage. Standard cord is 2". Optional lengths are available.
- Motor Cover: Covers positive sealing against contaminants and oil leakage.

**AGENCY LISTINGS**

Tested to US 778 and CSA 222-108 Standards by Canadian Standards Association.

### Goulds Water Technology

**Wastewater**

**PERFORMANCE RATINGS (gpm per service)**

Motor	1/2 HP	3/4 HP	1 HP	1 1/2 HP	2 HP
Flow	100	150	200	300	400
Head	10	15	20	30	40

**COMPONENTS (for reference only)**

1. Motor  
2. Motor Frame  
3. Motor Shaft  
4. Motor Bearings  
5. Motor Cable  
6. Motor Cover

**Pump Selected**

Model: W502124F  
 HP: 1/2  
 Phase: 3  
 Voltage: 480V  
 Frequency: 60 Hz  
 Material: Cast Iron

### LOW PRESSURE DISTRIBUTION SYSTEM CALCULATIONS

Address: 7414 Haven Court (Lot 2)  
 Subdivision: Estates at Schooley Mill  
 Date: August 2020

Design Flow: 300 gpd  
 Pump Off Elevation: 508.8  
 Pump Bottom Elevation: 499.53

**Manifold 1: Type: End-Feed**

Trench	Length (ft)	Flow (gpm)	Head (ft)	Loss (ft)
1	40	506.3	2.0	57.16
2	42.5	506.6	2.7	57.16
3	44	506.8	3.5	57.16

