HOWARD COUNTY HEALTH DEPARTMENT

68843

DATE 4/6/26

Received From Freedom Septic PHONE # 410 795-0447

For Septic Permit / 1703 Wolfridge Ct.

☐ CASH
☒ CHECK
NO. 1434

One hundred Dollars

$ 165.00

Received By Okino

HOWARD COUNTY HEALTH DEPARTMENT

71481

DATE 4/7/22

Received From Legacy Septic + Excavation PHONE # 301-370-4121

For T & A - 11703 Wainridge Ct.

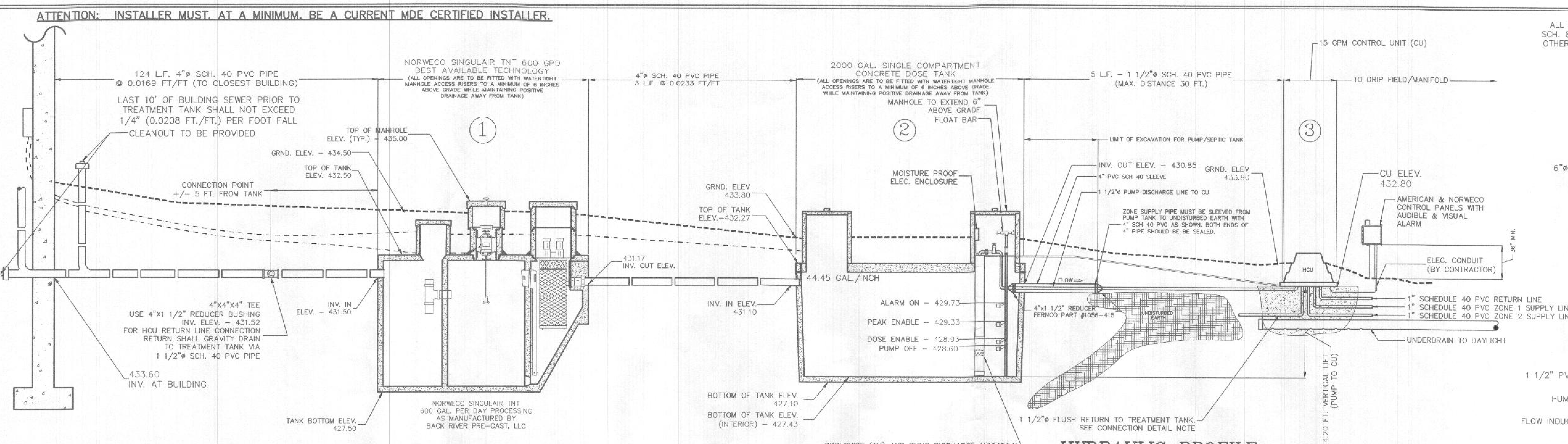
☐ CASH
☒ CHECK
NO. 6873

Seven hundred twenty Dollars

$ 726.00

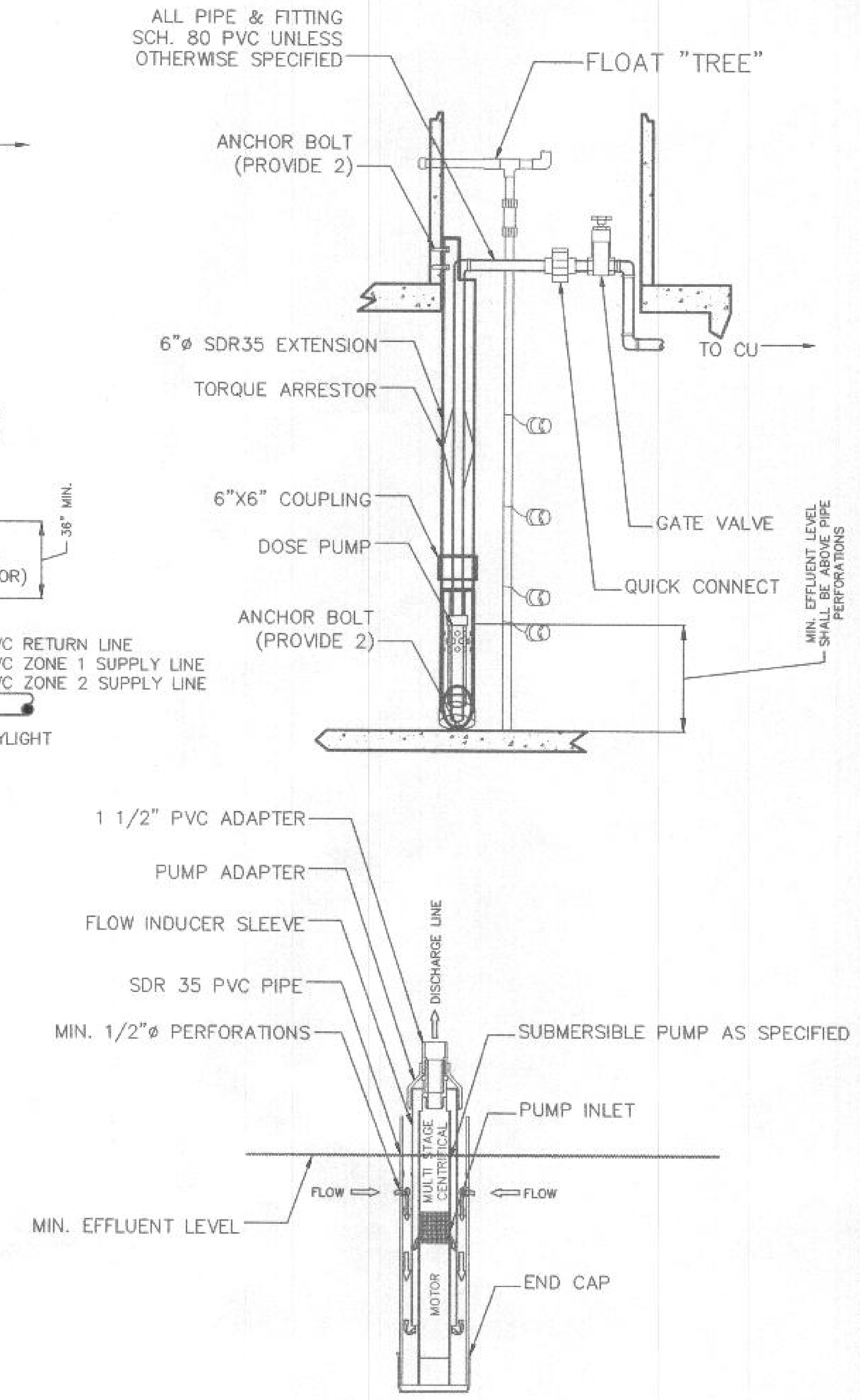
Received By

ATTENTION: INSTALLER MUST, AT A MINIMUM, BE A CURRENT MDE CERTIFIED INSTALLER.

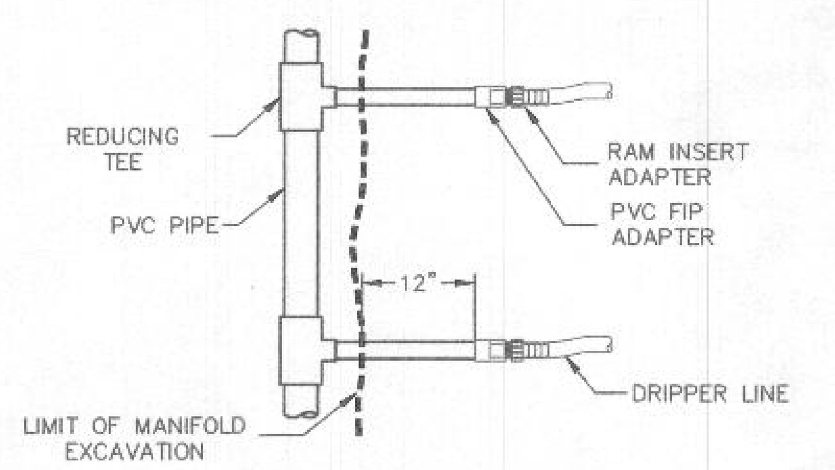


HYDRAULIC PROFILE

NTS

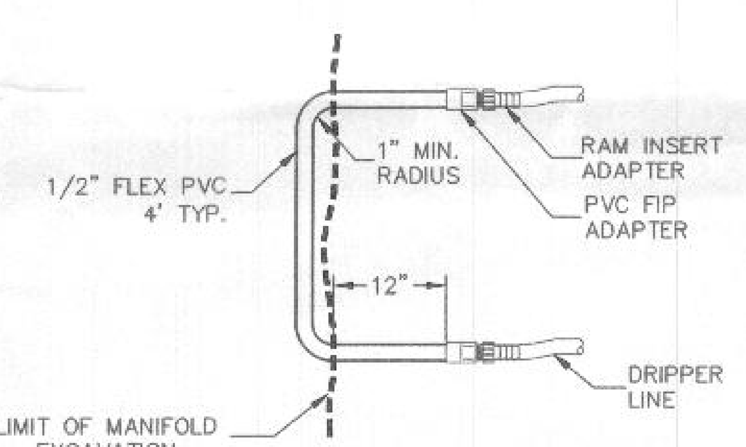


THE FLOAT SWITCHES SHOULD BE INSTALLED SO WHEN THE BOTTOM FLOAT IS DOWN AND OFF, THE INLET HOLES ARE STILL COVERED BY THE EFFLUENT. THE HOLE IN THE ADAPTER IS TO PROVIDE AN EXIT POINT FOR THE PUMP MOTOR CORD AND TO PREVENT THE COOL GUIDE FROM "AIR LOCKING" THE PUMP. DO NOT SEAL OFF THIS HOLE.



