

**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](https://www.facebook.com/hocohealth)

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

RECEIPT DATE: 12/2/21 **ONSITE SEWAGE DISPOSAL SYSTEM**

P 570874

APPROVAL DATE: 2/25/22 **PERMIT: CONSTRUCTION**

A \_\_\_\_\_

PROPERTY ADDRESS: 750 Middletrail Ct. Mt. Airy, MD 21771

SUBDIVISION: NA LOT: 15A TAX ID: 1404332245

CONTRACTOR: J+A Construction EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: P.O. Box 870, Mount Airy, MD 21771 PHONE: 301-674-6730

PROPERTY OWNER: Brooke and John Bures EMAIL: Jbures1@yahoo.com

OWNER ADDRESS: 10 Caplan Ct. Perry Hall, MD 21128 PHONE: 443-452-7573

SEPTIC TANK SIZE (GALLONS): 1500 TANK MANUFACTURER: Mayer Bros

PUMP MODEL: Gould EP-04 PUMP SIZE: 0.4 HP PUMP TANK CAPACITY: 1000

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>250/102.5</u>	INLET DEPTH: <u>2</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>11</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	<u>Approved proposal requires Inlet on left side of Septic Tank, JAB</u>	

ISSUED BY: Robert Freemon ISSUE DATE: 12-9-21 EXPIRATION DATE: 12-9-22

- 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 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 B21005110
- 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'	8
NUMBER OF TRENCHES 2		
TOTAL LENGTH 109 F		
ABSORPTION AREA 327 SF + 4' SIDE WARE		
DISTRIBUTION BOX LEVEL PUMP		
DISTRIBUTION BOX BAFFLE YES		
DISTRIBUTION BOX PORT YES		

**SEPTIC TANK DATA**

SEPTIC TANK 1 LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	4'
BAFFLES	inlet + outlet
BAFFLE FILTER	-
MANHOLE LOC	FRONT/BACK
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	yes
DATE ON LID	11/01/2021
PUMP/SEPTIC TANK LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1000 GAL
SEAM LOC	TOP
TANK LID DEPTH	4'
BAFFLES	inlet
BAFFLE FILTER	-
MANHOLE LOC	BACK
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	-
DATE ON LID	11-15-21

**PRE-CONSTRUCTION:**

12/22/21 2x57' trenches were staked out on contour according to plan. SL is stubbed to come out below footer in location indicated on plan. SL must go over storm drain. Jeff Williams approved 45° angles in SL as opposed to left inlet on tank. Contractor must use traffic bearing tanks as tanks will be ~3.5' in ground. SD 12/23/2021 SYSTEM ONLY REQUIRES 115 LF. INSTALL TR AT TOP OF SDA; REDIRECT FM ALONG WELL ARC SIDE OK.

INSTALLATION: 12/23/2021 SET TANK & (PUMP) SEWER LINE INSTALL SD 12/28/21 FM installed, trenches partially complete SD 12/29/2021 D BOX INSTALLED. OK TO BACKFILL. SD 2/25/22 Alarm obs. to function. Alarm located in basement. Pump obs. to function, water flowing in d box. Pump and alarm on separate circuits in basement circuit box. SD