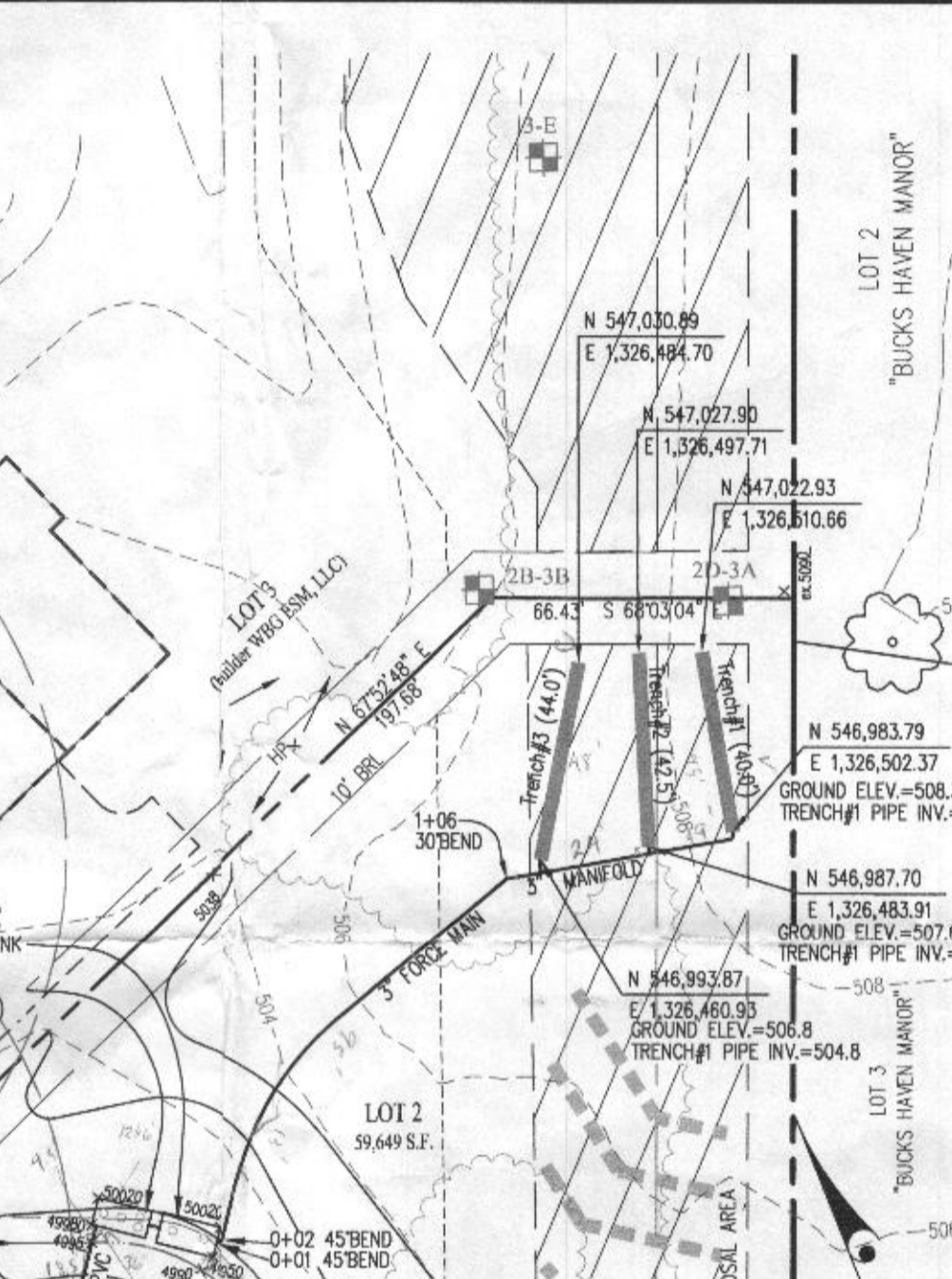
**Calculate Total Design Head**

1. Friction Loss in FM & Manifold: 1.4 ft  
 Friction Loss from Fittings: 7.3 ft  
 2. Static Head: 3.0 ft  
 3. Min. Distal (discharge) head: 2 ft

