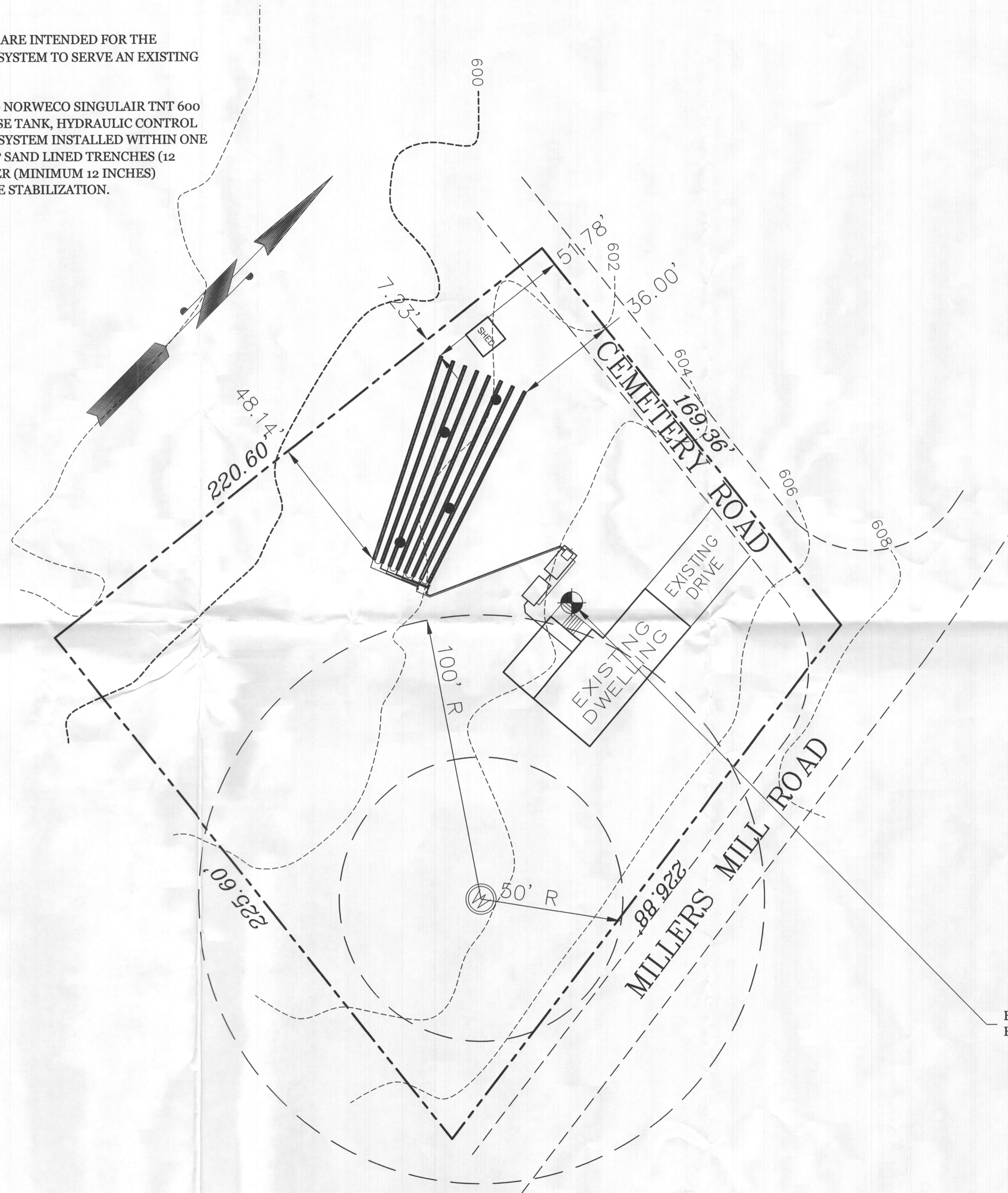


NOTES:

PLANS AND SPECIFICATIONS HEREIN ARE INTENDED FOR THE REPLACEMENT OF A FAILING SEPTIC SYSTEM TO SERVE AN EXISTING FOUR (4) BEDROOM DWELLING.