FINAL INSPECTOR

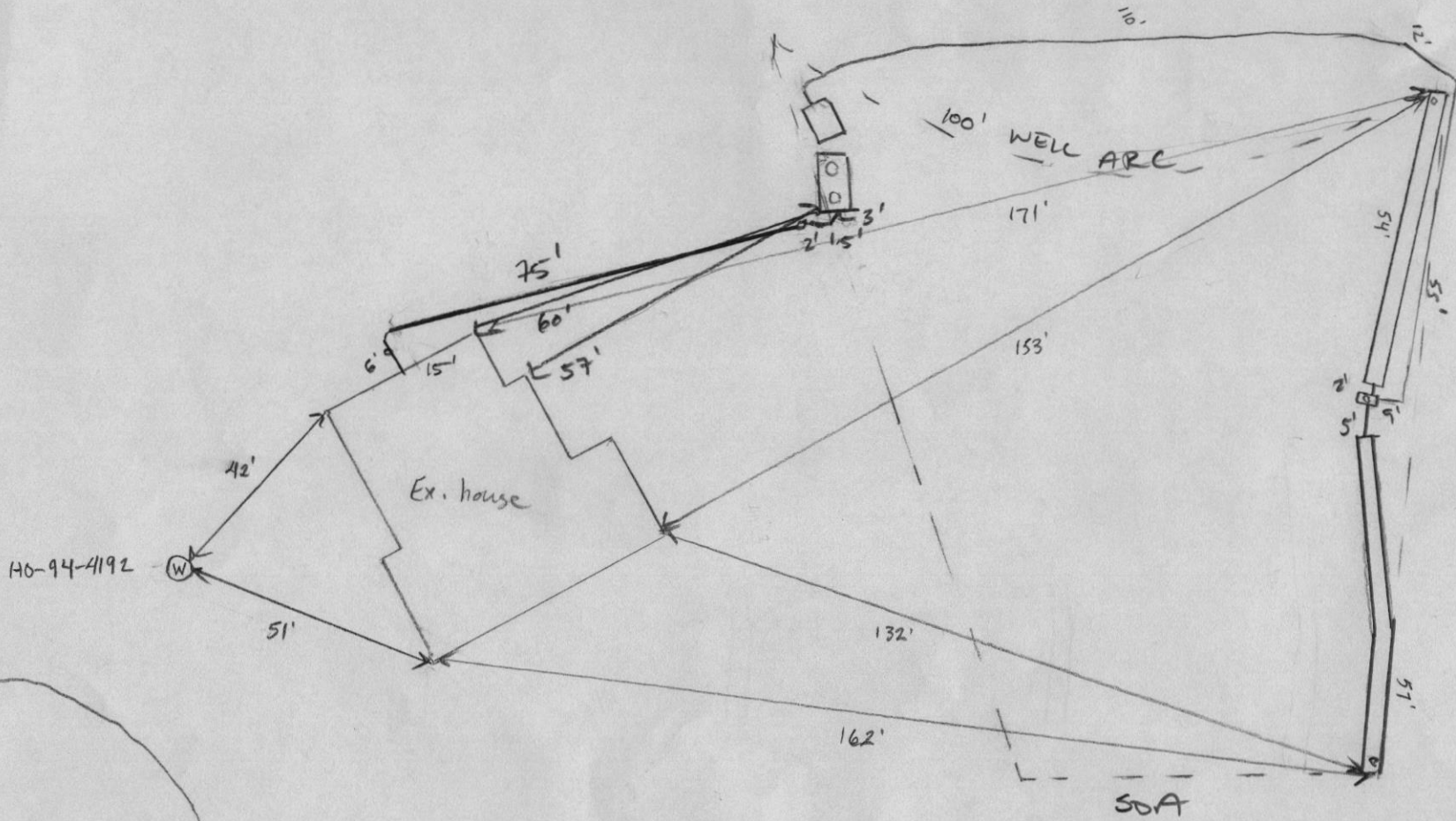
*A Susan Thomas*

DATE OF APPROVAL

2/25/22

NOT TO SCALE

1"=30'