**TDH: 13.9 ft**

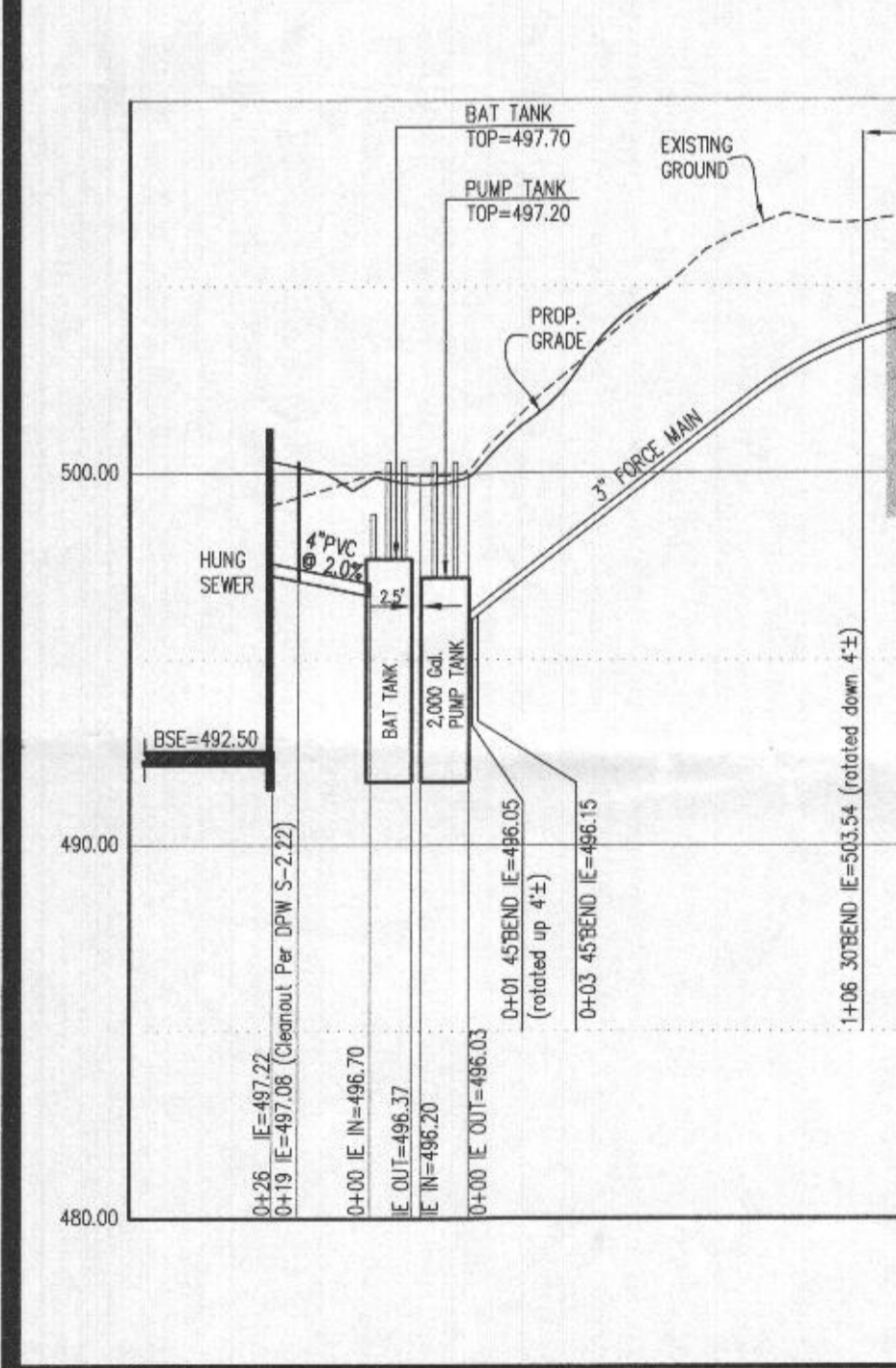
### SDA TRENCH CHART

Trench #1	Trench #2	Trench #3
508.3	507.6	506.8
506.3	505.6	504.8
500.3	499.6	498.8



### LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- FIRST FLOOR ELEVATION
- TOP OF FOUNDATION WALL
- BASIS SLAB ELEVATION
- PRIVATE SEWAGE DISPOSAL AREA
- ALTERNATE WELL LOCATION
- EXISTING WELL LOCATION
- INITIAL SYSTEM 3" WIDE TRENCH
- 1st REPLACEMENT SYSTEM TRENCH
- 2nd REPLACEMENT SYSTEM TRENCH
- PERCOLATION TEST PIT PASSED FEB. 4-6, 2015
- PERCOLATION TEST PIT FAILED FEB. 4-6, 2015
- PERCOLATION TEST PIT PASSED MAY 11-13, 2015
- PERCOLATION TEST PIT FAILED MAY 11-13, 2015

