



**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: 6/15/20 **ONSITE SEWAGE DISPOSAL SYSTEM** P P567874

APPROVAL DATE: 08/31/2020 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 7410 HAVEN CT, HIGHLAND, MD 20777

SUBDIVISION: ESTATES AT SCHOOLEY MILL LOT: 1 TAX ID: 05-600709

CONTRACTOR: HATFIELD'S EQUIPMENT EMAIL: ken@hatfieldsequipment.com

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

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

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: 1.0 PUMP TANK CAPACITY: 2000

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 1/10/19 DATE RECORDED: 2/1/19

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

| | | |
|-----------|--|--|
| TRENCHES: | LINEAR FEET REQUIRED: <u>234.5</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>6.0</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: | | |

ISSUED BY: R BRICKER ISSUE DATE: 6/25/20 EXPIRATION DATE: 6/15/20

- 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 20001950
- 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.**



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: 7410 HAVEN CT | CERTIFIED INSTALLER: TODD TRACEY |
| CITY, ZIPCODE & COUNTY: HIGHLAND, 20777, HOWARD | PERMIT# |
| SIZE OF SYSTEM INSTALLED: | DATE INSTALLED: 07-07-20 |
| 600 GPD CONCRETE | START-UP DATE: 08-31-20 |
| 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: 36" | BURIAL DEPTH OF TANK: 36" |
| 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): 48" | 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.

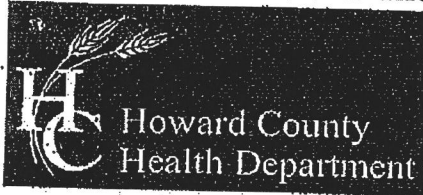
Matthew Geckle

August 31, 2020

Signature of BRP Representative

Vice-President

Date



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Twitter: HowardCoHealthDep

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

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

Lot 1

THIS AGREEMENT is made this 7th day of Jan 2019, among Williamsburg Group, LLC, 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 7410 Haven Court, Hyattsville, Md. 20777, in the 05 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 # 40, Block #, Parcel # 0093, Deed Reference # 24576-83 and Tax Account # 600709 ("the Property").

20
40
of

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 January 1, 2013. The pre-treatment device being installed is Norweco TNTLP 500

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-site sewage disposal system based on approved advanced pre-treatment system. The owner shall provide a copy of the contract to the County when it is renewed or altered.

Vertical stamp: AGREEMENT, REGISTRATION FEE, WILLIAMSBURG, 2019, 02-12, CC13-17, 60.00, 40.00, 60.00, 40.00, 20.00

JW 2/22/2016

042

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 and sealed this agreement on the date indicated above.

[Signature] 1/19/19
Howard County Health Department

[Signature] 1-7-19
Owner #1 Signature Date

Bruce Harvey
Owner #1 Print Name

[Signature]
Buyer #1 Signature Date

DANIEL AUBIAH
Buyer #1 Print Name

Owner #2 Signature Date

Owner #2 Print Name

[Signature]
Buyer #2 Signature Date

MERCY AUBIAH
Buyer #2 Print Name

Hinkle
Property

FILE INQUIRY NOTES

Lot 1

| DATE | RESULTS OF REVIEW FOR FILE |
|------|----------------------------|
|------|----------------------------|

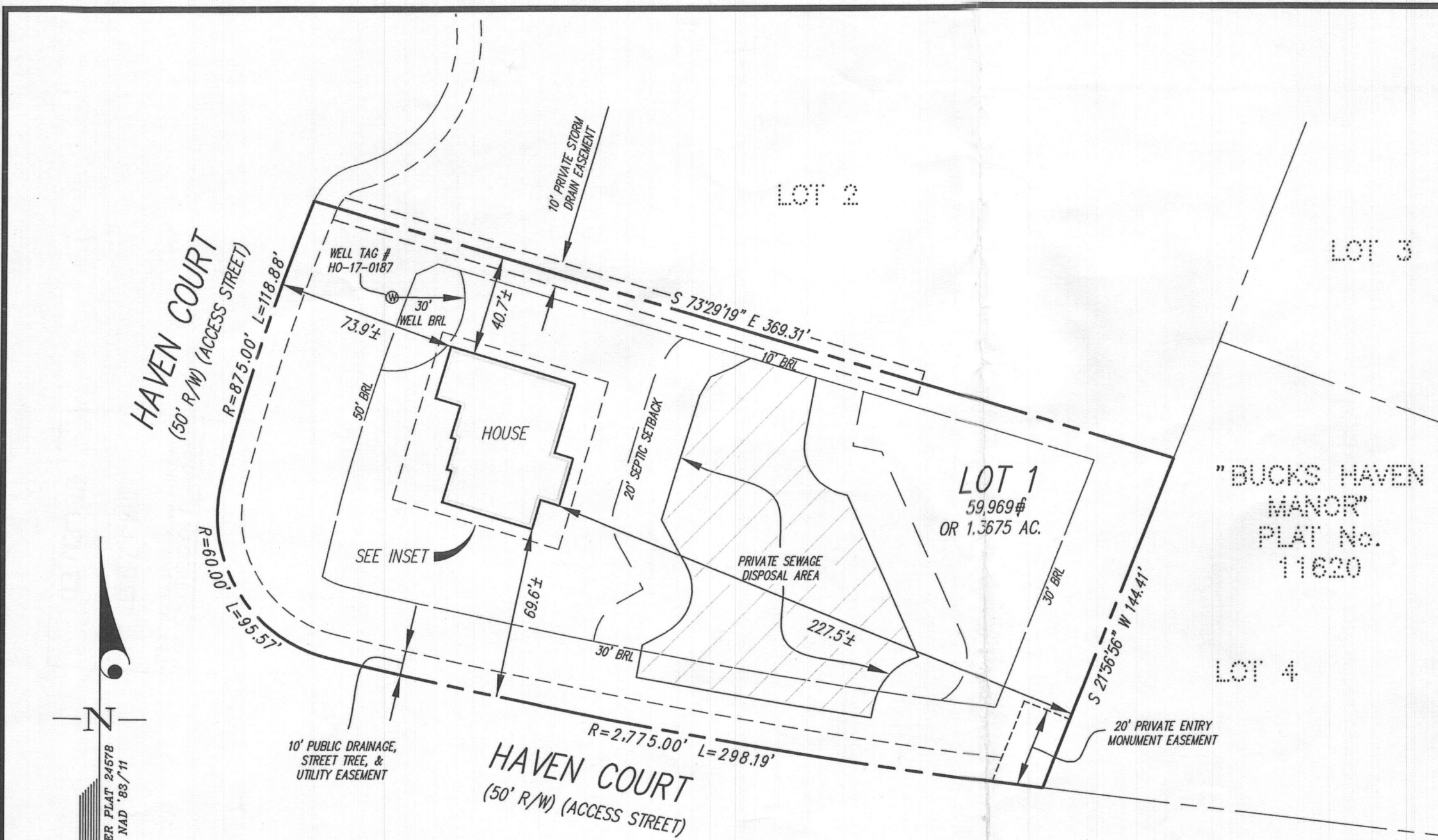
| | |
|---------|--|
| 7/27/15 | The Well installed on this lot must have steel casing installed to at least 50 feet depth, OR 10 feet into competent bedrock, WHICHEVER IS DEEPER. |
|---------|--|