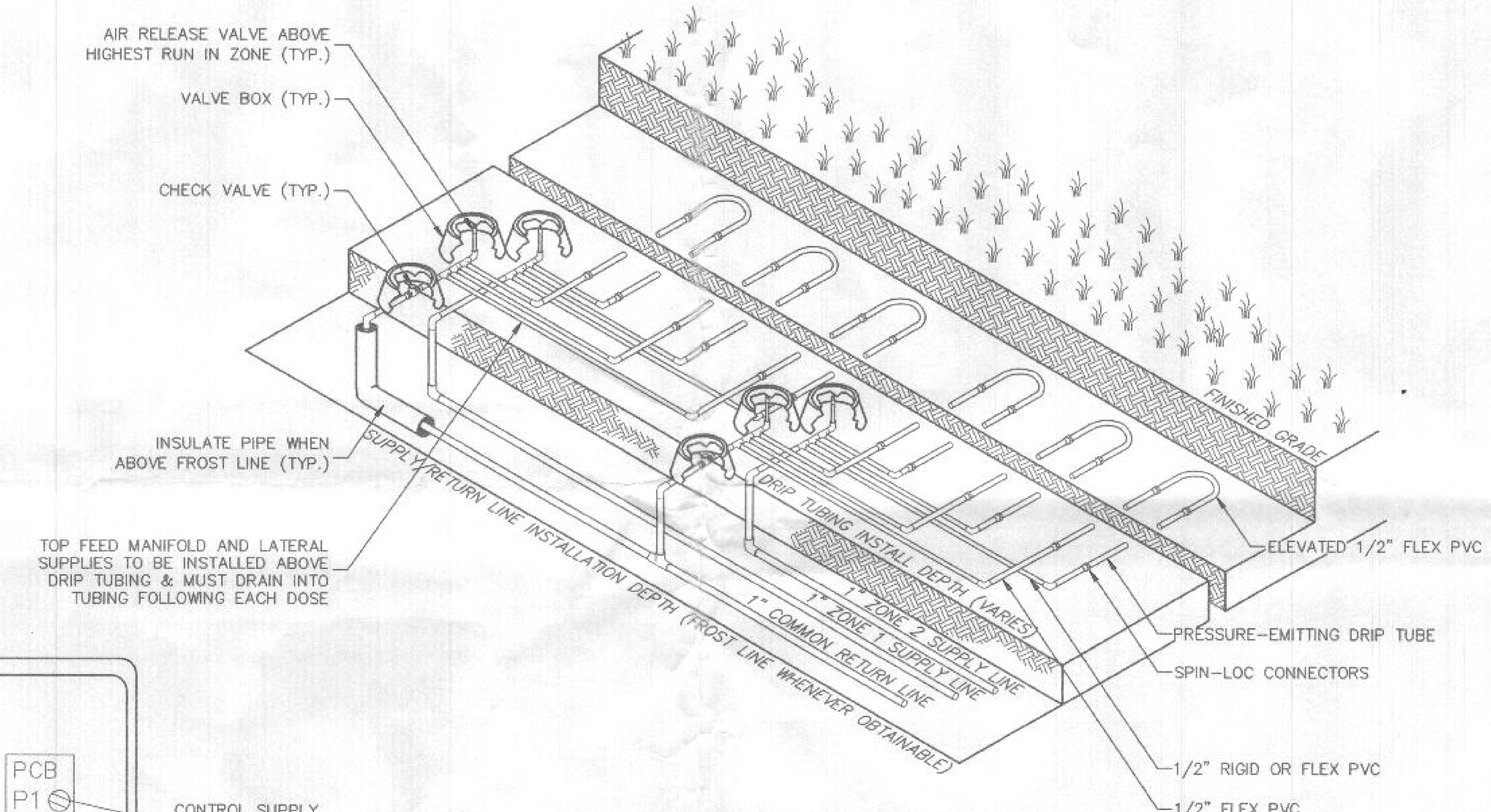
TYPICAL MANIFOLD CONNECTION

NTS



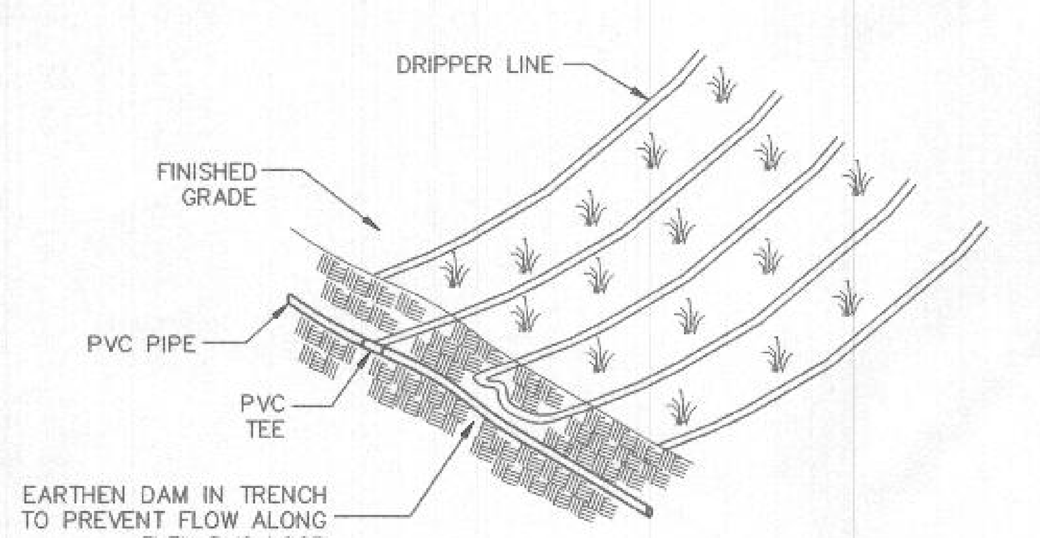
TYPICAL DRIP LOOP CONNECTION

NTS



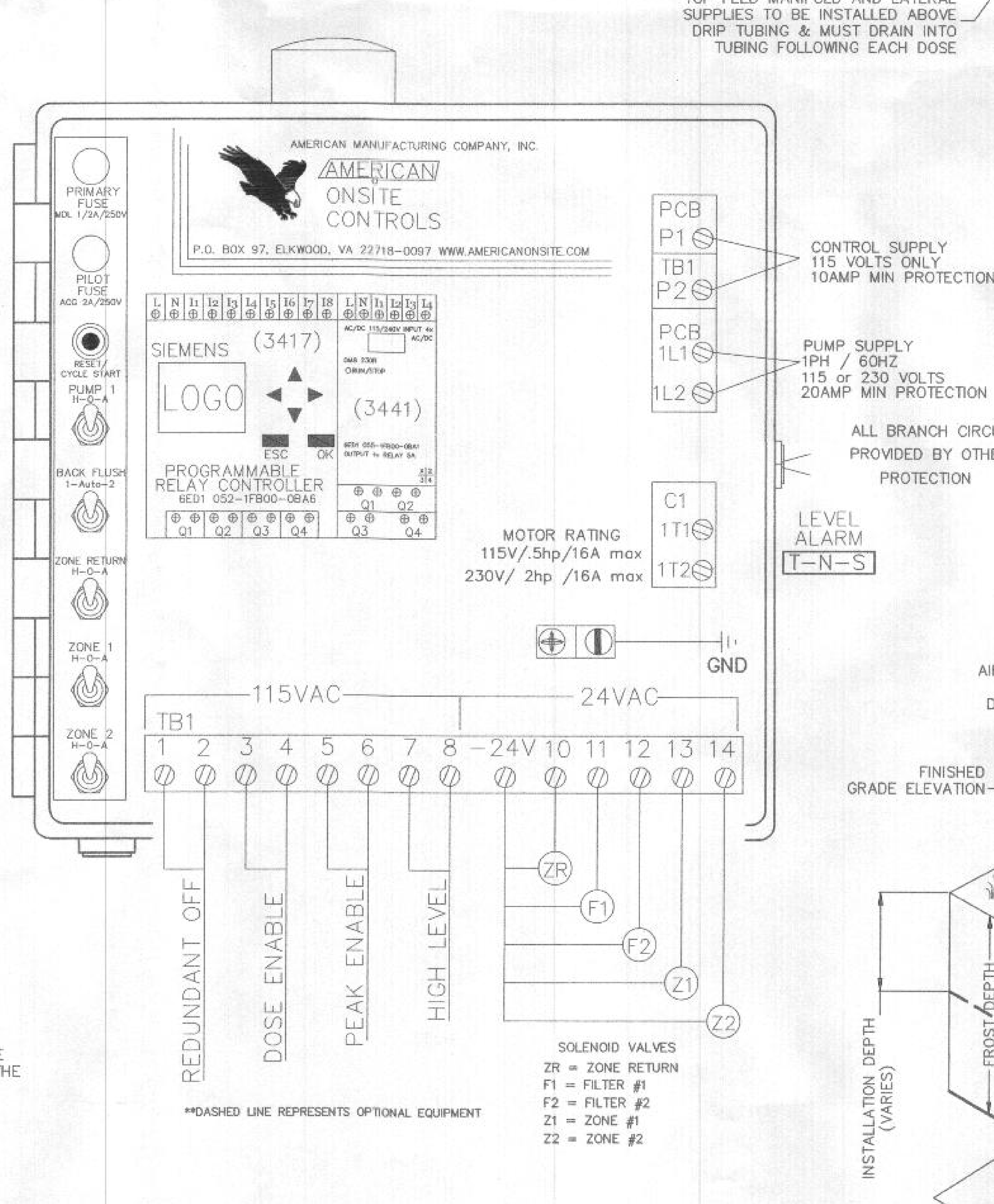
RESIDENTIAL MANIFOLD DETAIL

NTS



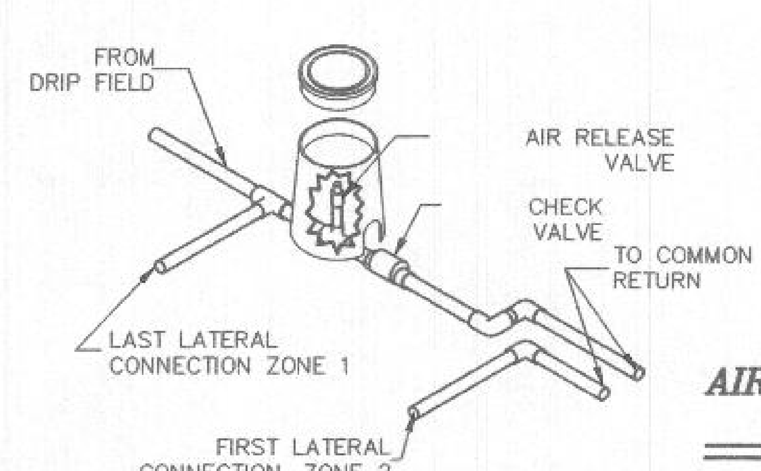
DRIPPER LINE SECTION DETAIL

NTS



INNER DOOR LAYOUT

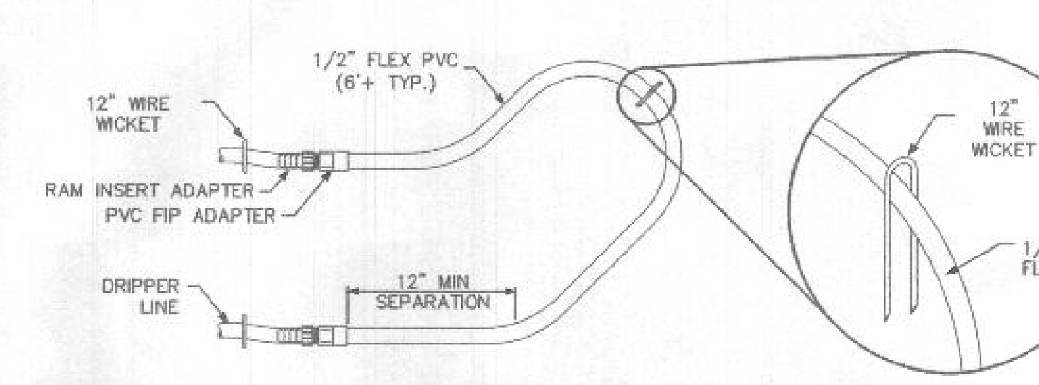
NTS



NOTES:
1. THE AIR RELEASE VALVE SHALL BE PLACED AT THE HIGHEST POINT ON THE RETURN LINE OF EACH ZONE.