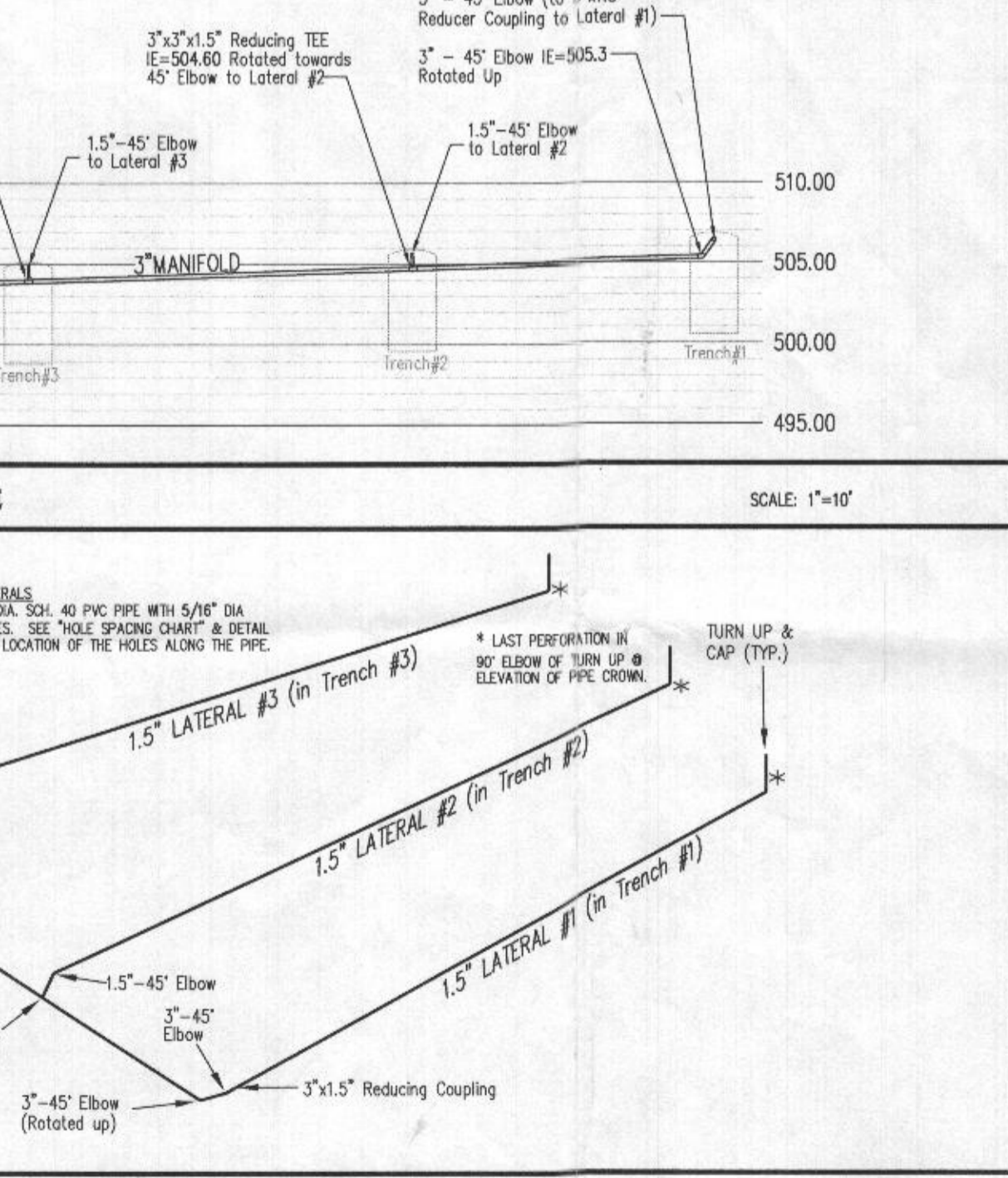


### Lot-2 BAT (Norweco) Tank Elevations

High Finished Grade above tank	500.20
Top of tank elevation	497.70
Delta (cover above tank, 3" max.)	2.50 ft.
Outside bottom of BAT tank elevation	491.70
Invert in	496.70
Invert out	496.37

### Lot-2 Babylon Vault Pump Tank Elevations

High Finished Grade above tank	500.20
Top of tank elevation	497.20
Delta (cover above tank, 3" max.)	3.00 ft.
Outside bottom of tank	491.70
Bottom of chamber elevation	492.03
Invert in	496.20
Bottom of Pump (set on 6" block)	492.53
Bottom of chamber (floor) elevation	492.03
Top Seam (chamber ceiling) Elevation	496.78



### SDA TRENCH SIZE CALCULATIONS

Estates at Schooley Mill, 7414 Haven Court (Lot 2)

System Input Information	Initial System		Replacement System	
	No. 1	No. 2	No. 1	No. 2
Application Rate	1.7	1.7	1.2	1.2
Effective area beginning depth	5	5	5	6.5
Effective area maximum bottom depth	8	8	8	8
Number of Bedrooms	6	6	6	6
Design Flow at 150 gal./day/bedroom	900	900	900	900

### Absorption Trench Calculations

Drainfield area required (Design flow/application rate)	750	750	750
Effluent pipe depth top invert	2	2	2
Effective sidewall depth "D"	3	3	1.5
Trench Width "W" (2 or 3 feet)	3	3	3
Sidewall Reduction Percent (W=2)/W=3	50.00%	50.00%	72.43%
Linear feet of trench required (Drainfield area x sidewall reduction)/W	125	125	179

### Trench Layout Information

Approximate length available on contour & not exceeding 100-ft	50	100	100
Number of trenches to use	3	3	5
Min. length (linear feet)	41.7	41.7	35.8
Total (linear feet)	125.1	125.1	179

### GLW

PLANNING | ENGINEERING | SURVEYING

3909 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20866 | GLWPA.COM  
 PHONE: 301-421-6024 | BAL: 410-880-1820 | DC&VA: 301-989-2524 | FAX: 301-421-1188

DESIGNED BY: MBT  
 DRAWN BY: MBT  
 CHECKED BY: OGC

DATE	REVISION	BY	APPR.

PREPARED FOR: WBG ESM, LLC, 5485 HARPERS FARM ROAD, COLUMBIA, MD 21044, PH: 410-997-8800

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE PLANS 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. 127255, EXPIRATION DATE: MAY 26, 2022.