HO-94-4192

W

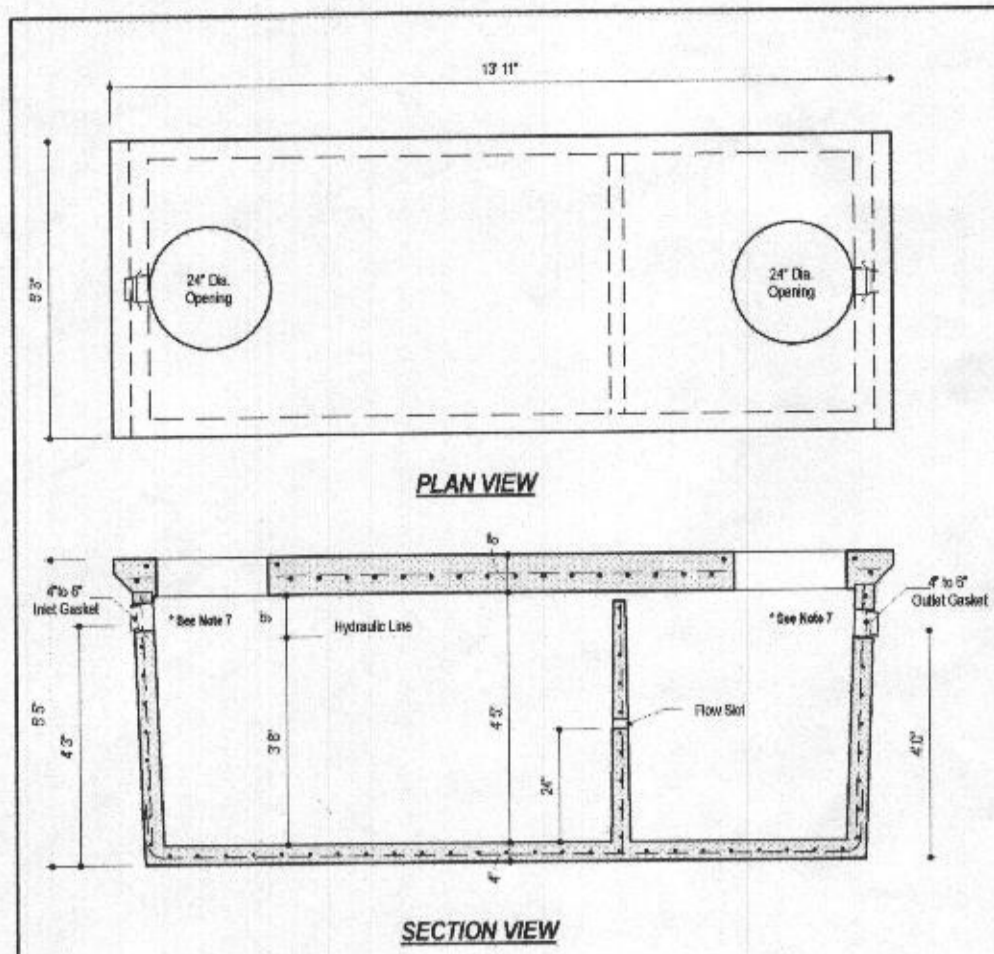
Ex. house

100' WELL ARC

SOA

Middletrail Ct

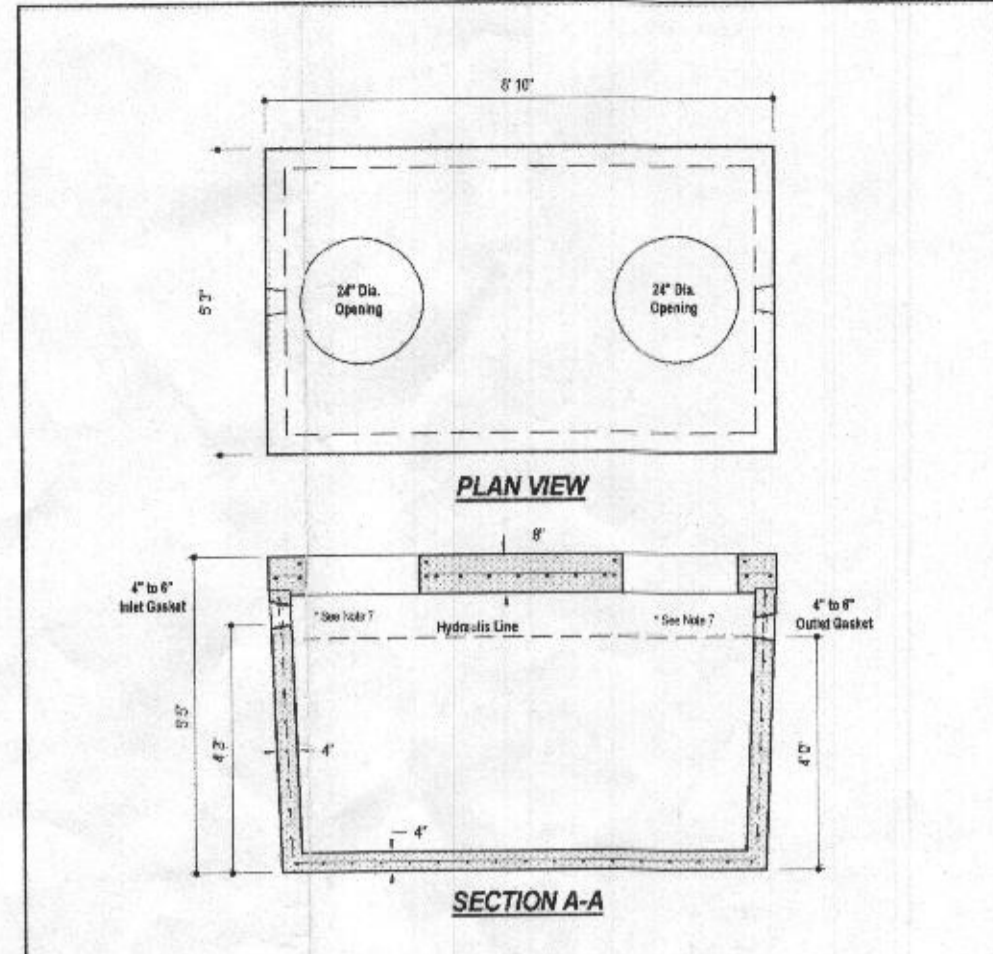
750 MIDDLE TRAIL



**DESIGN DATA & GENERAL NOTES**

1. Capacity: 1500 Gallons
2. Material: Polypropylene
3. Weight: 16,000 lbs.
4. Dimensions: 48" x 72" x 48"
5. Inlet: 2" x 1/2" NPT
6. Outlet: 2" x 1/2" NPT
7. Flow Seal: 2" x 1/2" NPT
8. Riser Pipe: 2" x 1/2" NPT
9. Installation: See Manual
10. Warranty: 5 Years

**1500 GALLON TANK**  
Heavy Traffic Rated  
Stock Item (Approx. Wt. - 16,000 lbs.)  
No Scale  
Aug 11, 2008



**DESIGN DATA & GENERAL NOTES**

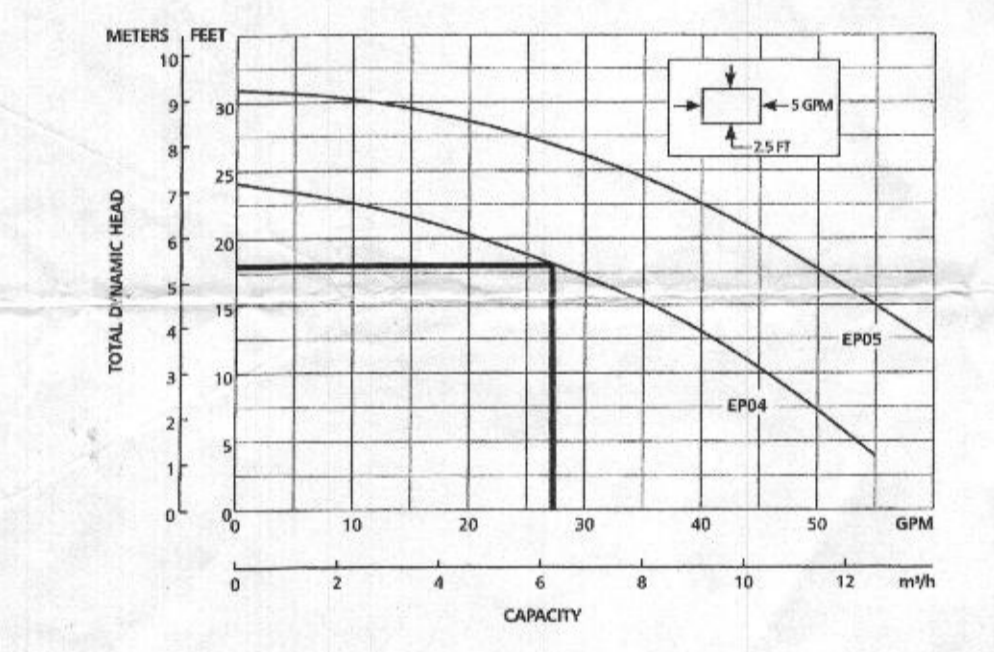
1. Capacity: 1000 Gallons
2. Material: Polypropylene
3. Weight: 14,000 lbs.
4. Dimensions: 48" x 60" x 48"
5. Inlet: 2" x 1/2" NPT
6. Outlet: 2" x 1/2" NPT
7. Flow Seal: 2" x 1/2" NPT
8. Riser Pipe: 2" x 1/2" NPT
9. Installation: See Manual
10. Warranty: 5 Years