2. EACH ZONE TO HAVE THE SAME VALVE BOX SETUP AND THEREAFTER CONNECTED.

AIR RELEASE & CHECK VALVE DETAIL

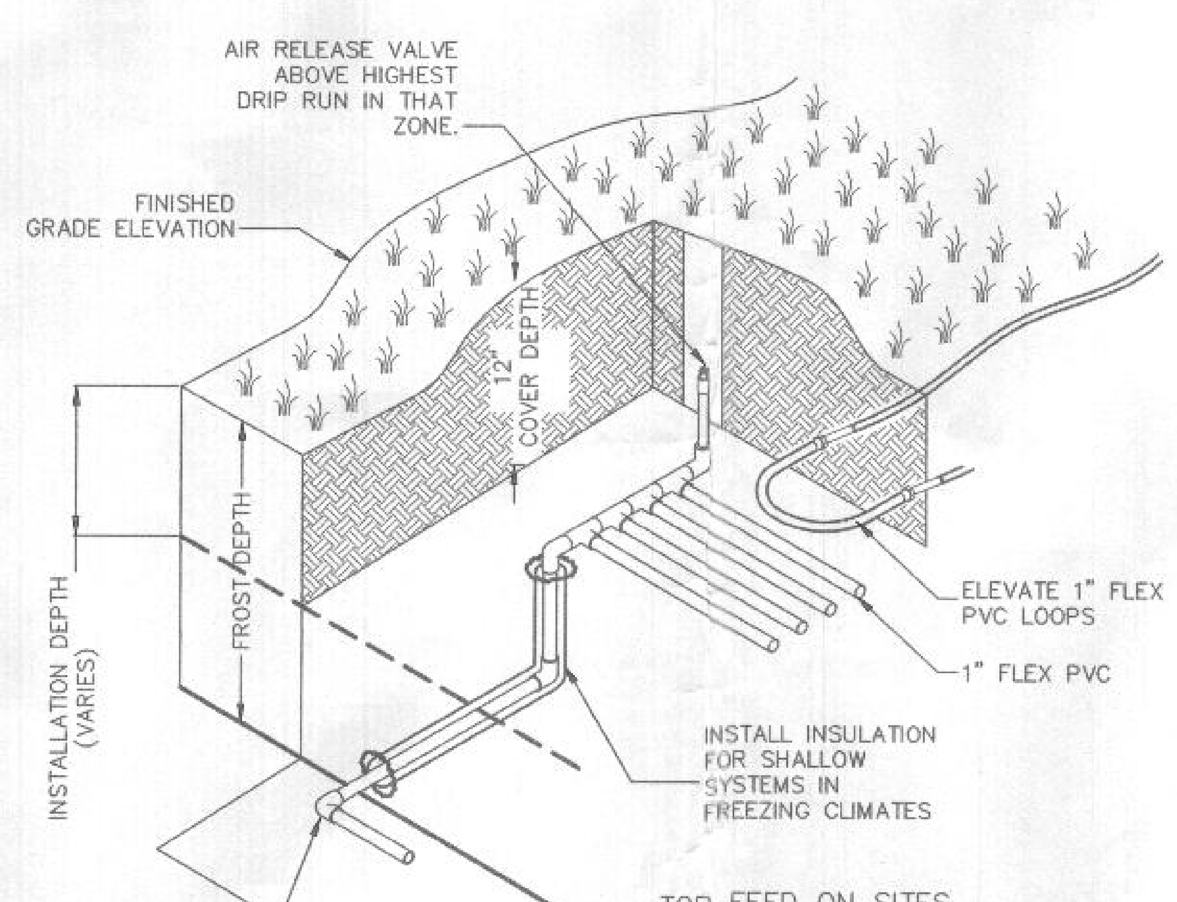
NTS



NOTES:
1. GROUNDSAW TO A DEPTH OF 10 INCHES.
2. PLACE 6 INCHES OF SAND
3. CUT TUBING TO LENGTH.
4. PLACE TUBING WITHIN TRENCH
5. TAPE ENDS OR MAKE CONNECTIONS
6. PLACE 2 INCHES OF SAND OVER TUBING
7. COVER WITH 8 INCHES OF QUALITY TOPSOIL
8. ESTABLISH VEGETATION