R Buckner

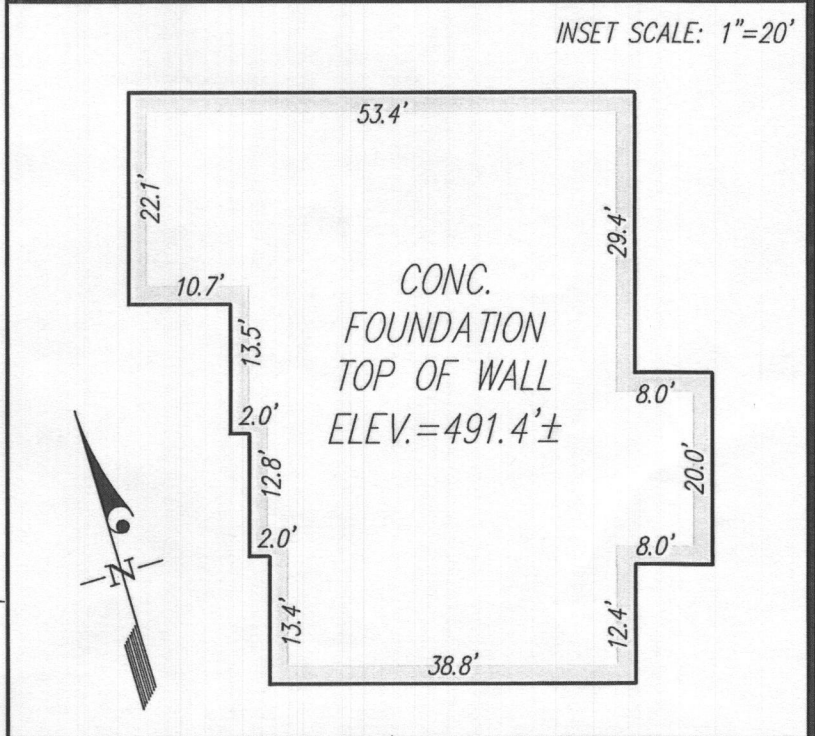
| | |
|---------|--|
| 7/27/15 | The Septic System on this Lot must include a BAT unit and all drainfields (any) must have LPD design or equivalent |
|---------|--|

R Buckner

S:\Survey Drawings\WALLCHECK\SCHOOLEY MILL-1706117061-WCK17061WCK-1.dwg, 3/10/2020 2:15:18 PM, morgantb, 11" x 17", 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. 24027C0140D, 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.



Well Check
OK
RHE 6/16/2020

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] 3/10/2020
For Gutschick, Little and Weber, P.A. :
Thomas C. O'Connor, Jr., Professional Land Surveyor,
No. 10954 (EXP. DATE: 07/03/2020)

THIS WALLCHECK IS VALID ONLY WITH AN ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE SURVEYOR.

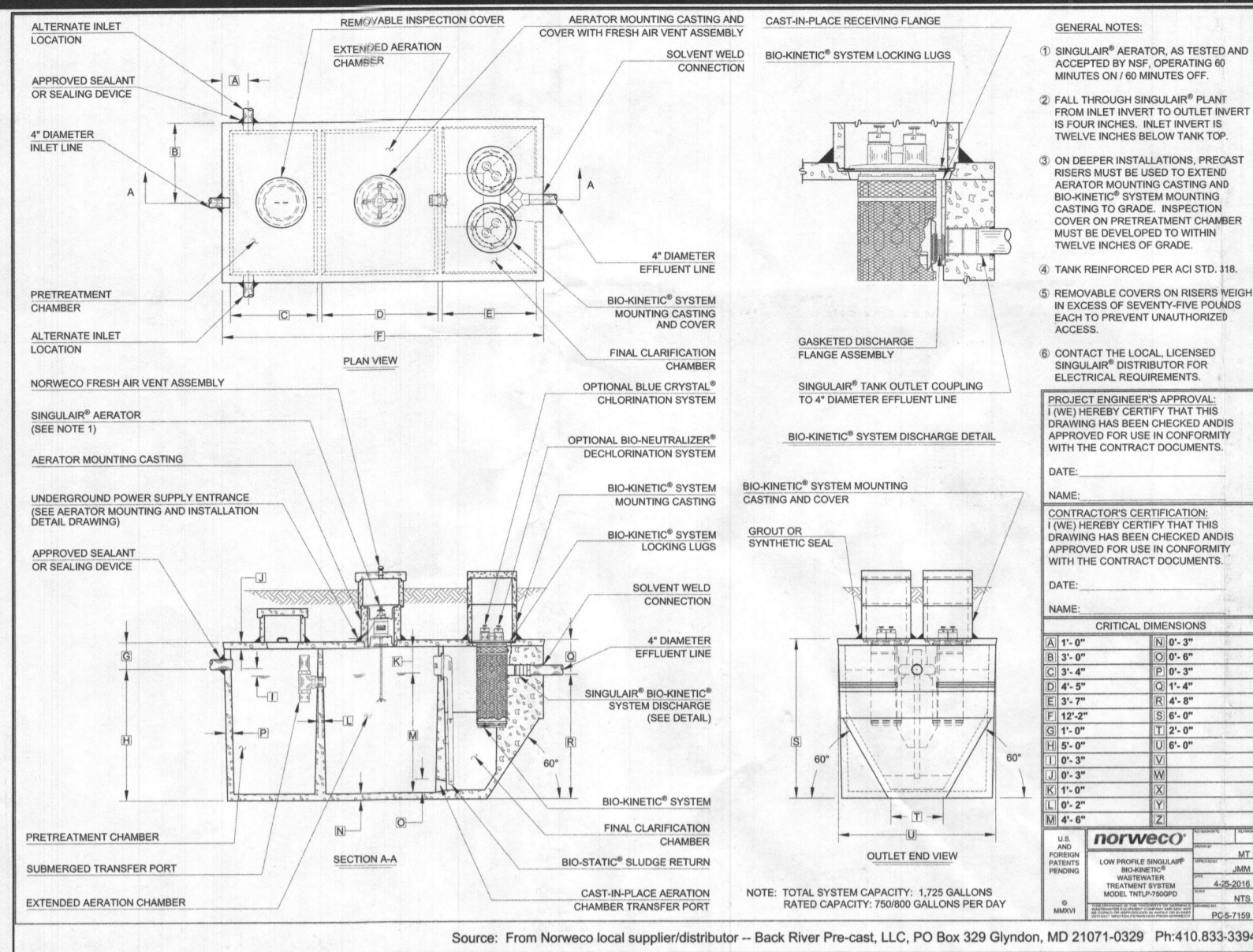
WALLCHECK
(SPECIAL PURPOSE SURVEY)

ESTATES AT SCHOOLEY MILL
LOT 1
7410 HAVEN COURT
HOWARD COUNTY, MARYLAND

DATE OF LATEST FIELD WORK: 3/9/2020
G.L.W. FILE No. 17-061
REFERENCE: PLAT No.: 24578
SCALE: 1"=50'