PROPOSAL CONSISTS OF AN EXISTING NORWECO SINGULAIR TNT 600 GPD PRETREATMENT (BAT) UNIT, DOSE TANK, HYDRAULIC CONTROL UNIT AND A 1-ZONE DRIP DISPERSAL SYSTEM INSTALLED WITHIN ONE (1) FOOT WIDE BY TWO (2) FOOT DEEP SAND LINED TRENCHES (12 INCHES OF SAND) AND TOPSOIL COVER (MINIMUM 12 INCHES) SUFFICIENT TO SUPPORT VEGETATIVE STABILIZATION.



BENCHMARK: BOTTOM STEP ELEV.
ELEVATION: 605.35 (ASSUMED)

LEGEND:

- = TEST EXCAVATIONS
- = PERCOLATION HOLES
- = EXISTING CONTOUR
- = PROPOSED CONTOUR
- = BENCHMARK LOCATION

SITE PLAN & DATA

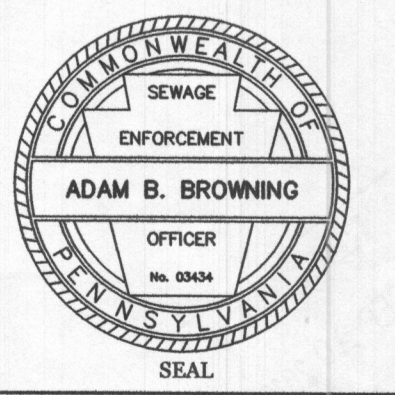
SCALE- 1"= 20'
 AREA = +/- 1.00 AC.
 DISTRICT: 04
 ACCOUNT NO.: 327187
 MAP/GRID/PARCEL: 0014/0004/0018
 *NO WELLS WITHIN 100 FEET OF SEPTIC COMPONENTS.

NO.	REVISIONS	DATE
1.	PER I&E COMMENTS	6/25/19
2.	PER I&E COMMENTS	7/1/19
3.	PER I&E COMMENTS	8/25/19

PENN'S TRAIL ENVIRONMENTAL, LLC

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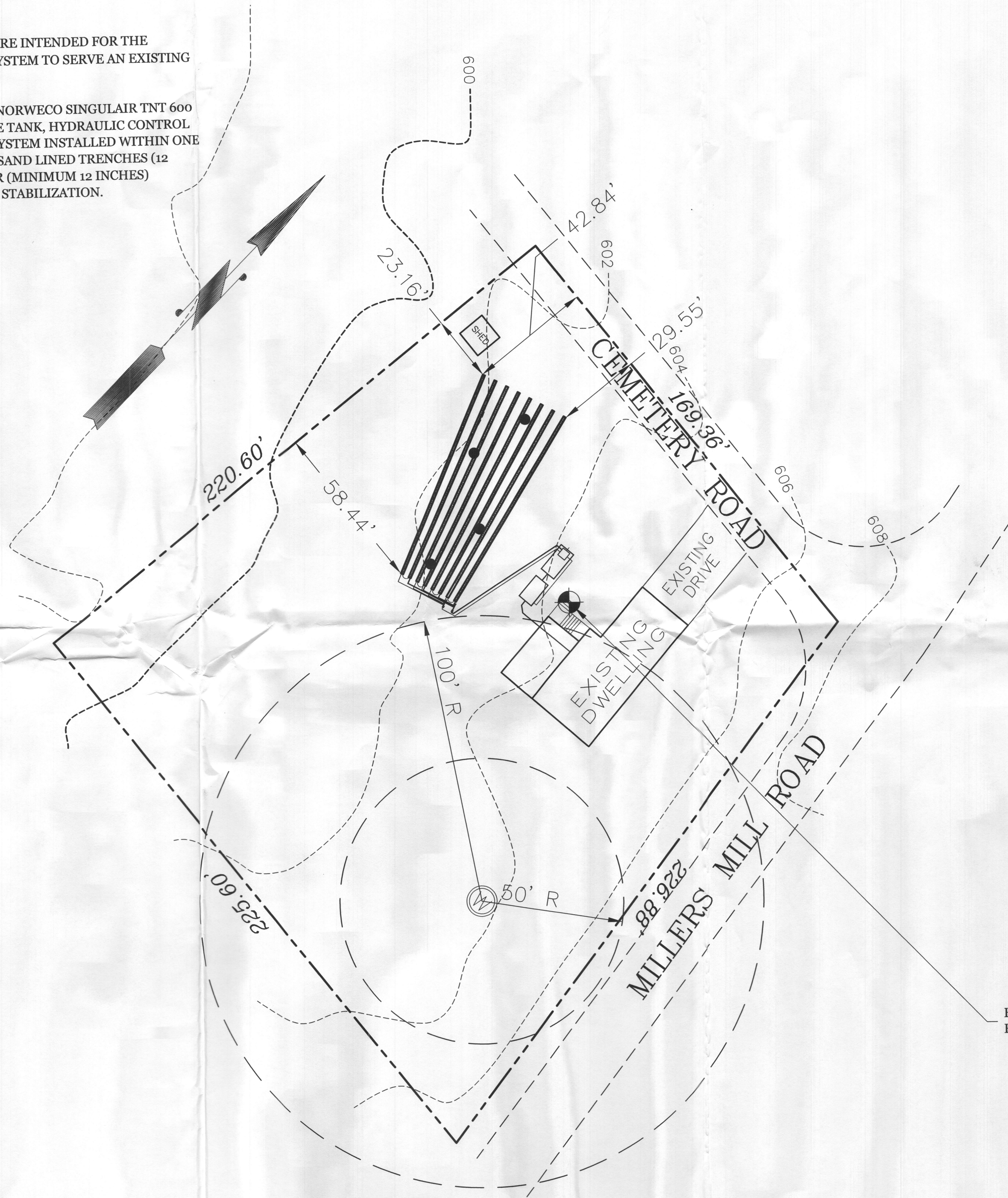
DRIP DISPERSAL SYSTEM DESIGN PLAN
 PREPARED FOR
 2020 MILLERS MILL ROAD TRACT
 4TH ELECTION DISTRICT, HOWARD COUNTY, MD
 DATE: MAY 24, 2019
 SCALE: AS NOTED