SAND TRENDH DRIP LOOP CONNECTION

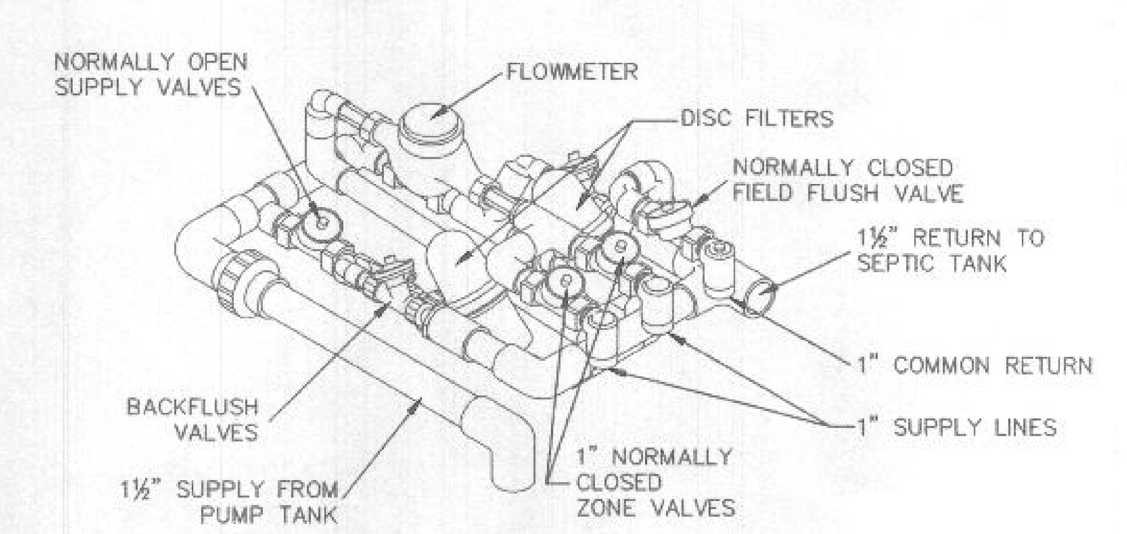
NTS



TOP FEED ON SITES WITH DISCERNIBLE SLOPE.

TOP FEED DETAIL

NTS



TWO-FILTER
15 GPM CONTROL UNIT

NTS

PUMP COOLING SPECIFICATIONS:

THE SUBMERSIBLE PUMP SPECIFIED REQUIRES A COOLING FLOW PAST THE MOTOR TO REDUCE PREMATURE FAILURE. THIS IS ACCOMPLISHED BY CREATING A LAMINAR (SMOOTH) FLOW CONDITION BY USE OF AN OUTER PIPE OF MAXIMUM 6 INCH DIAMETER AND A FLOW INDUCER SLEEVE MOUNTED ON THE SUBMERSIBLE PUMP. THE EFFECT IS TO DRAW WATER FIRST DOWNWARD ALONG THE OUTSIDE OF THE FLOW INDUCER AND THEN UPWARD ON THE INTERIOR OF THE INDUCER TO THE PUMP INLET.

ALL PUMPS SPECIFIED BY PENN'S TRAIL ENVIRONMENTAL, LLC USE FRANKLIN ELECTRIC MOTORS. FRANKLIN ELECTRIC, GOULDS, & RED JACKET CAN SUPPLY THIS FLOW INDUCER DIRECTLY TO THE INSTALLER OR THROUGH COMPETITIVE DISTRIBUTORS.

THE LAMINAR FLOW COLLAR SHALL BE MADE OF SDR 35 PVC AND HAVE SUFFICIENT HOLES (NO LESS THAN 20) OF AT LEAST ½" DIAMETER IN THE OUTER GUIDE TUBE TO ASSURE LAMINAR FLOW FOR THE RATED CAPACITY. THE INNER FLOW INDUCER SLEEVE SHALL EXTEND NEAR THE BOTTOM TO PROVIDE SUFFICIENT COOLING FLOW FOR THE MOTOR. THE DIMENSION BETWEEN THE INNER COLLAR AND THE PUMP MOTOR SHALL NOT RESTRICT FLOW TO THE PUMP INTAKE, BUT WILL PROVIDE FOR SCOURING OF SURFACES.

INSTALLATION INSTRUCTIONS:

1. MEASURE THE DISTANCE FROM THE BOTTOM OF THE TANK TO 6" DOWN FROM THE TOP OF THE RISER.
2. CUT THE EXTENSION PIPE (6" SDR 35) TO THE LENGTH NECESSARY TO REACH THIS HEIGHT. CUT 1/2 OF THE PIPE DOWN 12" TO 18" AWAY FROM THE TOP OF THE PIPE FOR PUMP DISCHARGE PIPE.
3. GLUE THE EXTENSION COUPLING TO THE EXTENSION PIPE AND TO THE PERFORATED SECTION HOUSING THE PUMP AND FLOW INDUCER.
4. ANCHOR THE FLAT CAP TO THE BOTTOM OF THE TANK IN THE PROPER LOCATION TO HOLD THE LAMINAR COOLING ASSEMBLY. THE END CAP DOES NOT NEED TO BE GLUED TO THE ASSEMBLY. ATTACH THE EXTENSION TO THE RISER WITH THE ANCHORS AS SHOWN.
5. PLACE THE PIPE DOPE ON THE ADAPTER THREADS AND THREAD THEM INTO PUMP DISCHARGE.
6. ATTACH COOLING COLLAR TO ADAPTER WITH SET SCREWS.
7. GLUE PIPE INTO FLOW COLLAR AND WITH PUMP ATTACHED, LOWER INTO THE GUIDE TUBE.
8. ATTACH TO DISCHARGE PIPE, TORQUE ARRESTOR, VALVES, AND CONNECT ELECTRICAL AS SPECIFIED.

PENN'S TRAIL ENVIRONMENTAL, LLC RECOMMENDS USE OF QUALIFIED AND REGISTERED PLUMBERS AND ELECTRICIANS. IN ALL CASE THE LOCAL BUILDING, PLUMBING AND ELECTRICAL CODES SHALL BE FOLLOWED.

OPERATION & MAINTENANCE REQUIREMENTS & RECOMMENDATIONS:

OWNER'S ARE ENCOURAGED TO CONTRACT A MONITORING AND MAINTENANCE PROFESSIONAL TO PROVIDE THE NECESSARY MANAGEMENT REQUIRED AND/OR RECOMMENDED TO ENSURE THE PROPER OPERATION OF THE SEPTIC SYSTEM AND THEREFORE MAXIMIZE THE LIFE OF THE SYSTEM. THESE ARE MINIMUM REQUIREMENTS. ADDITIONAL MANUFACTURER OR MUNICIPAL RECOMMENDATIONS/REQUIREMENTS ARE TO BE APPLIED.

MAINTENANCE TO BE PROVIDED EVERY:

6-MONTH
1. INSPECT DISPOSAL FIELD AND AREA SURROUNDING AREA FOR SEEPAGE OR EXCESSIVE SPONGINESS. AIR RELEASE, REMOTE ZONE AND CHECK VALVES ARE TO BE INSPECTED PROPER FUNCTION AND FREEZING IN WINTER MONTHS.
2. INSPECT TANKAGE, HYDRAULIC CONTROL UNIT AND VISABLE PIPING FOR STRUCTURAL INTEGRITY.
3. INSPECT AEROBIC BLOWER UNIT FOR STRUCTURAL INTEGRITY AND PROPER FUNCTION. WHEN PEAT MEDIA TREATMENT IS UTILIZED THE TANK SHOULD BE INSPECTED FOR CRACKS OR LEAKS.
4. INSPECT ALL ELECTRICAL CONNECTIONS AND PANELS FOR CORROSION. INSPECT CONDUIT AND CONTROL PANELS FOR STRUCTURAL INTEGRITY AND LEAKS. CONDUIT OPENINGS SHOULD BE SEALED FROM MOISTURE.
5. TEST PUMPS AND PANEL FIELD CONTROLS.
6. INSPECT HYDRAULIC CONTROL UNIT MECHANICS FOR LEAKS OR ABNORMAL FLOW METER READINGS.
7. INLINE EFFLUENT FILTERS ARE TO BE REMOVED MANUALLY, CLEANED AND REPLACED.

3 YEARS
1. EFFLUENT IS TO BE PUMPED FROM SEPTIC TREATMENT AND PUMP TANKS BY LICENSED SEWAGE HAULER UNLESS AN APPROVED INSPECTION PROGRAM PROVIDES REPORT VERIFYING ADAQUATE CAPACITY FOR AN ADDITIONAL YEAR OF SERVICE.