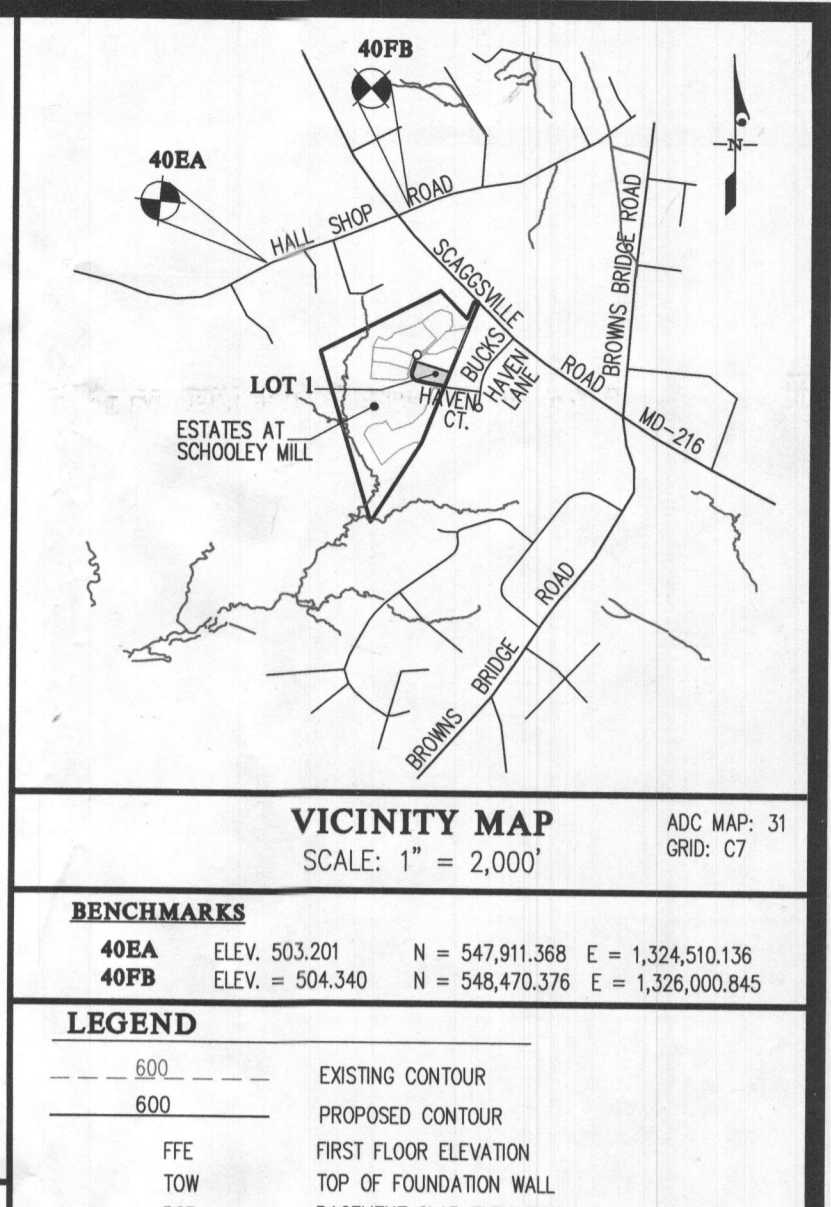
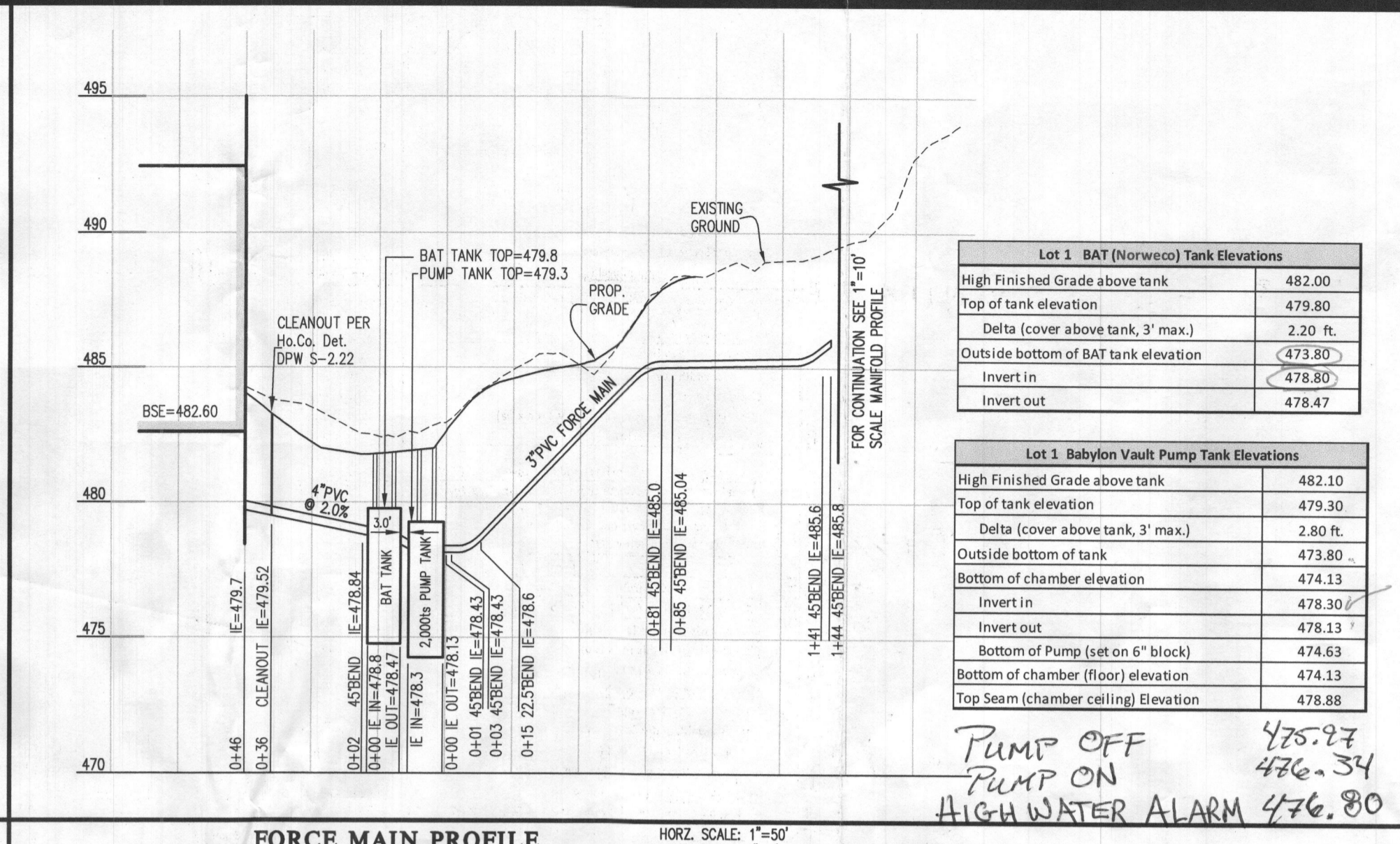
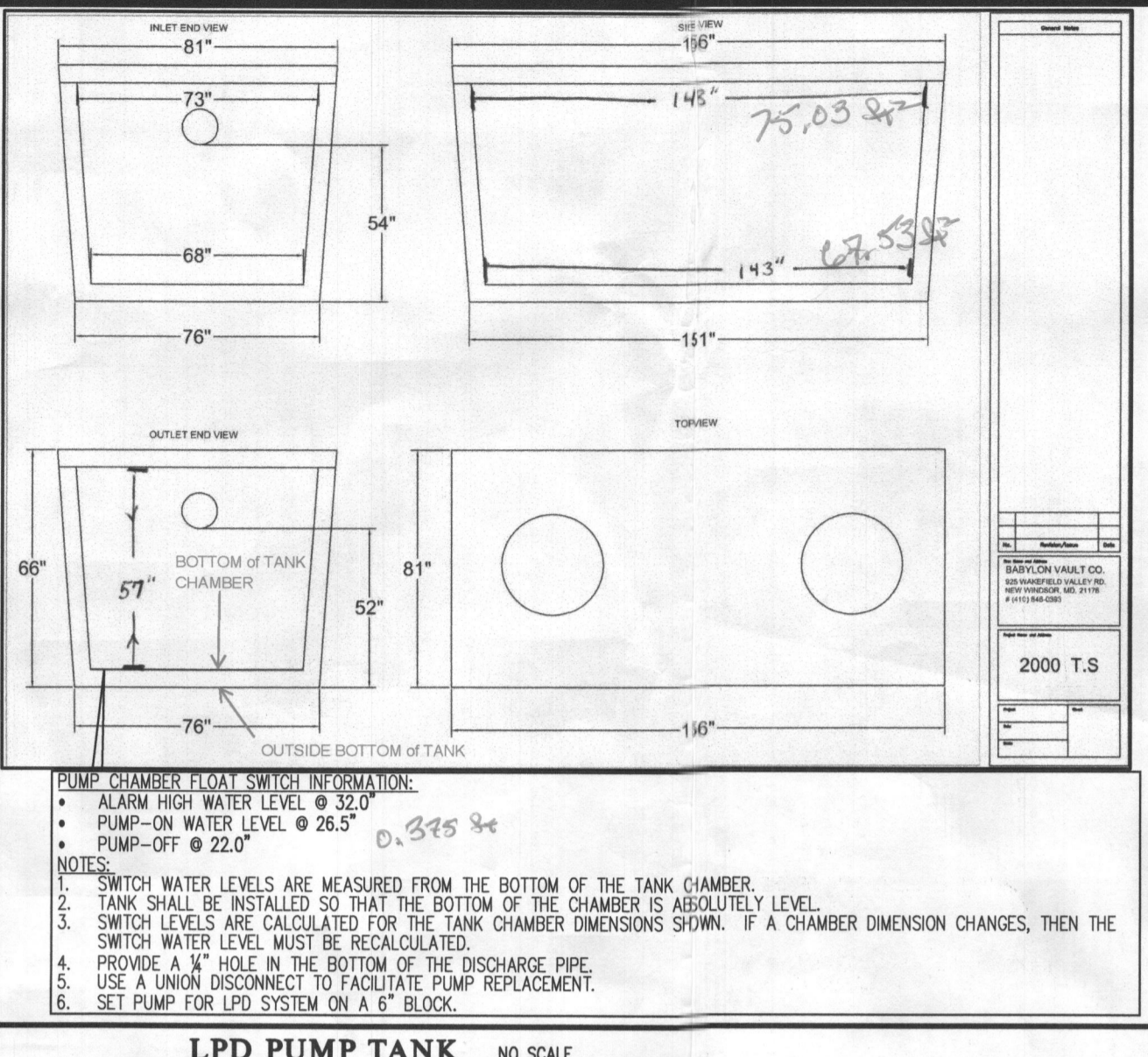
GLW
PLANNING | ENGINEERING | SURVEYING
3909 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20866 | GLWPA.COM
PHONE: 301-421-4024 | BALT: 410-860-1820 | DC&VA: 301-889-2524 | FAX: 301-421-4188