**1000 GALLON TANK**  
Heavy Traffic Rated  
Stock Item (Approx. Wt. - 14,000 lbs.)  
No Scale  
Aug 11, 2008

**SEPTIC TANK**

**PUMP TANK**

Wastewater



**MODEL INFORMATION**

Order No.	HP	Volts	Phase	Flow Switch	Flow Rate	Capacity	Material	Weight	Dimensions
EP011	1/2	115	120	1/2"	10	10	Manual	20/11	20" x 11" x 10"
EP011A	1/2	115	120	1/2"	10	10	Manual	21/13	21" x 13" x 10"
EP011B	1/2	115	120	1/2"	10	10	Manual	20/11	20" x 11" x 10"
EP011C	1/2	115	120	1/2"	10	10	Manual	21/13	21" x 13" x 10"
EP012	3/4	230	60	1"	10	10	Manual	20/11	20" x 11" x 10"
EP012B	3/4	230	60	1"	10	10	Manual	20/11	20" x 11" x 10"
EP012C	3/4	230	60	1"	10	10	Manual	21/13	21" x 13" x 10"
EP012D	3/4	230	60	1"	10	10	Manual	22/18	22" x 18" x 10"

**STATIC HEAD** 15.72 FT

**FORCE MAIN** 2 IN DIAMETER SCH 40 PVC  
AREA 0.02285 SQ FT  
NO INTERMEDIATE LOW POINTS; MIN VELOCITY = 2 FPS  
FLOW RATE = 0.0457 GPM  
FOR CALCULATING DYNAMIC HEAD, USE 27.0 GPM

**HEAD LOSS IN FEET/100 FT OF PIPE**  
C = 0.2083(100/C)^1.852 \* 1.852/D^4.8655 (HAZEN WILLIAMS EQN.)  
C = ROUGHNESS COEFFICIENT = 150  
Q = FLOW IN GPM = 27  
D = DIAMETER IN INCHES = 2.047

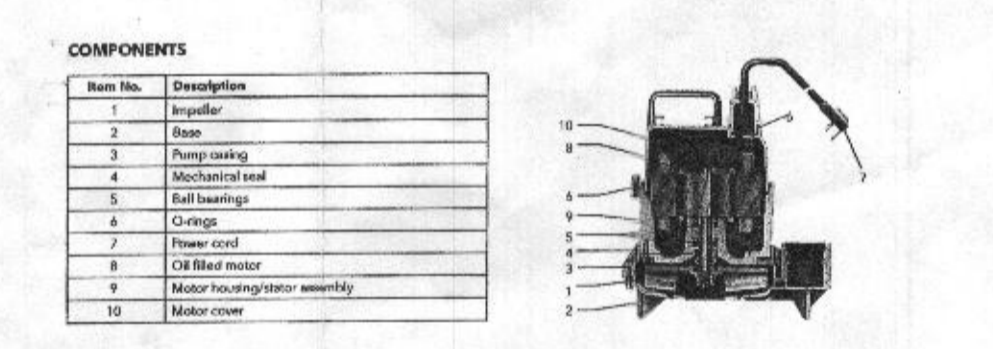
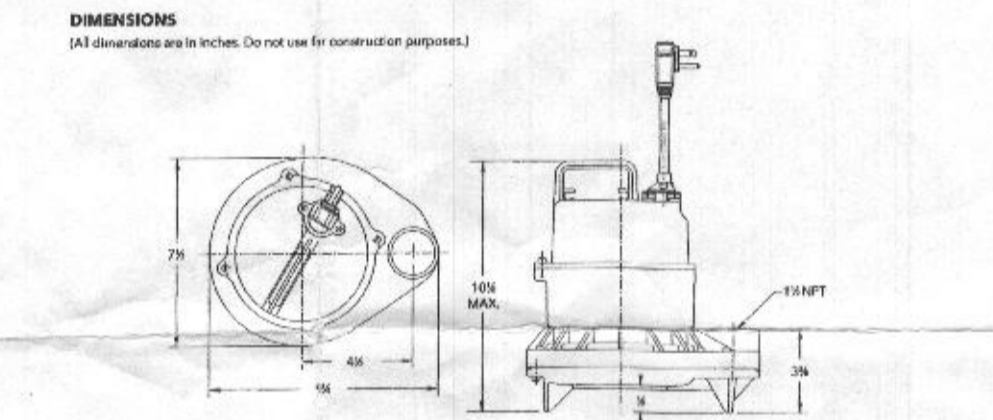
**DESIGN HEAD DETERMINATION:**  
LINEAR FEET OF 2" FORCE MAIN = 160.65 FT  
LINEAR FEET EQUIVALENT FOR PIPE FITTINGS:  
90° ELBOW 7 FT EQUIVALENT x 5 = 35 FT  
45° ELBOW 4 FT EQUIVALENT x 1 = 4 FT  
2"x3" REDUCER 2 FT EQUIVALENT x 1 = 2 FT  
TOTAL LENGTH = 187.65 FT

**FRICITION HEAD LOSS (TOTAL LENGTH/100 X FRICTION LOSS FOR 27 GPM FLOW) = 1.276 FT  
HEAD LOSS IN FEET FOR ACTUAL LENGTH = 2.39 FT**

**TOTAL DESIGN HEAD (STATIC + DYNAMIC) = 18.11 FT  
USE GOULD EP-04 OR EQUIVALENT 0.4 HP PUMP**

FM HOLDS 28 ± GALLONS OF SEWAGE. ALLOW FOR RUN BACK. 600 GPD, PUMP RUNS 6X DAILY, 100 GALLONS PLUS RUNBACK USE 6.0 INCHES, 128 GALLONS ±. RUN TIME = 128 GALLONS/27 GPM = (MINUTES/RUN) 4 MIN. 44 SEC.