NOTES:

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BENCHMARK: BOTTOM STEP ELEV.
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LEGEND:

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SITE PLAN & DATA

SCALE- 1" = 20'

AREA = +/- 1.00 AC.

DISTRICT: 04
ACCOUNT NO.: 327187

MAP/GRID/PARCEL: 0014/0004/0018

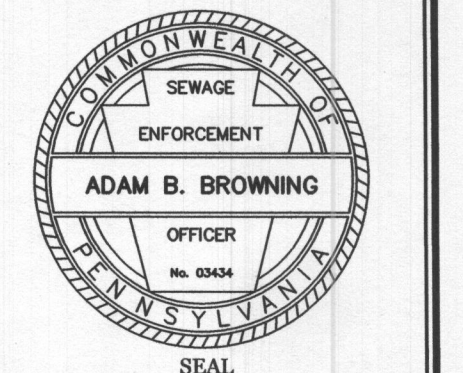
*NO WELLS WITHIN 100 FEET OF SEPTIC COMPONENTS.

NO.	REVISIONS	DATE
1.	PER MDE COMMENTS	6/25/19
2.	PER MDE COMMENTS	7/1/19

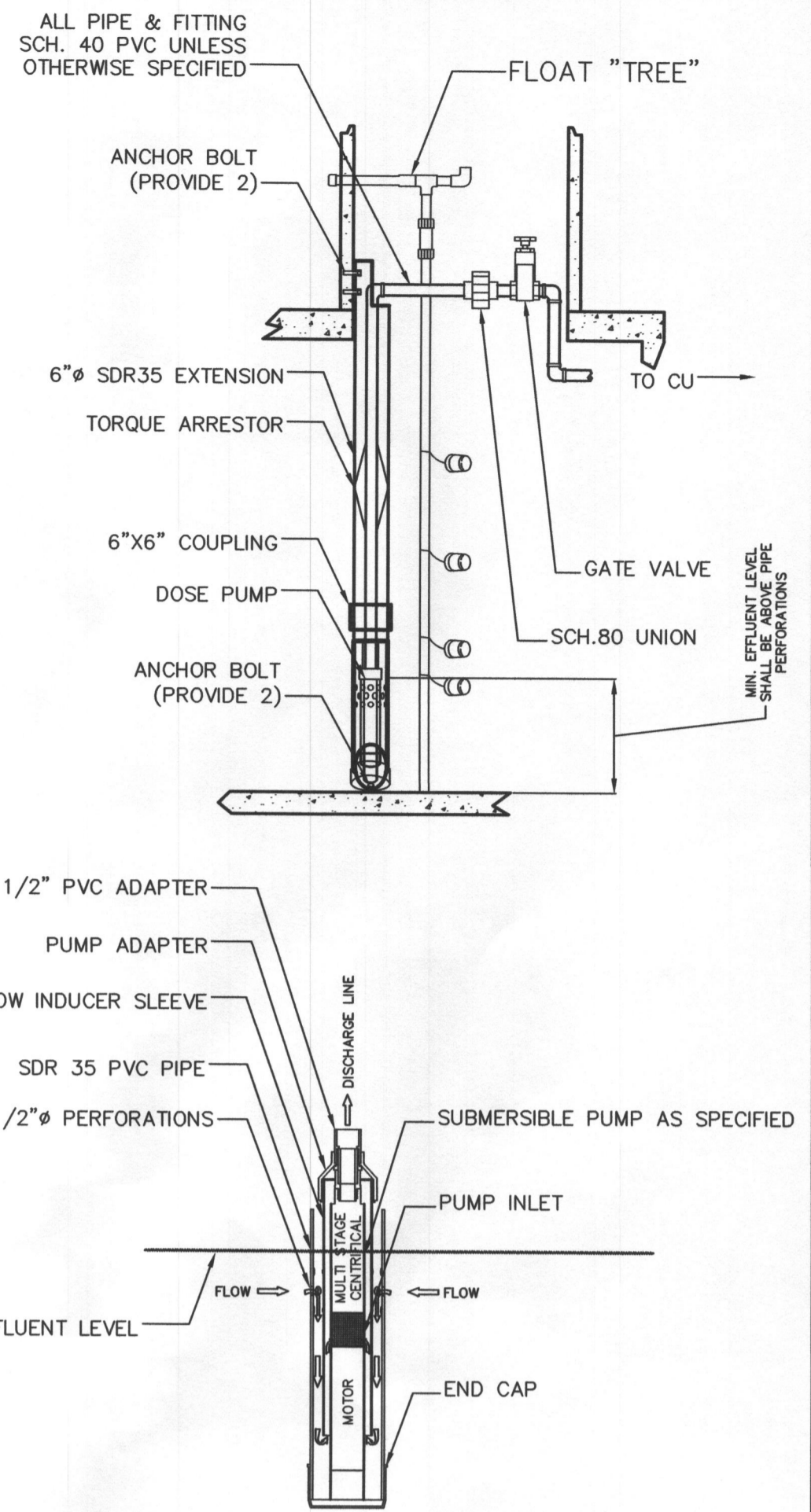