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



Rectangular Trapezoidal Pump Chamber Volume Calculations

| | | |
|---|--------------------------|----------------------|
| H: Height (inside dimension from bottom of chamber to top seal) (ft) | 57.00 in. | 4.75 ft |
| W: Top Width (inside dimension) (ft) | 73.00 in. | 6.08 ft |
| L: Top Length (inside dimension) (ft) | 148.00 in. | 12.33 ft |
| a: Bottom Width (inside dimension) (ft) | 68.00 in. | 5.67 ft |
| b: Bottom Length (inside dimension) (ft) | 143.00 in. | 11.92 ft |
| Chamber Bottom Area (a x b) (sq. ft) | 972.40 sq. ft. | |
| Chamber volume to top seal (ft ³) (V) | 58481.1 cu. ft. | 2592 gal. |
| Height from bottom of chamber to inlet invert level (ft) (H _i) | 50.0 ft | |
| Chamber width at inlet level (ft) (C) | 72.39 in. | 6.03 ft |
| Chamber length at inlet level (ft) (L) | 147.39 in. | 12.28 ft |
| Chamber Sectional Area at inlet level (ft ²) (C x L) | 10668.7 sq. ft. | |
| Chamber Volume at inlet level (ft ³) (V _i) | 50965.7 cu. ft. | 2206 gal. |
| Desired flow per day (min. reserved capacity to set alarm level) | 6 doses at 191 gal./dose | |
| Dosing frequency per day & volume per dose | | |
| Water level (Sa) to switch on alarm | 32.00 in. | |
| Chamber width at alarm level (Ca) | 70.81 in. | |
| Chamber length at alarm level (La) | 145.81 in. | |
| Chamber Sectional Area at alarm level (Ca x La) | 10334.3 sq. ft. | |
| Water volume at alarm level (Va) | 32079.3 cu. ft. | 1388 gal. |
| Reserved Capacity between alarm level and inlet invert level (ft) (H _r) | 1889.28 cu. ft. | 818 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 elevation. The additional capacity provided above the pump tank inlet invert is: | 23902 cu. in. | 95 gal. |
| Total Reserved Capacity Available | 21089.30 cu. in. | 913 gal. (OK) |
| Alarm High Water Level (from bottom of pump chamber) | 32.00 in. | |
| Pump on water level (O ₂ from bottom of pump chamber) | 26.50 in. | |
| Chamber width at alarm level (Ca) | 70.32 in. | |
| Chamber length at alarm level (La) | 145.81 in. | |
| Chamber Sectional Area at this level (Ca x La) | 10219.89 sq. ft. | |
| Water volume (Vo) to switch pump on: | 26423.33 cu. in. | 1144 gal. |
| Pump off water level (P ₂ from bottom of pump chamber) | 23.00 in. | |
| Chamber width at this level (C ₂) | 69.93 in. | |
| Chamber length at this level (L ₂) | 144.83 in. | |
| Chamber Sectional Area at this level (C ₂ x L ₂) | 10334.42 sq. ft. | |
| Water volume (V ₁) to switch pump off: | 21884.34 cu. in. | 946 gal. |
| Volume between on-off switchings: ((O ₂ -P ₂)*(C ₂ *L ₂)/C ₂)*D | 45798 cu. in. | 198 gal. |
| Back check discharge volume switch: V ₁ -V ₂ | 45798 cu. in. | 198 gal. |



Goulds Water Technology

Wastewater

Applications: Specifically designed for the following uses:
 • Homes
 • Water transfer
 • Sewage systems
 • Commercial applications
 • Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.