NO.	REVISIONS	DATE
1.	PER MDE COMMENTS	12/21/21

CALL BEFORE YOU DIG!
1-800-257-7777

PENN'S TRAIL ENVIRONMENTAL, LLC
327 E. RIDGEVILLE BLVD. - #141
MOUNT AIRY, MD 21771
ph. (301) 829-5022 fax (215) 362-4620
email: staff@pennstrail.com

DRIP DISPERSAL SYSTEM DESIGN PLAN
PREPARED FOR
11703 WAYNERIDGE COURT TRACT
5TH ELECTION DISTRICT, FULTON
HOWARD COUNTY, MD
DATE: OCTOBER 19, 2021
SCALE: AS NOTED

COMMONWEALTH OF PENNSYLVANIA SEWAGE ENFORCEMENT OFFICER
ADAM B. BROWNING
SEAL

PTE#5290
SHEET 3 OF 3

PROJECT NARRATIVE:

THE INTENT OF THIS PROJECT IS TO EFFECT A SEWAGE DISPOSAL SYSTEM TO REPLACE THE EXISTING UNSATISFACTORY SYSTEM CURRENTLY SERVING THE FOUR BEDROOM RESIDENTIAL DWELLING LOCATED ON THE SUBJECT PARCEL. WASTE STRENGTH IS CONSISTENT WITH TYPICAL RESIDENTIAL SEWAGE.

PEAK DAILY SEWAGE FLOW IS A MAXIMUM OF 600 GALLONS PER DAY PER COMAR.

A MAXIMUM SOIL LOADING RATE OF **0.60 GPD/SQ.FT.** WAS APPLIED BASED ON IN-SITU INFILTRATION TESTING PERFORMED BY THE HOWARD COUNTY HEALTH DEPARTMENT. SOIL LIMITING FACTORS, COUNTY PERCOLATION TESTING ARE LISTED IN THE ADJACENT *DESIGN PARAMETER* DATA BLOCK. DETAILED SOIL DESCRIPTIONS AND TESTING RESULTS ARE INCLUDED IN THE SUPPLEMENTAL DESIGN REPORT PROVIDED WITH THIS DESIGN.

AS PROPOSED, THE MAXIMUM AREAL LOADING RATE OF THE DESIGNED SYSTEM SHALL NOT EXCEED 0.5535 GPD/SQ.FT.

PROPOSAL CONSISTS OF A NORWECO SINGULAIR TNT 600 GPD PRETREATMENT (BAT) UNIT, 2000 GALLON CONCRETE DOSE TANK, AMERICAN MANUFACTURING, INC. 15 GALLON PER MINUTE HYDRAULIC CONTROL UNIT AND A 2-ZONE DRIP DISPERSAL SYSTEM INSTALLED WITHIN (20) 4-6 INCH WIDE BY 50 FOOT LONG BY 10 INCH DEEP GROUNDSAW TRENCHES. SIX INCHES OF SAND (ASTM C33, COMAR CONVENTIONAL OR ALTERNATIVE) SHALL BE PLACED IN THE BOTTOM OF THE OPEN TRENCH, FOLLOWED BY THE TUBING AND AN ADDITIONAL 2 INCHES PLACED OVER TUBING. THE ENTIRE AREA IS TO BE CAPPED WITH TOPSOIL COVER (MINIMUM 6 INCHES) SUFFICIENT TO SUPPORT VEGETATIVE STABILIZATION.

LEGEND:

TP XX ▲ = TEST EXCAVATIONS

= EXISTING CONTOUR

= PROPOSED CONTOUR

⊗ = BENCHMARK LOCATION

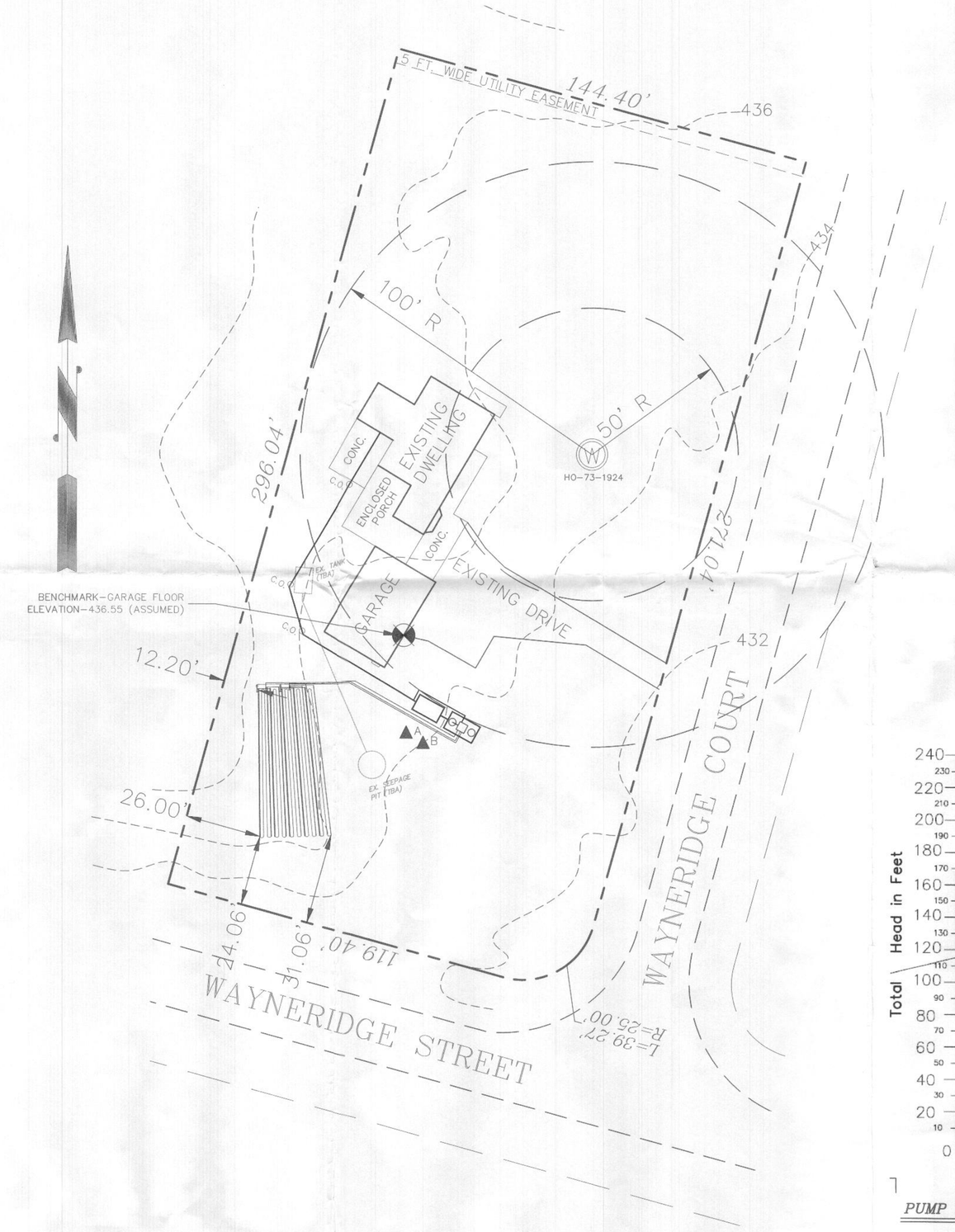
SITE PLAN & DATA

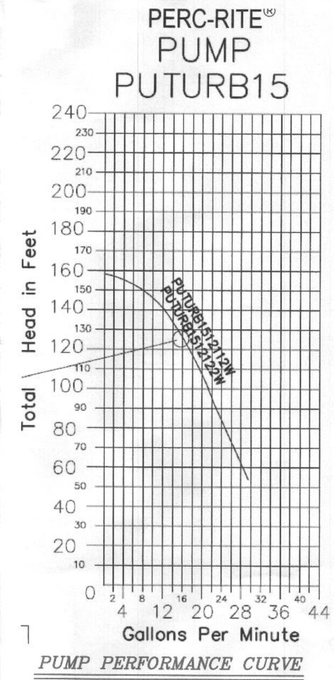
SCALE- 1"= 20'

AREA = +/- 0.9799 AC.

DISTRICT: 05
ACCOUNT NO.: 370175
MAP/GRID/PARCEL: 0041/0014/0293

**BOUNDARY AND EXISTING FEATURES SHOWN HEREON ARE FROM AN ACTUAL SURVEY TITLED "LOCATION DRAWING" BY NTT ASSOCIATES, INC. DATED 2-11-09, FIELD RECORDED MEASUREMENTS AND COUNTY GIS SERVICES. PLAN IS INTENDED FOR USE IN SEPTIC SYSTEM INSTALLATION ONLY.