8/13/20

### SITE PLAN FOR BAT INSTALLATION

## ESTATES AT SCHOOLEY MILL

### LOT 2 (7414 Haven Court)

Plat No. 24576-24583

ELECTION DISTRICT No. 5

SCALE: 1" = 40'

ZONING: RR-DEO

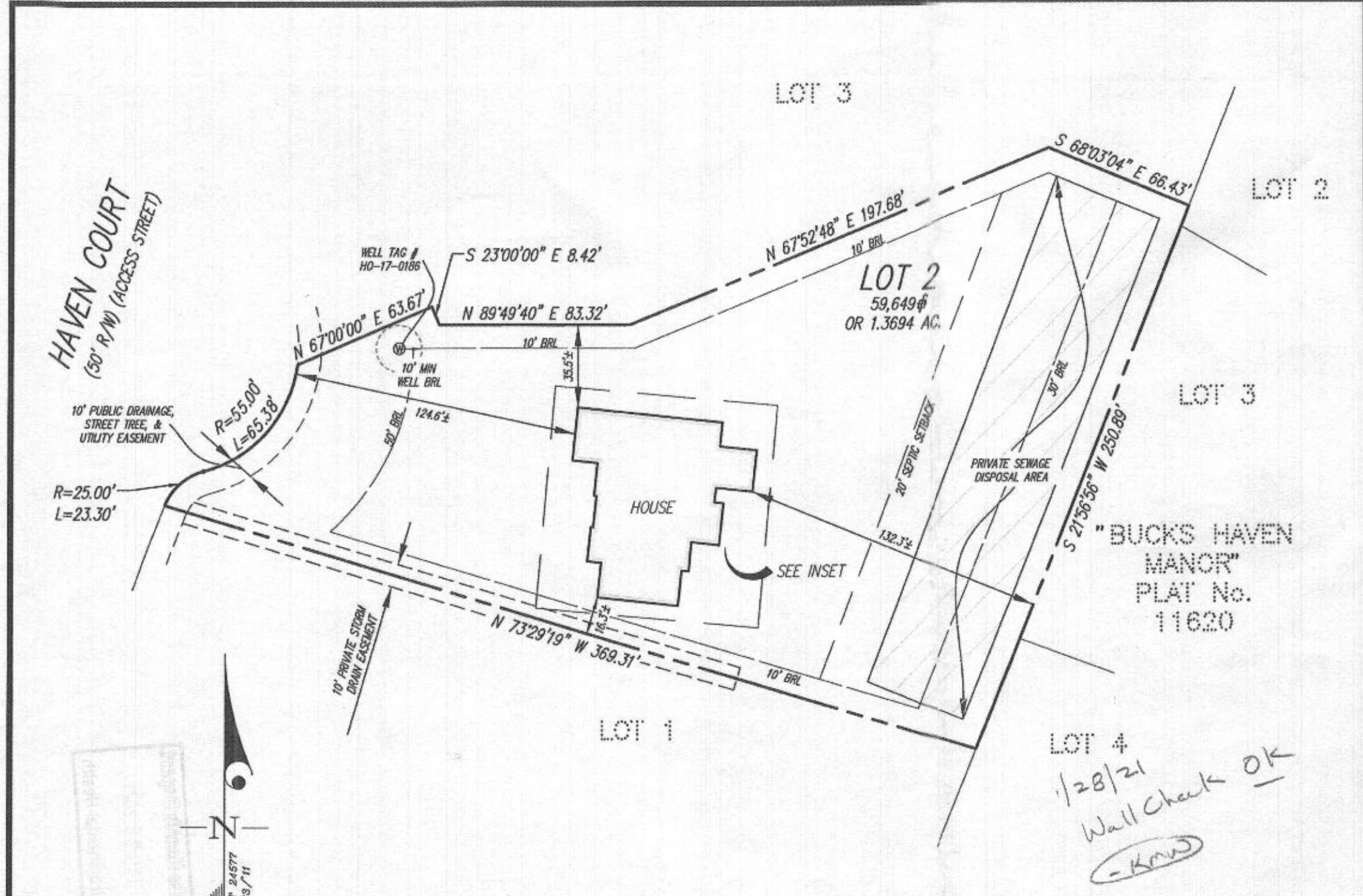
G. L. W. FILE No.: 14067

DATE: AUGUST 2020

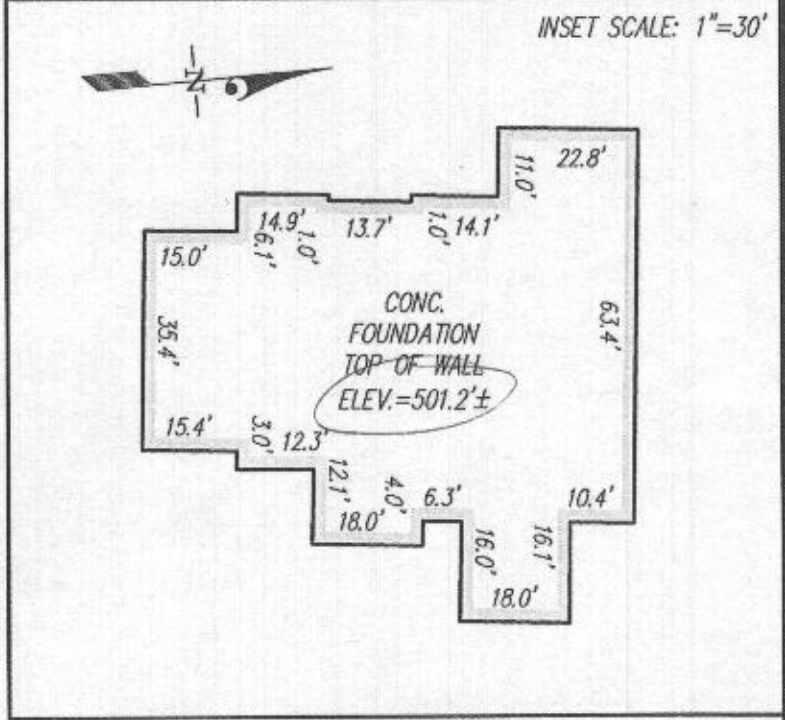
TAX MAP - GRD: 40-11

SHEET: 1 OF 1

S:\Survey Drawings\WALLCHECKS\CHOOLEY MILL-1705117061-WCK\17061WCK-2.dwg, 12/11/2020 2:03:59 PM, blnk, 1:1



**NOTES:**  
 THIS WALLCHECK WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. THIS PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS, RIGHTS-OF-WAY, 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.  
 THE PROPERTY SHOWN HEREON LIES WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, MAP NO. 24027C01400, EFFECTIVE DATE NOVEMBER 6, 2013.  
 BUILDING SETBACKS (BRL's) SHOWN HEREON PER PLAT No. 24578. WELL & SEPTIC SETBACK'S (BRL's) SHOWN HEREON PER PLOT PLAN. SETBACK DISTANCES SHOWN HEREON ARE TO THE OUTERMOST FACE OF THE FOUNDATION WALLS AND HAVE AN ACCURACY OF ± 0.1' FOOT.