Specifications:
 • 1/2" HP and larger units have lead acid ends.
 • 1/4" HP and smaller units have lead acid ends.
 • Class 10 overload protection must be provided in separately enclosed starter unit.
 • SIZING: up to 220 CFM
 • Bearings: 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 damage 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 wicking. Standard cord is 30'. Optional lengths are available.
 • Motor Cover: Crimp Assures positive sealing against contaminants and oil leakage.
 • **AMTIC LISTINGS:**
 Tested to UL 778 and CSA 22.2 108 Standards
 www.gouldswatertech.com
 800.225.2252

Motor and Model Information

| Order Number | HP | Phase | Volts | SPM | Impeller Diameter (in.) | Max. Head (ft) | Max. Flow (GPM) | KVA | Full Load Motor Efficiency % | Resistance |
|--------------|-------|-------|-------|-----|-------------------------|----------------|-----------------|-----|------------------------------|------------|
| 90001284F | 1/2 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 3/4 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 1 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 1 1/2 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 2 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 3 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 4 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 5 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 6 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 7 1/2 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 10 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 15 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 20 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 25 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 30 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 35 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 40 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 45 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 50 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 55 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 60 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 65 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 70 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 75 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 80 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 85 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 90 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 95 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |
| 90001284F | 100 | 3 | 208 | 344 | 3.14 | 12.4 | 14.0 | 0.8 | 71 | 1.0 |

LOW PRESSURE DISTRIBUTION SYSTEM CALCULATIONS

ADDRESS: 7410 Haven Court
 SUBDIVISION: Estates at Schooley Mill
 DATE: December 2019

Design Flow: 900 gpd
 Pump Off Elevation: 275.97
 In. Out of Pump Tank: 278.33
 Pump Bottom Elevation: 278.68

Number of Manifolds: 1
 Type: End-Feed

Manifold 1
 Trench 1: Elev: 492.0 Length: 32.0
 Trench 2: Elev: 490.5 Length: 46.5
 Trench 3: Elev: 488.2 Length: 58.5
 Trench 4: Elev: 482.2 Length: 87.8
 Trench 5: Elev: 475.2 Length: 55.2
 Total: 234.5

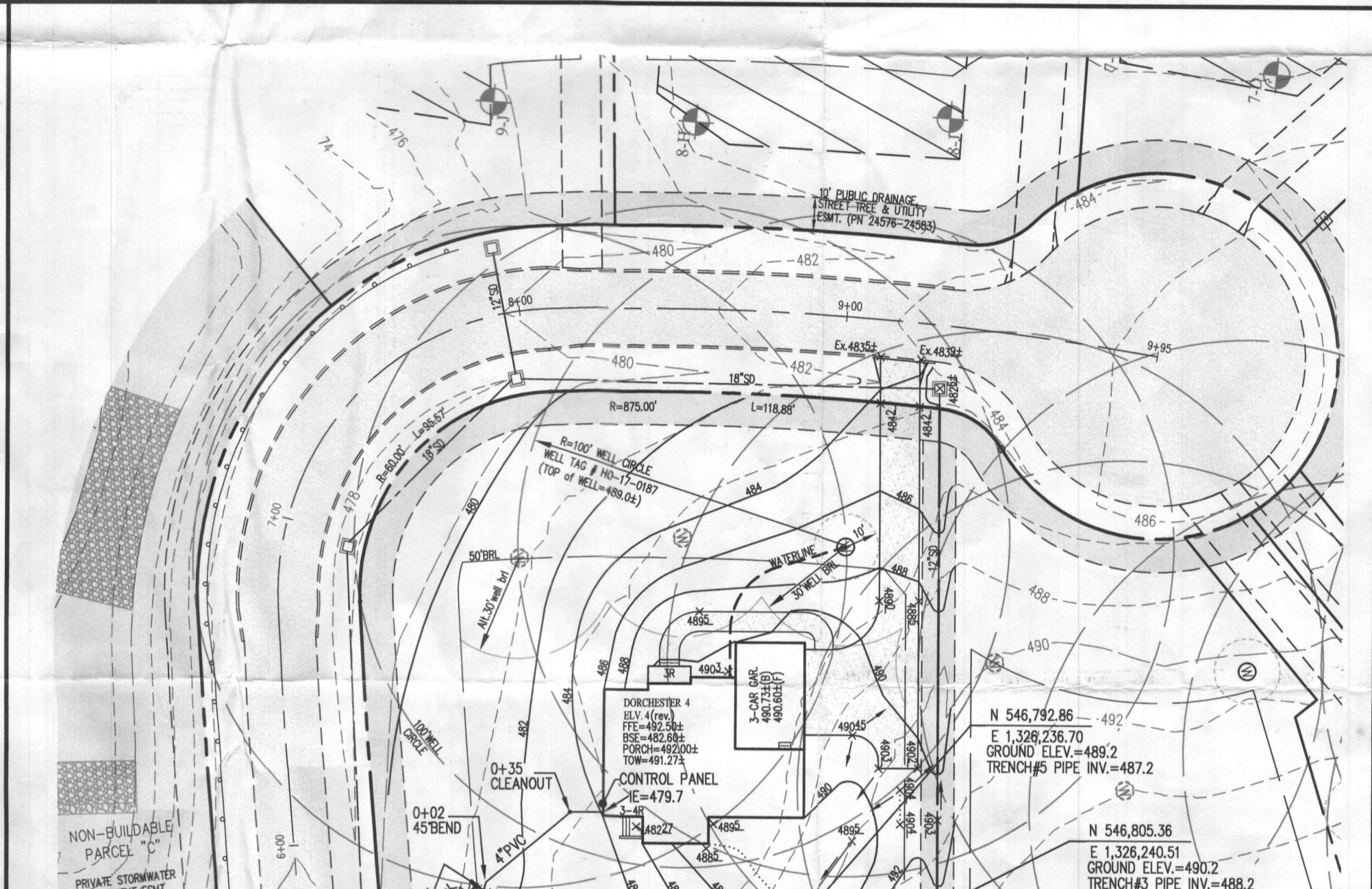
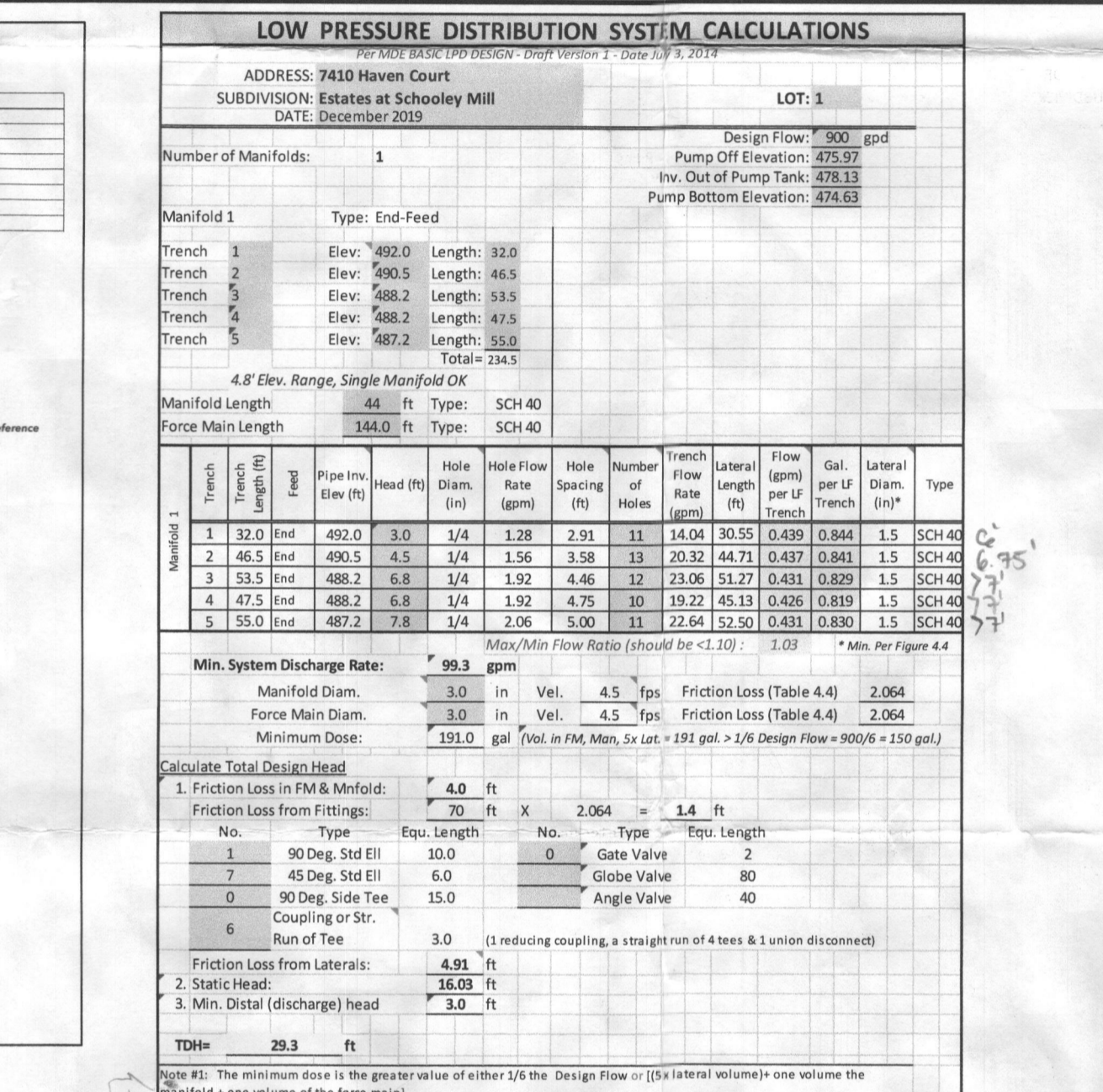
4" Elevation Range, Single Manifold
 Manifold Length: 44 ft Type: SCH 40
 Force Main Length: 184.0 ft Type: SCH 40