PUMP PERFORMANCE CURVE

APPROVAL BLOCK:

APPROVING AUTHORITY:_____

APPROVING INDIVIDUAL (PRINT):_____

SIGNATURE:_____DATE:_____

MARYLAND DEPARTMENT OF THE ENVIRONMENT REGIONAL OFFICER:

_____

SIGNATURE:_____DATE:_____

NO.	REVISIONS	DATE
1.	PER MDE COMMENTS	12/21/21

CALL BEFORE YOU DIG!
STOP! - IT'S THE LAW!
PROTECTION OF YOU, YOUR NEIGHBORS AND YOUR UTILITY LINE
CONTRACTORS MUST VERIFY LOCATIONS OF UNDERGROUND UTILITIES OR STRUCTURES BY EXCAVATION PRIOR TO COMMENCEMENT OF WORK. THE SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES HEREON HAVE BEEN DEVELOPED FROM PHL UTILITY COMPANY RECORDS AND 1-800-243-7777. ALL UTILITIES MAY NOT BE SHOWN AND THEIR LOCATIONS MAY BE INACCURATE. OWNERS THROUGH THE MISS UTILITY SYSTEM "COMPLETENESS OR ACCURACY" ATTENTION ALL CONTRACTORS: THE LOCATION OF UTILITIES SHOWN ARE TO BE FIELD VERIFIED BY EXCAVATION, OR DEMOLITION WORK.
MISS UTILITY

PENN'S TRAIL ENVIRONMENTAL, LLC
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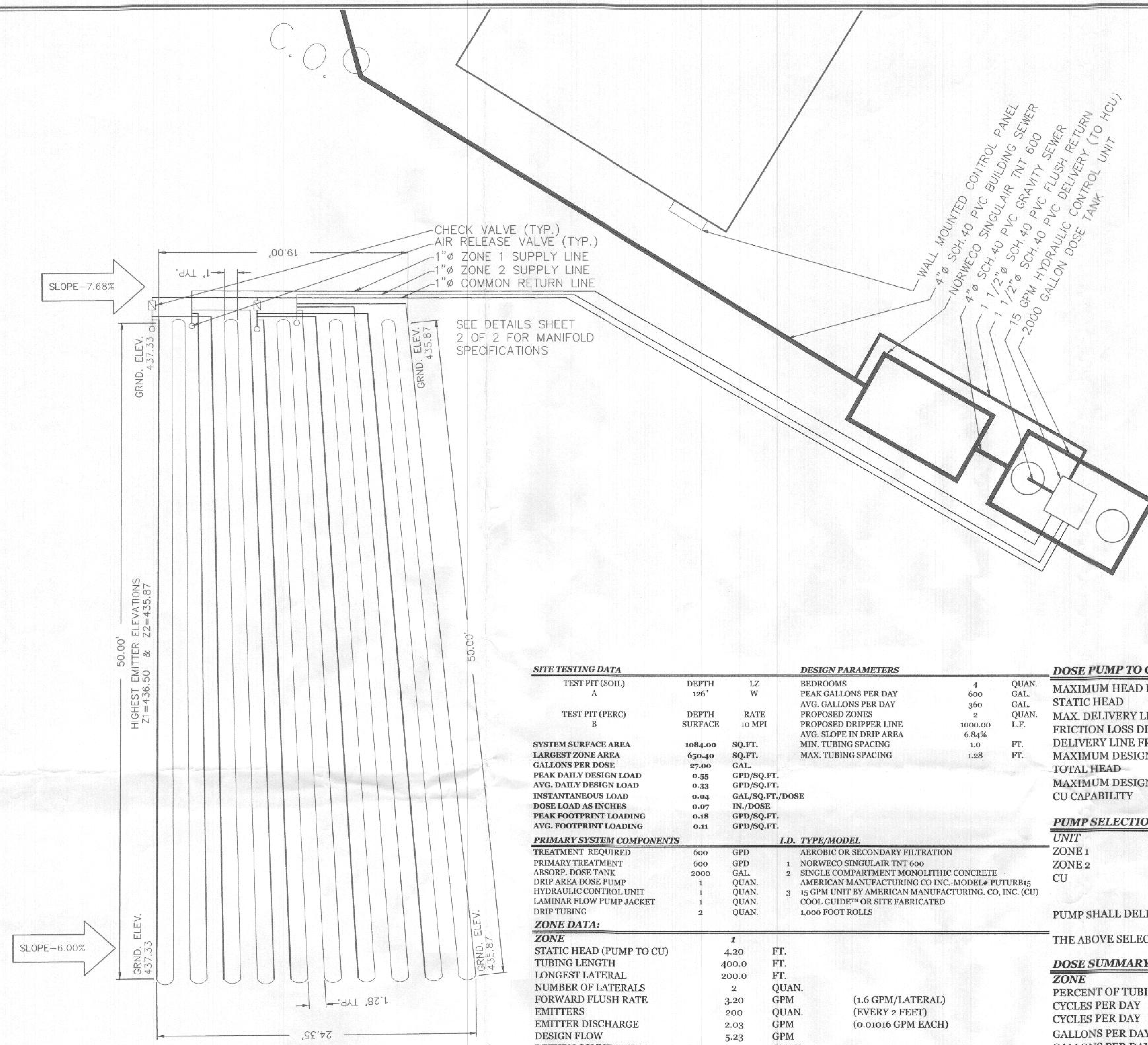
SHEET 1 OF 3



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PLAN VIEW

SCALE-1"=8'

- EXCAVATION DEPTH = 10 INCHES
- SAND BELOW TUBING = 6 INCHES
- SAND OVER TUBING = 2 INCHES

SITE TESTING DATA

TEST PIT (SOIL)	DEPTH	LZ
A	126"	W
TEST PIT (PERC)	DEPTH	RATE
B	SURFACE	10 MPI
SYSTEM SURFACE AREA	**1084.00**	**SQ.FT.**
LARGEST ZONE AREA	**650.40**	**SQ.FT.**
GALLONS PER DOSE	**27.00**	**GAL.**
PEAK DAILY DESIGN LOAD	**0.55**	**GPD/SQ.FT.**
AVG. DAILY DESIGN LOAD	**0.33**	**GPD/SQ.FT.**
INSTANTANEOUS LOAD	**0.04**	**GAL/SQ.FT./DOSE**
DOSE LOAD AS INCHES	**0.07**	**IN./DOSE**
PEAK FOOTPRINT LOADING	**0.18**	**GPD/SQ.FT.**
AVG. FOOTPRINT LOADING	**0.11**	**GPD/SQ.FT.**

DESIGN PARAMETERS

BEDROOMS	4	QUAN.
PEAK GALLONS PER DAY	600	GAL.
AVG. GALLONS PER DAY	360	GAL.
PROPOSED ZONES	2	QUAN.
PROPOSED DRIPPER LINE	1000.00	L.F.
AVG. SLOPE IN DRIP AREA	6.84%	
MIN. TUBING SPACING	1.0	FT.
MAX. TUBING SPACING	1.28	FT.

PRIMARY SYSTEM COMPONENTS

			I.D.	TYPE/MODEL
TREATMENT REQUIRED	600	GPD		AEROBIC OR SECONDARY FILTRATION
PRIMARY TREATMENT	600	GPD	1	NORWECO SINGULAIR TNT 600
ABSORP. DOSE TANK	2000	GAL.	2	SINGLE COMPARTMENT MONOLITHIC CONCRETE
DRIP AREA DOSE PUMP	1	QUAN.		AMERICAN MANUFACTURING CO INC.-MODEL# PUTURB15
HYDRAULIC CONTROL UNIT	1	QUAN.	3	15 GPM UNIT BY AMERICAN MANUFACTURING. CO, INC. (CU)
LAMINAR FLOW PUMP JACKET	1	QUAN.		COOL GUIDE™ OR SITE FABRICATED
DRIP TUBING	2	QUAN.		1,000 FOOT ROLLS

ZONE DATA:

ZONE	*1*		
STATIC HEAD (PUMP TO CU)	4.20	FT.	
TUBING LENGTH	400.0	FT.	
LONGEST LATERAL	200.0	FT.	
NUMBER OF LATERALS	2	QUAN.	
FORWARD FLUSH RATE	3.20	GPM	(1.6 GPM/LATERAL)
EMITTERS	200	QUAN.	(EVERY 2 FEET)
EMITTER DISCHARGE	2.03	GPM	(0.01016 GPM EACH)
DESIGN FLOW	5.23	GPM	
RETURN CONNECTIONS	2	QUAN.	
SUPPLY LINE LENGTH	75.00	FT.	(FROM CONTROL UNIT)
SUPPLY LINE DIAMETER	1.00	IN.	
FRICTION LOSS SUPPLY LINE	1.65	FT./100 FT.	
FRICTION LOSS SUPPLY LINE	1.24	FT.	(DESIGN FLOW RATE USED)
RETURN LINE DIAMETER	1.00	IN.	
RETURN LINE LENGTH	78.00	FT.	(TO CONTROL UNIT)
FRICTION LOSS RETURN LINE	0.67	FT./100 FT.	(TO CONTROL UNIT)
FRICTION LOSS RETURN LINE	0.52	FT.	(FORWARD FLUSH FLOW RATE USED)
STATIC HEAD CHANGE	3.70	FT.	(CU TO DRAINFIELD)
HEAD LOSS IN CU	4.00	FT.	(FORWARD & DOSE CYCLE)
FRICTION LOSS IN TUBING	18.00	FT.	
TOTAL HEAD LOSS	31.67	FT.	
TOTAL FLOW	5.23	GPM	