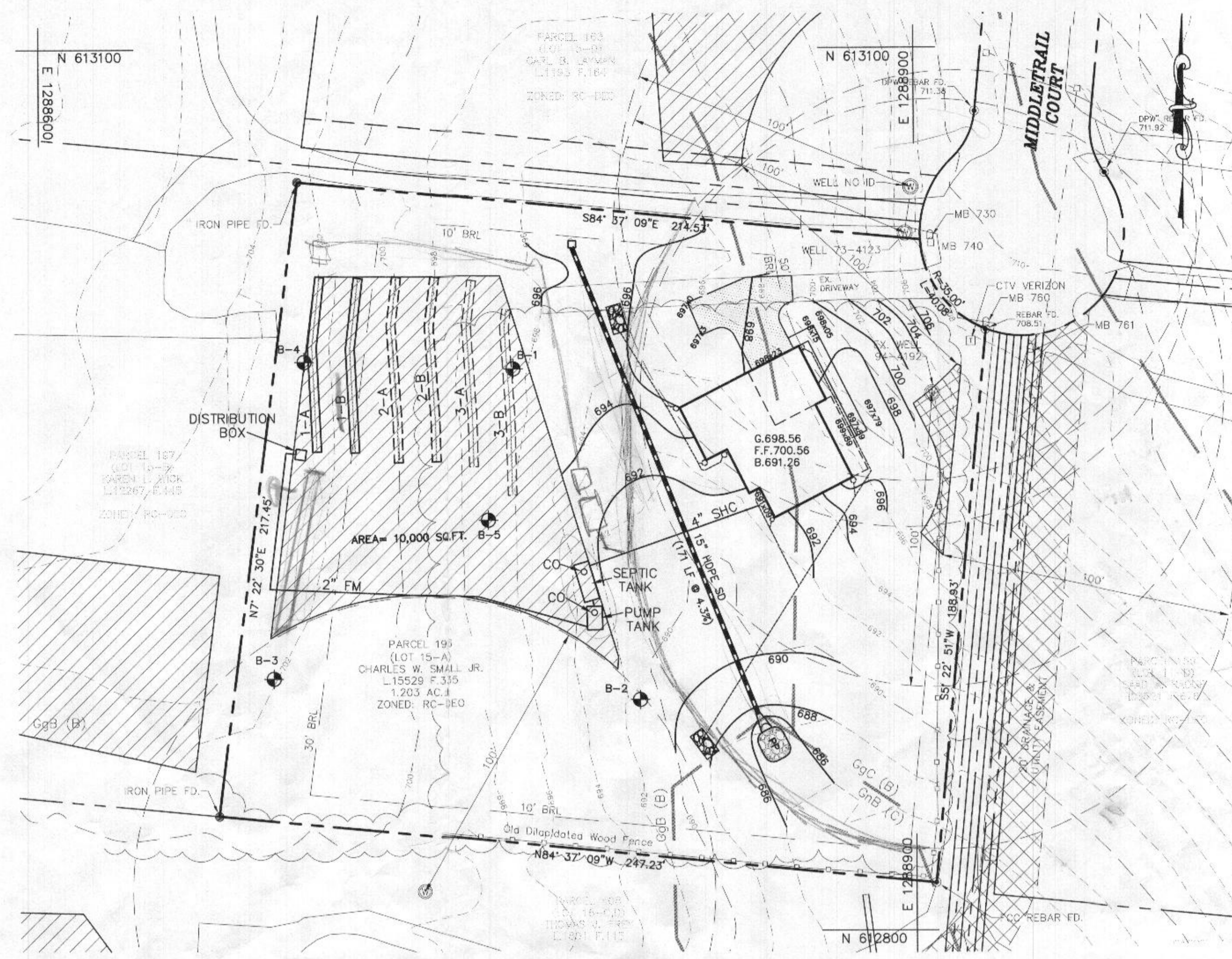
**ON-SITE SEWAGE DISPOSAL SYSTEM PUMP DESIGN**



**COMPONENTS**

Item No.	Description
1	Inverter
2	Blower
3	Pump control
4	Electrical control
5	Ball bearings
6	Oil rings
7	Power cord
8	Oil filter motor
9	Motor mount/separator assembly
10	Motor cover