**GLW**  
 PLANNING | ENGINEERING | SURVEYING  
 5809 NATIONAL DRIVE | SUITE 250 | BURETONSVILLE, MD 20606 | GLWPA.COM  
 PHONE: 301-421-4024 | BALT: 410-860-1820 | DC&VA: 301-669-2524 | FAX: 301-421-4106

DES.	PREPARED FOR: WILLIAMSBURG GROUP, LLC 5485 HAPERS FARM RD SUITE 200 COLUMBIA, MD 21044
DRN. WDK	RODGER HENRITZ (410) 997-8800
CHK.	

**SURVEYOR'S CERTIFICATE**  
 THIS IS TO CERTIFY TO:  
 'WILLIAMSBURG GROUP, LLC',  
 THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF,  
 THE POSITION OF THE ABOVE REFERENCED BUILDING FOUNDATION  
 HAS BEEN ESTABLISHED BY ACCEPTED FIELD PRACTICES.  
 [Signature] 12/11/2020  
 For Gutschick, Little and Weber, P.A.  
 Thomas C. O'Connor, Jr., Professional Land Surveyor,  
 No. 10954 (EXP. DATE: 07/03/2022)  
 THIS WALLCHECK IS VALID ONLY WITH AN ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE SURVEYOR.

**WALLCHECK**  
 (SPECIAL PURPOSE SURVEY)

**ESTATES AT SCHOOLEY MILL**

**LOT 2**  
 7414 HAVEN COURT

HOWARD COUNTY, MARYLAND  
 DATE OF LATEST FIELD WORK: 12/10/2020  
 G.L.W. FILE No. 17-061  
 REFERENCE: PLAT No.: 24577  
 SCALE: 1"=50'