ZONE	*2*		
STATIC HEAD (PUMP TO CU)	4.20	FT.	
TUBING LENGTH	600.00	FT.	
LONGEST LATERAL	200.00	FT.	
NUMBER OF LATERALS	3	QUAN.	
FORWARD FLUSH RATE	4.80	GPM	(1.6 GPM/LATERAL)
EMITTERS	300	QUAN.	(EVERY 2 FEET)
EMITTER DISCHARGE	3.05	GPM	(0.01016 GPM EACH)
DESIGN FLOW	7.85	GPM	
RETURN CONNECTIONS	3	QUAN.	
SUPPLY LINE LENGTH	68.00	FT.	(FROM CONTROL UNIT)
SUPPLY LINE DIAMETER	1.00	IN.	
FRICTION LOSS SUPPLY LINE	3.51	FT./100 FT.	
FRICTION LOSS SUPPLY LINE	2.38	FT.	(DESIGN FLOW RATE USED)
RETURN LINE DIAMETER	1.00	IN.	
RETURN LINE LENGTH	78.00	FT.	(TO CONTROL UNIT)
FRICTION LOSS RETURN LINE	1.41	FT./100 FT.	(TO CONTROL UNIT)
FRICTION LOSS RETURN LINE	1.10	FT.	(FORWARD FLUSH FLOW RATE USED)
STATIC HEAD CHANGE	3.07	FT.	(CU TO DRAINFIELD)
HEAD LOSS IN CU	4.00	FT.	(FORWARD & DOSE CYCLE)
FRICTION LOSS IN TUBING	18.00	FT.	
TOTAL HEAD LOSS	32.76	FT.	
TOTAL FLOW	7.85	GPM	

DOSE PUMP TO CU DATA:

MAXIMUM HEAD LOSSES IN CU	115.00	FT.		(DURING BACKFLUSH CYCLE)
STATIC HEAD	4.20	FT.		(PUMP TO CU)
MAX. DELIVERY LINE LENGTH	5.00	FT.		(PUMP TO CU)
FRICTION LOSS DELIVERY LINE	0.21	FT./100 FT.		(PUMP TO CU)
DELIVERY LINE FRICTION LOSS	0.01	FT.		(PUMP TO CU)
MAXIMUM DESIGN FLOW	15.00	GPM		(BACKFLUSH FLOW)
TOTAL HEAD	119.21	FT.	@	GPM
MAXIMUM DESIGN FLOW	7.85	GPM		(DOSE PLUS FLUSH CYCLE)
CU CAPABILITY	15	GPM		

PUMP SELECTION ANALYSIS:

UNIT					
ZONE 1	5.23	GPM	@	31.67	FT./HEAD
ZONE 2	7.85	GPM	@	32.76	FT./HEAD
CU	15.00	GPM	@	119.21	FT./HEAD
PUMP SHALL DELIVER	15.00	GPM	@	119.21	FT./HEAD

THE ABOVE SELECTS THE MOST LIMITING SYSTEM FACTORS OF THE PRIMARY COMPONENTS

DOSE SUMMARY & TIMER RECOMMENDATIONS:

ZONE	*1*	*2*	
PERCENT OF TUBING	40.00%	60.00%	
CYCLES PER DAY	8.00	8.00	**AVERAGE (90 MIN. REST)**
CYCLES PER DAY	13.33	13.33	**PEAK ENABLED (54 MIN. REST)**
GALLONS PER DAY PER ZONE	240.00	360.00	PEAK DAILY FLOW
GALLONS PER DAY PER ZONE	144.00	216.00	AVERAGE DAILY FLOW
GALLONS PER DOSE CYCLE	18.00	27.00	GAL.
ZONE DELIVERY	2.03	3.05	GPM
PUMP RUN TIME	8.85	8.85	MINUTES
DRAWDOWN	0.40	0.61	INCHES
90 MINUTE AVG. CYCLE DOSE	144.00	216.00	GAL./DAY
54 MINUTE PEAK CYCLE DOSE	240.00	360.00	GAL./DAY

GENERAL NOTES:

1. PRE-CONSTRUCTION MEETING MUST BE SCHEDULED WITH THE COUNTY AGENCY PRIOR TO INITIATION OF **ANY** WORK (SEE CONTACT INFORMATION BELOW:

HOWARD COUNTY HEALTH DEPARTMENT
(410) 313-1771

2. ALL INSTALLATION AND CONSTRUCTION TECHNIQUES SHALL CONFORM TO COUNTY AND STATE PLUMBING AND ELECTRICAL CODES AS WELL AS COMAR 26.04.02 AND HE EQUIPMENT MANUFACTURER(S).
3. NO WET WEATHER INSTALLATION IS PERMITTED.
4. PRIOR TO SYSTEM INSTALLATION, VERIFY CONTOUR AND DESIGN. THE INSTALLATION AREA SHALL BE PREPARED BY CLEARING VEGETATION WITH MINIMAL SITE DISTURBANCE AND PROTECTED FROM ANY VEHICULAR TRAFFIC OR STORAGE OF MATERIALS. IF TREES ARE TO BE REMOVED FROM THE INSTALLATION AREA, CUT STUMPS FLUSH WITH GRADE AND GRIND STUMPS IN PLACE.
5. ALL DRIPPER LINE LOCATION ARE TO BE FLAGGED AND/OR PAINTED PRIOR TO INITIATING INSTALLATION.
6. HORIZONTAL SPACING BETWEEN DRIPPER LINES, INSTALLATION DEPTH AND METHOD OF INSTALLATION SHALL BE AS SPECIFIED.
7. ALL PVC PIPE AND FITTINGS SHALL BE PVC SCH 40 TYPE 1 RATED FOR PRESSURE APPLICATIONS. ALL GLUED JOINTS SHALL BE CLEANED AND PRIMED WITH PURPLE (DYED) PVC PRIMER PRIOR TO BEING GLUED.
8. ALL CUTTING OF PVC PIPE, FLEXIBLE PVC AND DRIPPER TUBING SHALL BE ACCOMPLISHED WITH PIPE CUTTERS APPROVED BY MANUFACTURER. NO SAWING OF PVC, FLEXIBLE PVC OR DRIPPER TUBING ALLOWED.
9. ALL PVC PIPE, FLEXIBLE PVC AND DRIPPER TUBING IN THE WORK AREA SHALL HAVE THE ENDS COVERED WITH DUCT TAPE TO PREVENT CONSTRUCTION DEBRIS FROM ENTERING THE PIPE. PRIOR TO GLUING ALL JOINTS SHALL BE INSPECTED FOR AND CLEARED OF ANY CONSTRUCTION DEBRIS.
10. PRIOR TO STARTUP OF THE DRIP DISPOSAL SYSTEM THE AIR RELEASE VALVES SHALL BE REMOVED AND EACH ZONE IN THE SYSTEM SHALL BE FLUSHED AS FOLLOWS:
    A. USING AN APPROPRIATE LENGTH OF FLEXIBLE PVC PIPE WITH A MALE FITTING ATTACHED TO THE AIR RELEASE CONNECTION TO DIRECT THE FLUSHING WATER AWAY FROM THE CONSTRUCTION AREA.
    B. FLUSH THE ZONE WITH A VOLUME OF WATER (CLEAN WATER TO BE PROVIDED BY CONTRACTOR) EQUAL TO 1.5 TIMES THE VOLUME OF THE PIPES FROM THE CENTRAL UNIT TO THE AIR RELEASE VALVE.
    C. REPEAT THIS PROCEDURE FOR EACH ZONE (THE FLUSHING OF THE SYSTEM IS ACCOMPLISHED BY MANUAL OVERRIDE OF THE CONTROL PANEL BY THE MANUFACTURER OR ENGINEER.)
11. GRAVEL BASE UNDER CENTRAL CONTROL UNIT IS TO BE DRAINED VIA 2" PVC PIPE, SCREENED AT INLET AND OUTLET, DISCHARGE TO BE AT GRADE DOWN SLOPE (TO ENSURE DRAINAGE OF SURFACE WATER FROM UNIT).
12. IF SITE CONDITIONS ARE DETERMINED TO REQUIRE THE INSTALLATION OF THE SYSTEM TO DEVIATE FROM THESE PLANS, ALL SITE WORK SHALL STOP IMMEDIATELY AND THE DESIGNER AND THE COUNTY AGENCY NOTED IN ITEM #1 SHALL BE NOTIFIED. ANY ONGOING WORK SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
13. OPERATION AND MAINTENANCE MANUAL TO BE PROVIDED AT JOB COMPLETION BY THE INSTALLER AND/OR MANUFACTURER.
14. PRESSURE CHECK ALL FITTINGS AND LINES. INSPECT FIELD AND LOOPS. FIND LEAKS AND REPAIR.
15. CHECK SETUP VALUES AGAINST CALCULATED VALUES. SET RUN TIME FOR CENTRAL UNIT.
16. BACKFILL ONCE LINES AND FIELDS ARE DETERMINED TO HAVE NO LEAKS. BACKFILLING IS TO BE CONTROLLED TO PREVENT THE DAMAGING OF PIPES OR FITTINGS. ONCE COMPLETED, DRAIN-FIELD AREA SHOULD BE GRADED TO SHED SURFACE WATER WITH ADDITIONAL CLEAN SOIL AS NECESSARY. ESTABLISH FESCUE OR OTHER TURF COVER, CUT LONG (6-8").