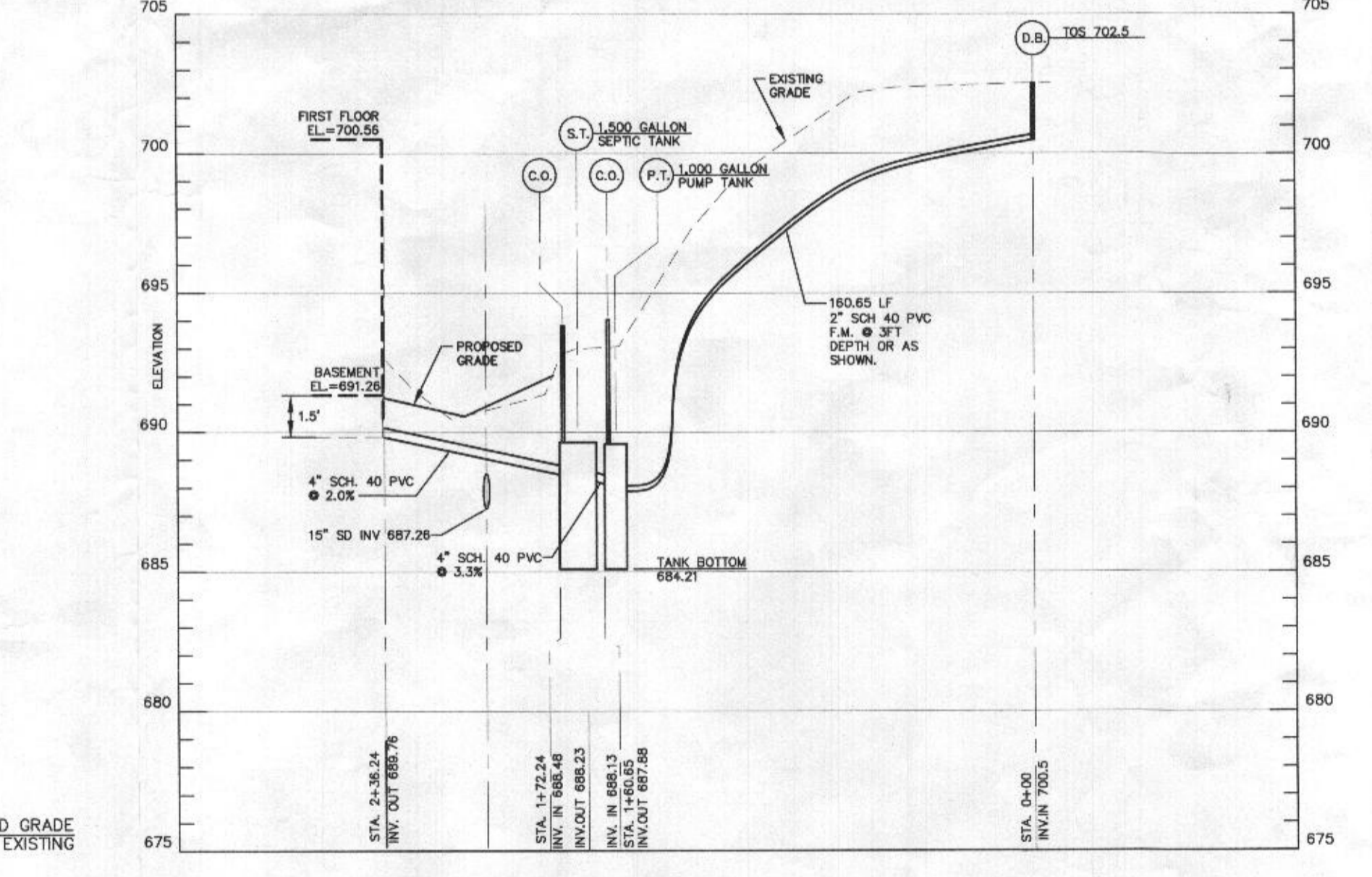
**PUMP CONTROL ELEVATIONS**  
NOT TO SCALE



**ON-SITE SEWAGE DISPOSAL SYSTEM PLAN**  
SCALE: 1" = 30'

**SEWER SYSTEM CHART**

DESCRIPTION	VALUE
BASEMENT ELEVATION	691.26
INVERT OUT OF THE HOUSE	689.76
FINISHED GRADE AT SEPTIC TANK	693.00
TOP OF SEPTIC TANK	689.64
INVERT INTO SEPTIC TANK	688.48
INVERT OUT OF SEPTIC TANK	688.23
FINISHED GRADE AT PUMP TANK	693.00
TOP OF PUMP TANK	689.29
INVERT INTO PUMP TANK	688.13
INVERT OUT OF PUMP TANK	687.88
INVERT INTO DISTRIBUTION BOX	700.50
PUMP TANK FLOOR	684.21
PUMP OFF	684.78
PUMP ON	685.28
HIGH WATER ALARM	685.78
WATER LEVEL	688.12
TOTAL DYNAMIC HEAD	18.11
DOSED RATE	100 GAL
PUMP RUNTIME	4.74 MIN.