Manifold 1
 Trench 1: Elev: 492.0 Length: 32.0
 Trench 2: Elev: 490.5 Length: 46.5
 Trench 3: Elev: 488.2 Length: 58.5
 Trench 4: Elev: 482.2 Length: 87.8
 Trench 5: Elev: 475.2 Length: 55.2

Min. System Discharge Rate: 99.3 gpm
 Manifold Diam: 3.0 in Vel: 4.5 fps Friction Loss (Table 4.4): 2.064
 Force Main Diam: 3.0 in Vel: 4.5 fps Friction Loss (Table 4.4): 2.064
 Minimum Design: 191.0 gal (Vel. in FM, Min. Vel. = 1.91 gal = 1/8 Design Flow = 900/6 + 150 gal)

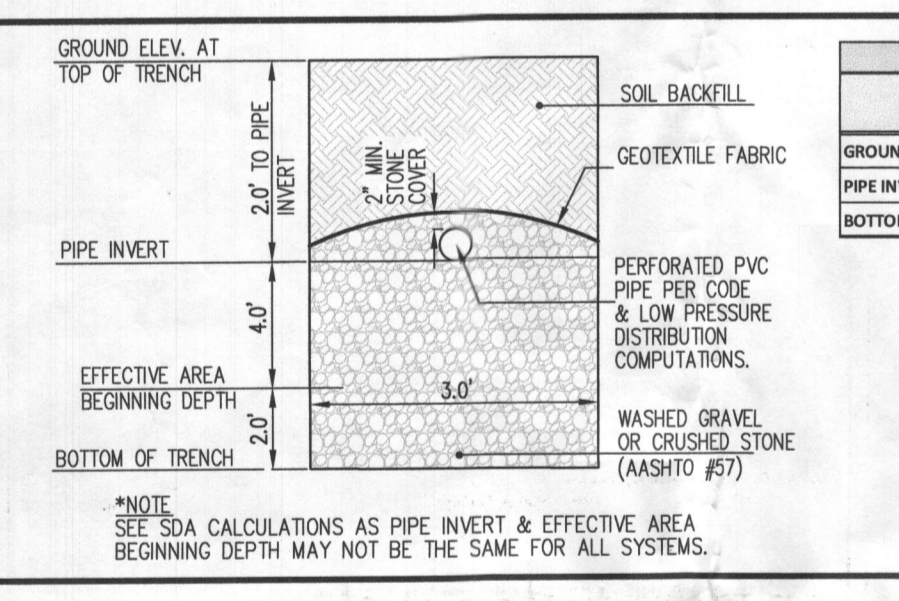
Calculate Total Design Head
 1. Friction Loss in FM & Manifold: 7.20 ft X 2.064 = 14.8 ft
 2. Friction Loss from Fittings: 1.0 ft
 3. Static Head: 16.08 ft
 4. Min. Distal (discharge) head: 3.0 ft
 Total: 29.3 ft

NOTE: The minimum flow is the greater value of either 1/8 the Design Flow (1/8 lateral volume) or one volume the Manifold (one volume of the force main)



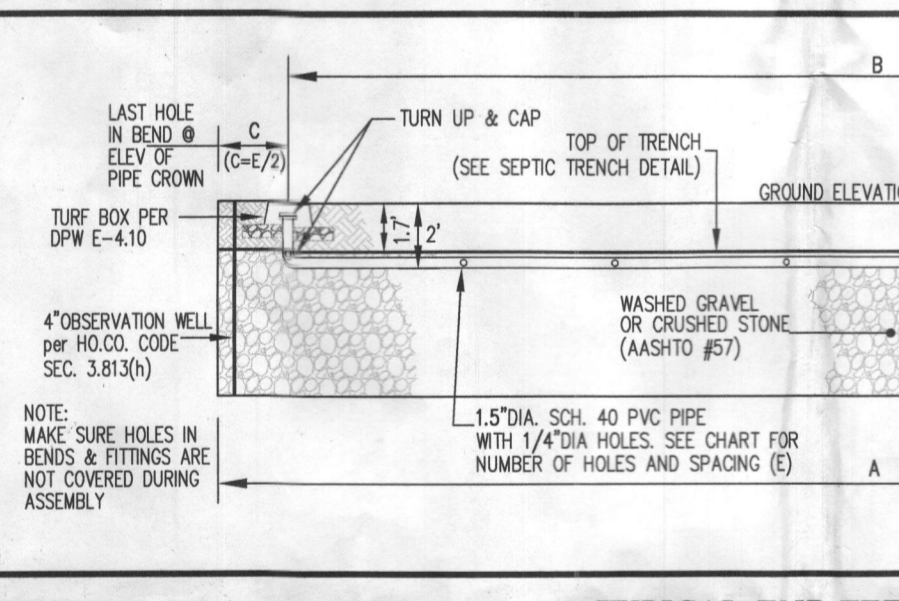
LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- FIRST FLOOR ELEVATION
- TOP OF FOUNDATION WALL
- BASEMENT 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