GENERAL CONSTRUCTION NOTES:

1. THE AREA SURROUNDING THE DRAIN-FIELD SHALL BE GRADED TO PROVIDE FOR DIVERSION OF SURFACE WATER RUNOFF.
2. ALL CONTRACTORS PROVIDING CONSTRUCTION SERVICES AT THIS SITE (OR SITE RELATED CONSTRUCTION) SHALL BE RESPONSIBLE FOR CONFORMANCE WITH APPLICABLE OSHA (OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION) STANDARDS AND REGULATIONS. PENN'S TRAIL ENVIRONMENTAL, LLC WILL NOT BE RESPONSIBLE FOR ANY DAMAGES OR LIABILITY ARISING FROM THE FAILURE OF ANY PARTY TO CONFORM TO APPLICABLE OSHA STANDARDS AND REGULATIONS.
3. THE INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A PROFESSIONAL SERVICE RENDERED BY PENN'S TRAIL ENVIRONMENTAL, LLC. THIS PLAN IS PREPARED SPECIFICALLY FOR THE CLIENT AND PROJECT DESIGNATED HEREON. MODIFICATION, REVISION, DUPLICATION OR USE WITHOUT THE WRITTEN CONSENT OF PENN'S TRAIL ENVIRONMENTAL, LLC IS PROHIBITED.
4. ANY VARIATIONS FOUND DURING INSTALLATION WHICH DIFFER FROM THE INFORMATION REPRESENTED HEREON, SHALL BE REPORTED TO PENN'S TRAIL ENVIRONMENTAL, LLC SO OUR RECOMMENDATIONS CAN BE REVIEWED AND REVISED IF REQUIRED.
5. IN CASE OF MALFUNCTION OF MODIFICATION OF SYSTEM DESIGN, THE LOCAL APPROVING AUTHORITY AND PENN'S TRAIL ENVIRONMENTAL, LLC MUST BE NOTIFIED.
6. ALL ELECTRICAL COMPONENTS SHALL BE PLUG TYPE, WATER TIGHT CONNECTIONS.
7. PERMIT ISSUED MAY BE SUBJECT TO A MAINTENANCE AND OPERATION AGREEMENT. THAT AGREEMENT AND ITS ATTACHMENTS ARE HEREBY INCORPORATED BY REFERENCE.
8. THIS DESIGN INCLUDES BY REFERENCE ALL MANUFACTURERS MANUALS, DESIGN REPORTS AND OTHER NOTICES AS MAY BE RECEIVED FROM THE AGENCIES, INSTALLERS AND MANUFACTURES CONTRIBUTING TO THE INSTALLATION OF THIS SYSTEM. THE MOST RESTRICTIVE COVENANTS SHALL APPLY.
9. USE OF CABLE PULLER FOR INSTALLATION OF DRIP TUBING IS STRICTLY PROHIBITED. IT IS RECOMMENDED THAT A VIBRATORY PLOW OR PICK AXE IS USED FOR TUBING INSTALLATION.

COLD WEATHER INSTALLATION NOTES:

1. "TOP FEED" MANIFOLDS SHOULD BE USED ON ALL SITES WITH A DISCERNABLE SLOPE TO ALLOW FOR PROPER DRAINAGE OF THE MANIFOLDS AND THE 3/4" AND 1/2" LATERAL CONNECTORS INTO THE DRIP TUBING.
2. THE MAIN SUPPLY AND RETURN LINES SHALL BE INSTALLED BELOW THE LOCAL FROST LINE AND SHALL FEED THE SHALLOW "TOP FEED" MANIFOLDS WITH A SINGLE VERTICAL SECTION OF INSULATED SCH. 40 PVC PIPE. INSULATION SHALL BE MINIMUM 1/2" THICK FOAM INSULATION (OR EQUIVALENT).
3. ON LEVEL SITES WHERE "TOP FEED" MANIFOLDS WILL NOT DRAIN THEREFORE REQUIRING THE USE OF "SIDE FEED" MANIFOLDS, A MINIMUM 12 INCHES OF COVER IS RECOMMENDED BETWEEN HIGHEST POINT OF 1/2" BLACK FLEXIBLE PVC PIPE ("NON LOOP" CONNECTIONS) AND FINAL GRADE. ON DRIP TUBING INSTALLATIONS LESS THAN 12 INCH THIS REQUIRES ADDITIONAL COVER OVER THE HEADER DITCH AREA TO CREATE THE 12 INCH SEPARATION. ANY ADDITIONAL COVER IS TO BE GRADED AND TAPERED INTO LANDSCAPE. PLEASE SEE NOTE #6 BELOW.
4. DENSE TURF COVER SHALL BE ESTABLISHED OVER SUPPLY TRENCH, RETURN TRENCH AND TUBING BEFORE FIRST EXPOSURE TO COLD WEATHER. IF VEGETATION CANNOT BE ESTABLISHED, TRENCHES AND TUBING SHALL BE COVERED WITH A THICK LAYER (MINIMUM 6") OF MULCH, STRAW/HAY, ETC. UNTIL TURF COVER IS ESTABLISHED. COVER MUST BE STABILIZED AND MAINTAINED UNTIL DENSE TURF IS ESTABLISHED. AMOUNT OF COVER MAY NEED TO BE ADJUSTED FOR SETTLING OF BACKFILL.
5. ALL VALVE BOXES THAT HOUSE "REMOTE ZONE VALVES" SHALL BE INSULATED. INSULATION TO CONSIST OF BLUE BOARD, BAGGED STYROFOAM PEANUTS OR EQUIVALENT. FIBERGLASS INSULATION IS NOT PERMITTED. THE "REMOTE ZONE VALVES" SHALL BE PLACED ON A BED OF GRAVEL OR SCREENINGS AT LEAST 6 INCHES IN DEPTH. THE AREA SURROUNDING THE VALVE BOXES SHALL BE GRADED TO DIVERT SURFACE WATER TO REDUCE THE VOLUME OF GROUNDWATER THAT MAY COLLECT IN VALVE BOX. CERTAIN SITES MAY REQUIRE POSITIVE DRAINS TO PROVIDE SUB-GRADE DRAINAGE AROUND THE VALVE BOXES.
6. ALL LOOPS CONNECTING DRIP RUNS WITH 1/2" FLEXIBLE PVC SHALL BE SLIGHTLY ELEVATED (MINIMUM 1-2 INCHES) SO THAT THEY FORWARD DRAIN INTO DRIP TUBING AFTER THE PUMP CYCLE ENDS. THE CONTRACTORS SHALL ENSURE THESE LOOPS STAY ELEVATED AFTER BACKFILLING.
7. ALL MAIN SUPPLY AND RETURN TRENCHES TO BE INSTALLED BELOW THE LOCAL FROST LINE. IF THIS IS NOT POSSIBLE DUE TO SITE RESTRICTIONS THEN ADEQUATE SOIL MUST BE ADDED SO THAT THE EFFECTIVE FINISHED GRADE REMAINS BELOW THE FROST LINE POST-SETTLEMENT. SUPPLEMENTAL SOIL COVER SHALL BE PREPARED AND SEEDED FOR TURF ESTABLISHMENT AND STABILIZED. IF VEGETATION CANNOT BE ESTABLISHED THEN TRENCHES SHALL BE TEMPORARILY STABILIZED AS DESCRIBED IN NOTE #4.
8. SUFFICIENT GROUND COVER AROUND THE HYDRAULIC UNIT IS REQUIRED TO INSULATE THE UNIT. ALL PIPES ENTERING AND LEAVING THE HYDRAULIC UNIT SHALL ELBOW VERTICALLY DOWN 90° TO A DEPTH BELOW THE FROST LINE PRIOR TO EXTENDING AWAY FROM THE UNIT HORIZONTALLY. ADDITIONAL INSULATION INSIDE THE HYDRAULIC UNIT IS ENCOURAGED. INSULATION TO CONSIST OF EITHER BLUE BOARD, BAGGED STYROFOAM PEANUTS OR EQUIVALENT.

NO.	REVISIONS	DATE
1.	PER MDE COMMENTS	12/21/21

CALL BEFORE YOU DIG!
1-800-257-7777

PENN'S TRAIL ENVIRONMENTAL, LLC
327 E. RIDGEVILLE BLVD. - #141
MOUNT AIRY, MD 21771
ph. (301) 829-5022 fax (215) 362-4620
email: staff@pennstrail.com

DRIP DISPERSAL SYSTEM DESIGN PLAN
PREPARED FOR
11703 WAYNERIDGE COURT TRACT
5TH ELECTION DISTRICT, FULTON
HOWARD COUNTY, MD
DATE: OCTOBER 19, 2021
SCALE: AS NOTED