**ON-SITE SEWAGE DISPOSAL SYSTEM PROFILE**  
SCALE: HOR. 1" = 50' VER. 1" = 5'

**SEPTIC TRENCH SIZING**

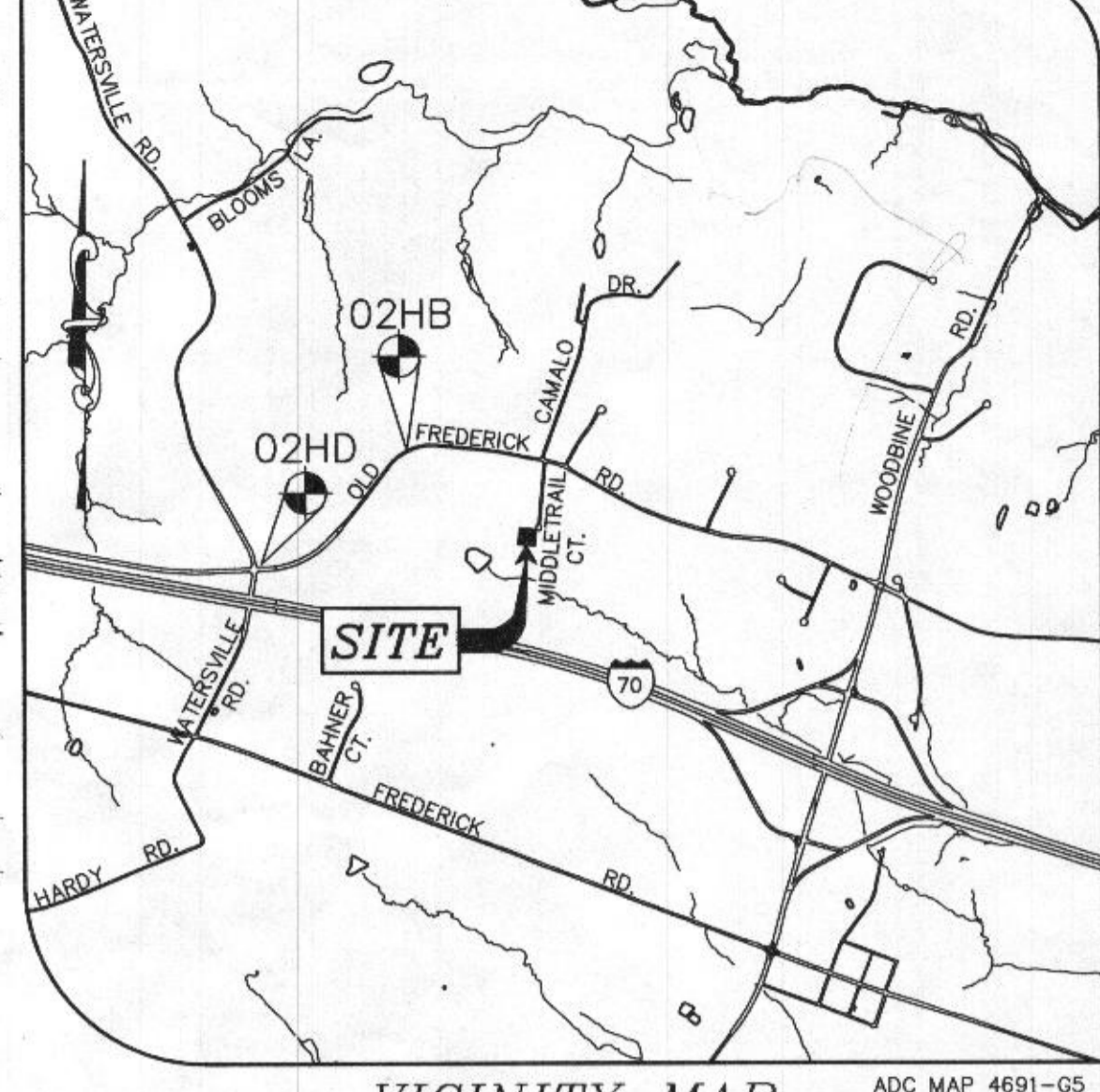
SYSTEM	APPLICATION RATE (GPD / SF)	MAXIMUM FLOW RATE (GPD)	AREA OF TRENCH REQUIRED (SF)	TRENCH WIDTH (FT)	LENGTH OF TRENCH (FT)	EFFECTIVE DEPTH (FT)	TRENCH BOTTOM DEPTH (FT)	TRENCH REDUCTION FACTOR*	ADJUSTED LENGTH OF TRENCH (FT)	MINIMUM SPACING (FT)	NUMBER OF TRENCHES	PROVIDED TRENCH LENGTH (FT)
PRIMARY	0.8	600	750	3	250	4.0	8.0	0.41	102.0	10.0	2	57
SECONDARY	0.8	600	750	3	250	5.0	8.0	0.50	125.0	10.0	2	63
TERTIARY	0.8	600	750	3	250	5.0	8.0	0.50	125.0	10.0	2	63

**SEPTIC TRENCH ELEVATIONS**

TRENCH	EX. GROUND ELEVATION	INVERT ELEVATION	BOTTOM OF TRENCH EL.
PRIMARY A	702.5	700.5	694.5
SECONDARY A	701.25	699.25	693.25
SECONDARY B	700.0	698.0	692.0
SECONDARY C	699.0	697.0	691.0
TERTIARY A	697.5	695.5	689.5
TERTIARY B	696.0	694.0	688.0