SDA TRENCH CHART

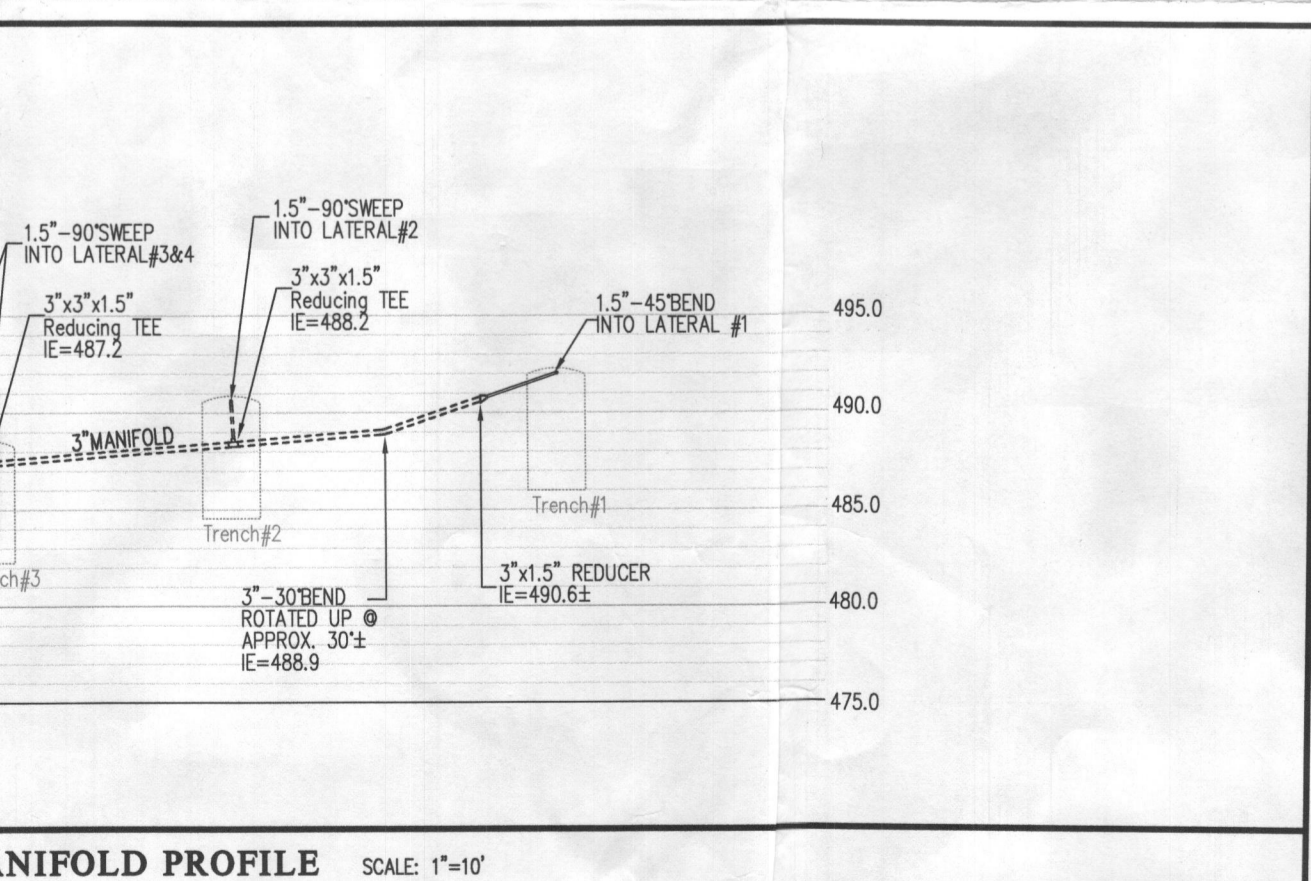
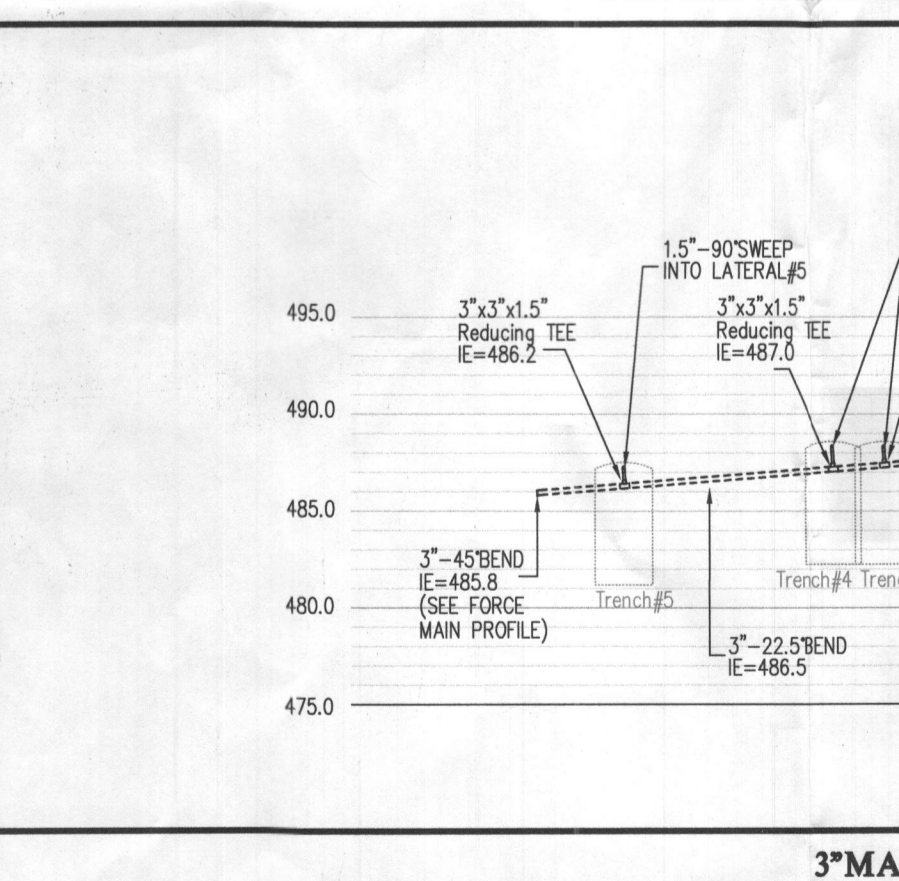
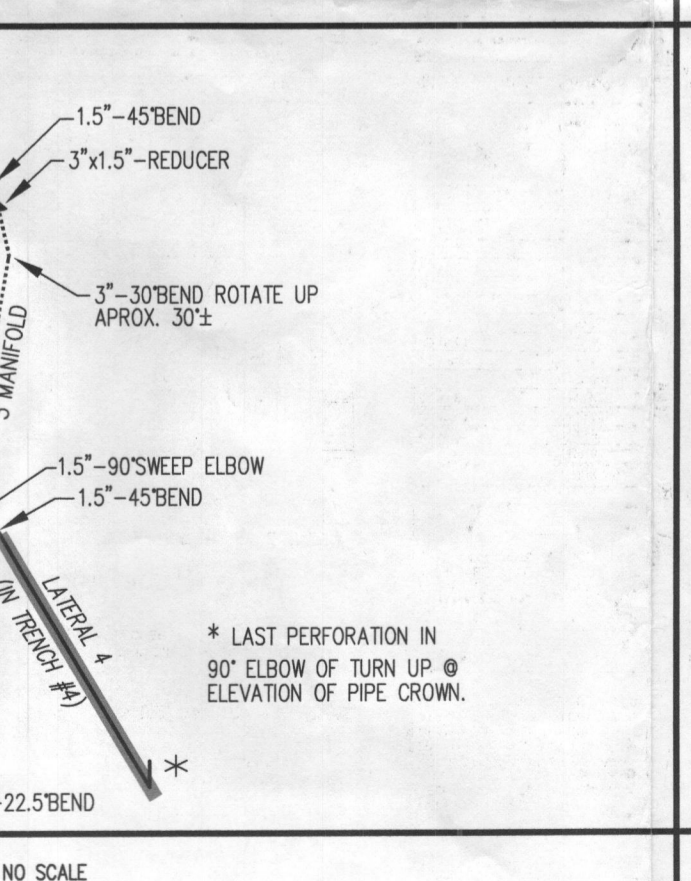
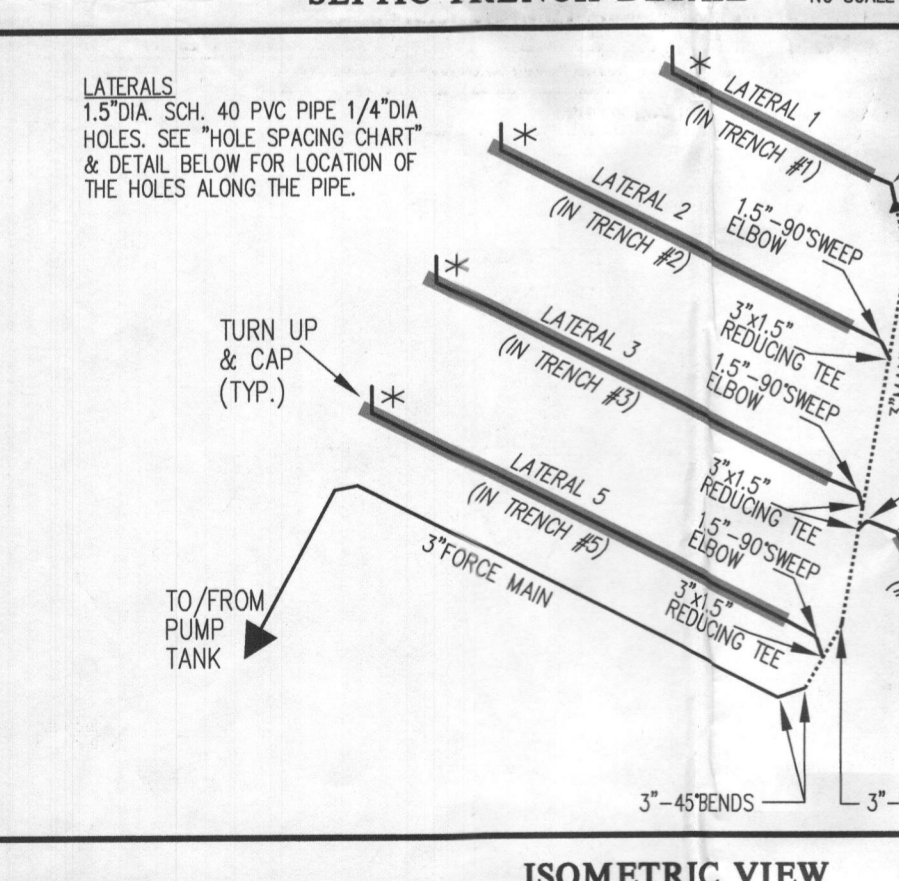
| Trench #1 | Trench #2 | Trench #3 | Trench #4 | Trench #5 |
|-----------|-----------|-----------|-----------|-----------|
| 494.0 | 492.5 | 490.2 | 489.2 | 489.2 |
| 492.0 | 490.5 | 488.2 | 488.2 | 488.2 |
| 486.0 | 484.5 | 482.2 | 482.2 | 482.2 |