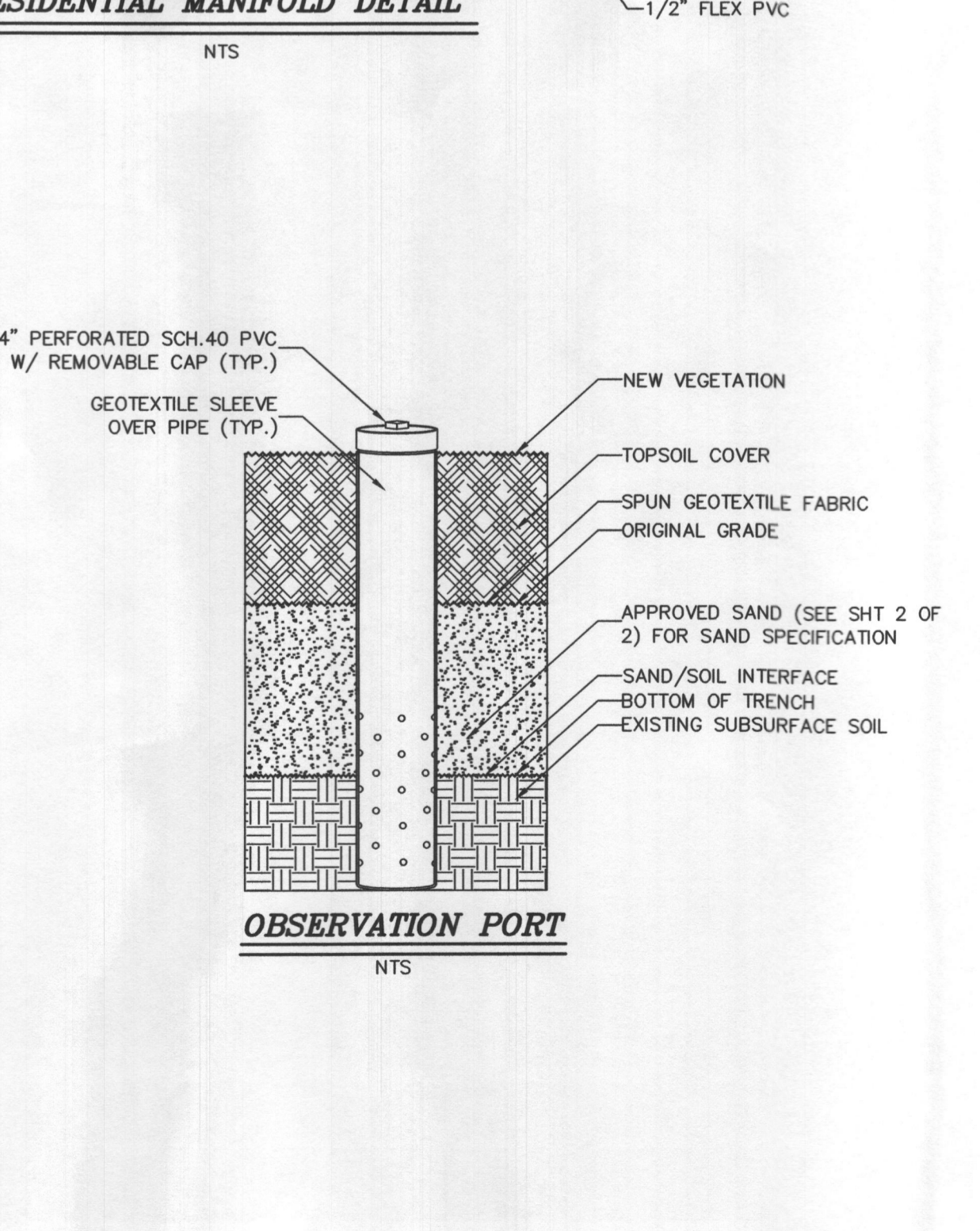
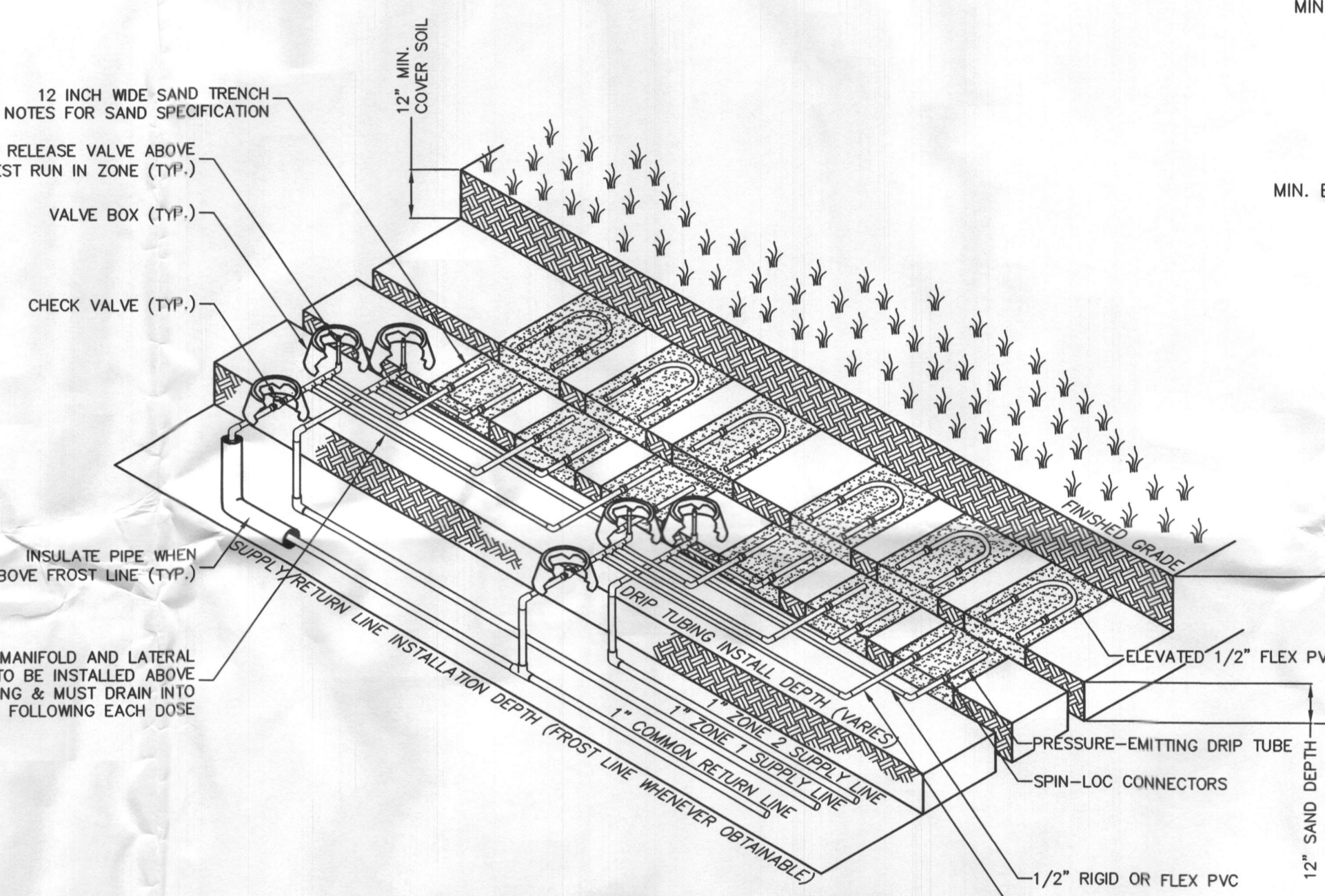
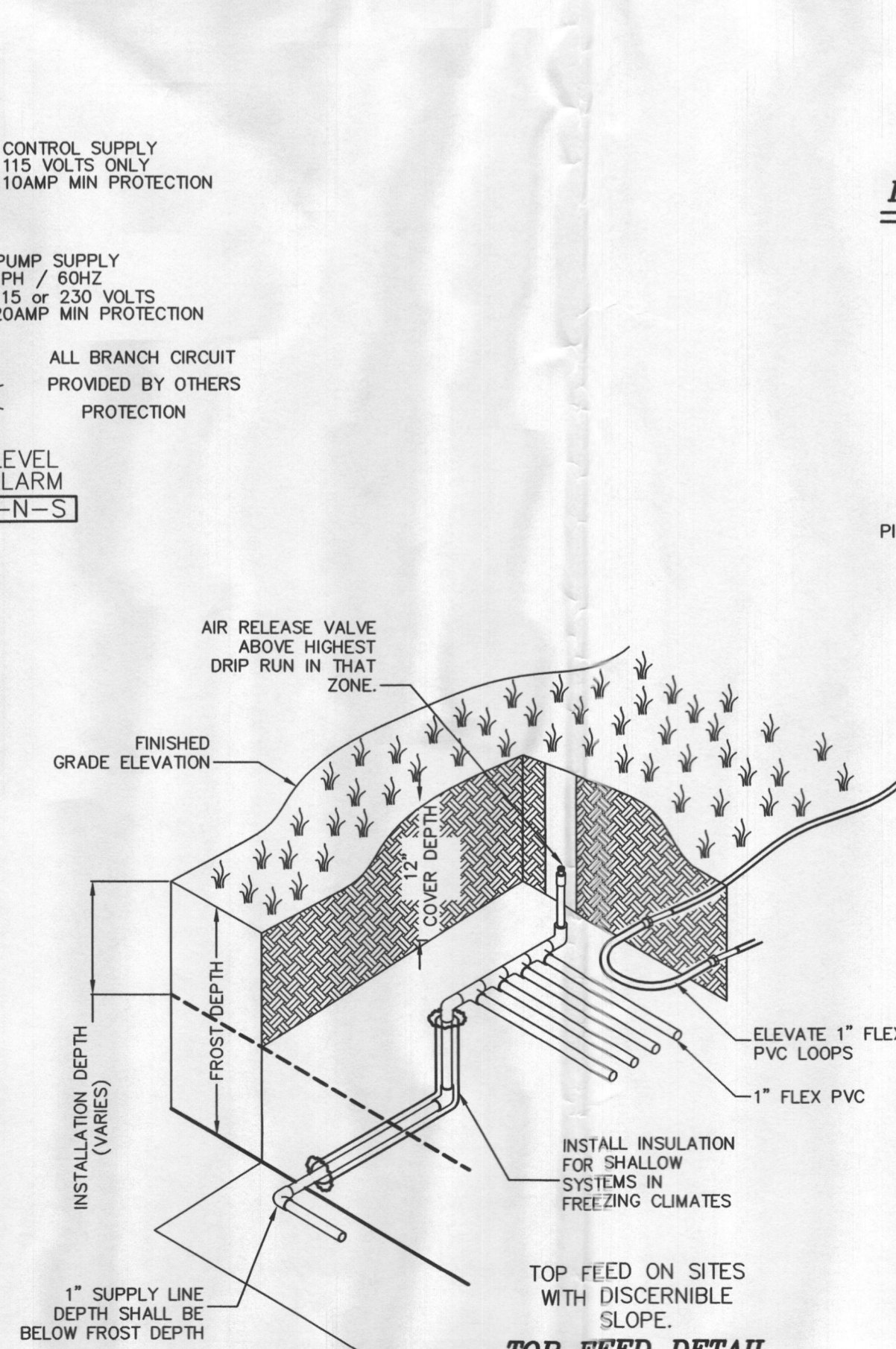