**LEGEND**

- ⊕ PASSED TEST PIT
- ⊙ EXISTING WELL LOCATION
- ⊙ PROPOSED POTABLE WATER WELL LOCATION
- ⊙ CLEANOUT



**VICINITY MAP**  
SCALE: 1" = 200'

**GENERAL NOTES:**

1. THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE 10/06/2013 COMPREHENSIVE ZONING PLAN.
2. **PROPERTY BACKGROUND:**  
ADDRESS: 7405 MIDDLETRAIL COURT, MOUNT AIRY, MD. 21771  
TAX MAP 02 - PARCEL 15A  
ELECTION DISTRICT : 4TH  
DEED REFERENCE: 15528-00335  
AREA : 1.20± ACRES  
TOTAL NUMBER OF UNITS : 1  
TYPE OF PROPOSED UNIT : SFD  
PROPOSED USE FOR SITE : RESIDENTIAL.
3. PROJECT BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT JULY, 2020 BY MILDENBERG, BOENDER & ASSOC.
4. TOPOGRAPHY SHOWN HERE WAS FIELD VERIFIED BY MILDENBERG, BOENDER & ASSOC, INC. IN MAY 2020 TO ACCURATELY REPRESENT THE RELATIVE CHANGES ON THE SUBJECT PROPERTY.
5. HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 02 HB & 02 HD:  
STA. NO. 02 HB: N 613,910.957; E 1,287,573.304; EL. 736.340  
STA. NO. 02 HD: N 612,479.605; E 1,285,732.028; EL. 746.121
6. 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.
7. SOILS LOCATION AND CLASSIFICATION BASED ON HOWARD COUNTY GIS SOIL SURVEY.
8. WELL LOCATIONS SHOWN ARE BASED ON HEALTH DEPARTMENT RECORDS VERIFIED BY FIELD VISIT.
9. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
10. SEPTIC TANKS AND DRAIN FIELD SHOWN IS BASED ON DATA PROVIDED BY HOWARD COUNTY HEALTH DEPARTMENT.
11. THIS AREA DESIGNATES A PRIVATE SEWAGE AREA 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
12. THE MAXIMUM EARTH COVER OVER THE SEPTIC AND PUMP TANKS IS THREE (3) FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
13. THE MAXIMUM EARTH COVER OVER A HEAVY LOAD BEARING TANK IS FIVE (5) FEET. GREATER EARTH COVER IS NOT ALLOWED.
14. ANY WELLS OR SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELL AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
15. ALL TRENCHES ARE FED BY GRAVITY FROM THE DISTRIBUTION BOX.

**SOILS TABLE**

SYMBOL	RATING	NAME	K FACTOR	SOIL MAP #
GgB	(B)	GLENELG LOAM, 3-8% SLOPES.	.24	
GnC	(C)	GLENVILLE-BAILE SILT LOAMS, 0-8% SLOPES	.43	
GgC	(B)	GLENELG LOAM, 8-15% SLOPES.	.24	

**ON-SITE SEWAGE DISPOSAL SYSTEM:**

RESIDENTIAL SYSTEM DESIGN:  
4 BEDROOM HOUSE  
LIVING AREA=2,363 SQ.FT. (1ST, 2ND FLR)  
PLUS 1/2 BASEMENT 550 SQ.FT. = 2913 TOTAL  
USE 1500 GALLON SEPTIC TANK  
150 GALLONS X # OF BEDROOMS =  
VOLUME OF WASTEWATER /DAY  
150 X 4 = 600 GPD

**PRIMARY, SECONDARY AND TERTIARY SYSTEM:**  
PERC RATE = 6-15 MINUTES/INCH  
APPLICATION RATE = 0.8 GPD/SQ.FT.  
DESIGN FLOW + APPLICATION RATE = SQ.FT. OF TRENCH REQUIRED  
600 ÷ 0.8 = 750.0 SQ.FT.  
SQ.FT. REQUIRED + WIDTH OF TRENCH = LENGTH OF TRENCH  
750 ÷ 3.0' = 250.0 FT

**PRIMARY SYSTEM:**  
USE 42" OF GRAVEL BELOW DRAIN PIPE  
250 X 0.61 = 152.5 USE 114 FT  
USE TWO (2) TRENCHES, REQUIRED LENGTH OF (51.25'); PROVIDED (57')  
A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDEWALL REDUCTION CREDIT.  
MINIMUM TANK CAPACITY = 1,500 GALLONS  
USE MAYER BROS. PRODUCT OR EQUIVALENT.

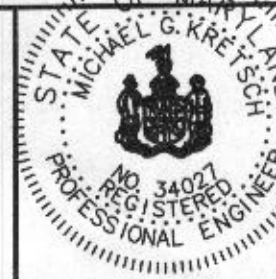
**SECONDARY SYSTEM:**  
USE 36" OF GRAVEL BELOW DRAIN PIPE  
250 X 0.50 = 125 USE 126 FT  
USE TWO (2) TRENCHES, REQUIRED LENGTH OF (62.5'); PROVIDED (63')  
A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDEWALL REDUCTION CREDIT.

**TERTIARY SYSTEM:**  
USE 36" OF GRAVEL BELOW DRAIN PIPE  
250 X 0.50 = 125 USE 126 FT  
USE TWO (2) TRENCHES, REQUIRED LENGTH OF (62.5'); PROVIDED (63')  
A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDEWALL REDUCTION CREDIT.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER  
HOWARD COUNTY HEALTH DEPARTMENT

DATE



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. 34027, EXP DATE 01/16/2021

6/18/2021  
DATE:

**DEVELOPER**  
BROOKE BURES  
JOHN BURES  
443-452-7573  
750 MIDDLETRAIL COURT  
MOUNT AIRY, MARYLAND 21771

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Surveyors  
Planners  
7350B GRACE DRIVE, COLUMBIA, MD 21044  
(410) 997-0286 Fax: (410) 997-0288 Fax

APPROVED SEPTIC SYSTEM PLAN  
Howard County Health Department  
Signature: [Signature]  
Date: 7/16/2021

**MIDDLETRAIL COURT LOT 15A**

TAX MAP 2 PARCEL 196 HOWARD COUNTY, MARYLAND  
FOURTH ELECTION DISTRICT

**ON-SITE SEWAGE DISPOSAL SYSTEM**

Project: 20-021  
Date: MAY 2021  
Illustration: DAM  
Revision: SAA  
Scale: 1" = 30'

1 OF 1