HOLE SPACING CHART

| Trench No. | Feed Type | A | B | C | D | E |
|------------|-----------|---------|----------|---------|----|---------|
| 1 | End | 32.0 ft | 30.55 ft | 1.45 ft | 11 | 2.91 ft |
| 2 | End | 46.5 ft | 44.71 ft | 1.79 ft | 13 | 3.58 ft |
| 3 | End | 53.5 ft | 51.27 ft | 2.23 ft | 12 | 4.46 ft |
| 4 | End | 47.5 ft | 45.13 ft | 2.38 ft | 10 | 4.75 ft |
| 5 | End | 55.0 ft | 52.5 ft | 2.5 ft | 11 | 5 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).



GLW

PLANNING | ENGINEERING | SURVEYING

3909 NATIONAL DRIVE | SUITE 250 | BURTONTOWN, MD 20886 | GLWPA.COM
 PHONE: 301-421-0424 | FAX: 301-421-4186

| DESIGNED BY: | DATE: | REVISION: | BY: | APPR.: |
|--------------|-------|-----------|-----|--------|
| MBT | | | | |
| DRAWN BY: | | | | |
| KLP | | | | |
| CHECKED BY: | | | | |
| CKG | | | | |

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, ANDRIAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12785.
 EXPIRATION DATE: MAY 26, 2020

12/12/19

SITE PLAN FOR BAT INSTALLATION

ESTATES AT SCHOOLEY MILL

LOT 1 (7410 Haven Court)

Plat No. 24576-24583

HOWARD COUNTY, MARYLAND

| DATE: | TAX MAP - GRID: | SHEET: |
|-----------|-----------------|--------|
| DEC. 2019 | 40 - 11 | 1 OF 1 |



HOWARD COUNTY HEALTH DEPARTMENT

67874

DATE
6/15/20

PS

Received From

Hartfields Equip.

PHONE #

For

Septic Permit / Schooly
Mill Lot 1

CASH

CHECK

NO.

4319

Three hundred ninety six Dollars

\$ 396 00

Received By

King