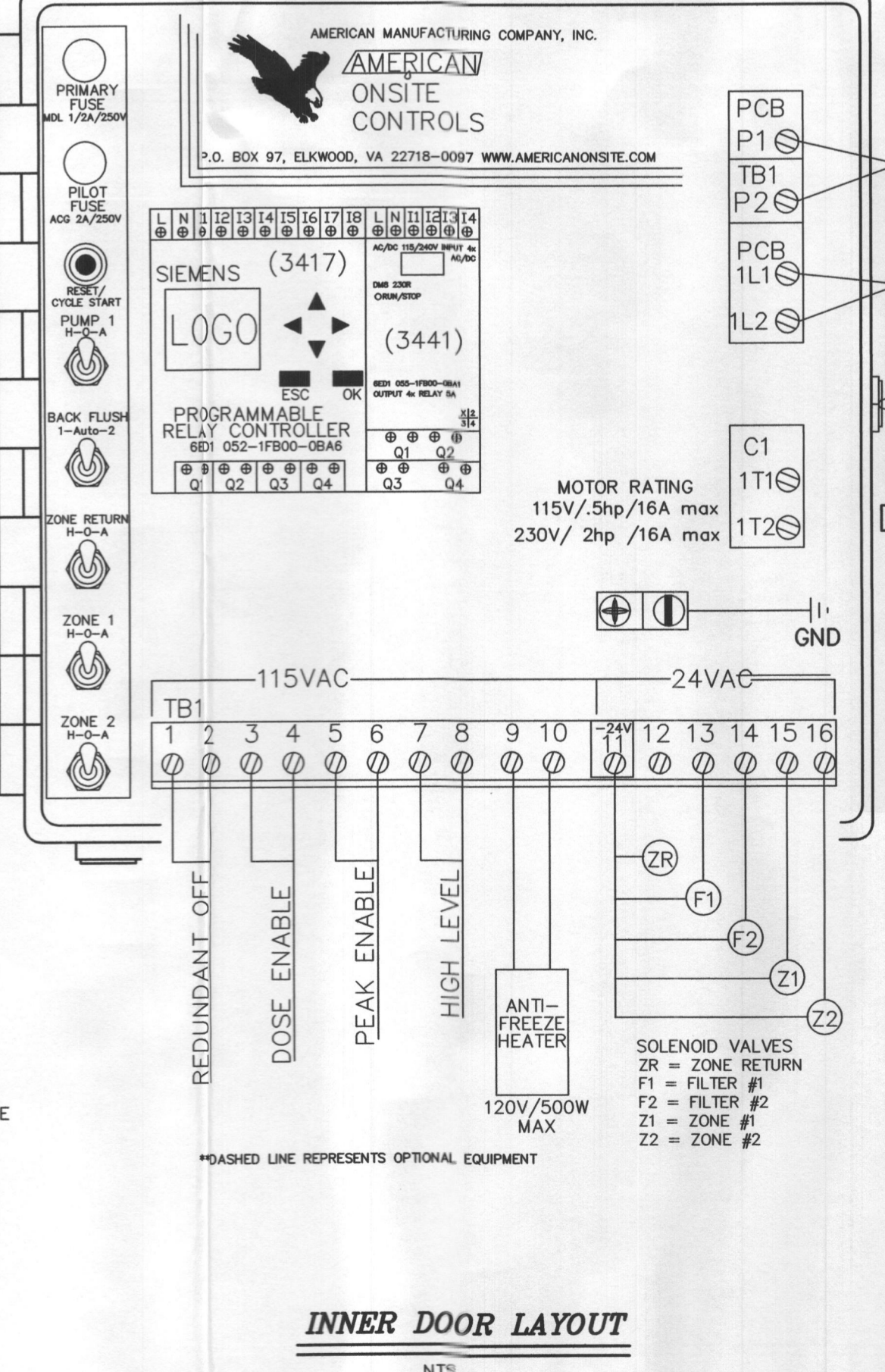
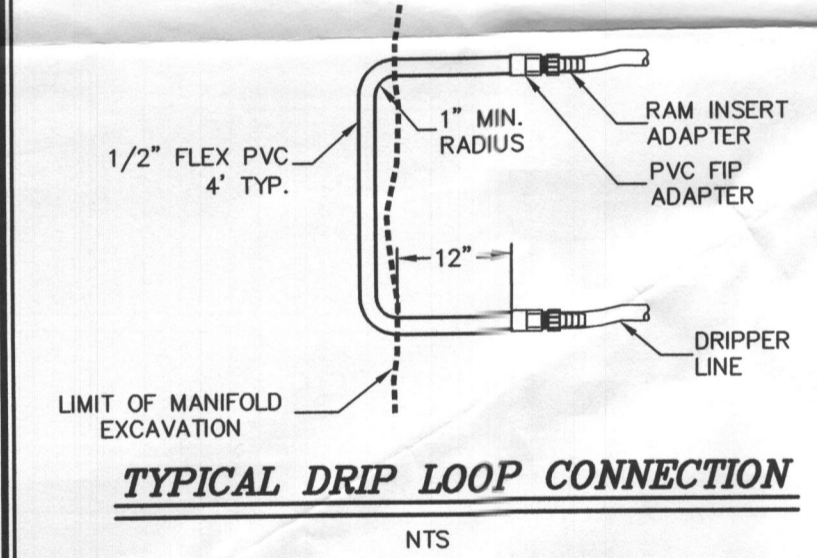
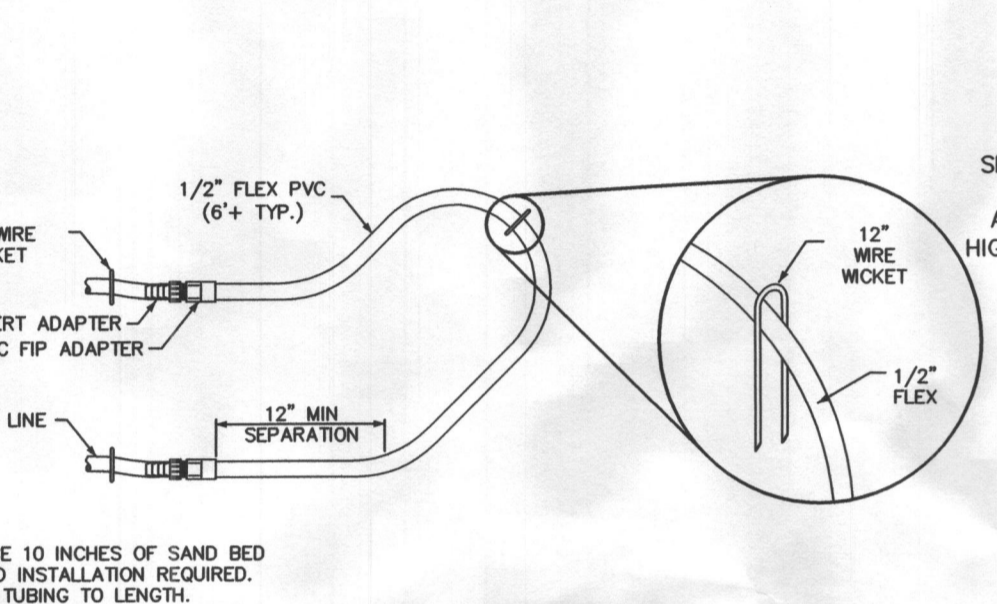
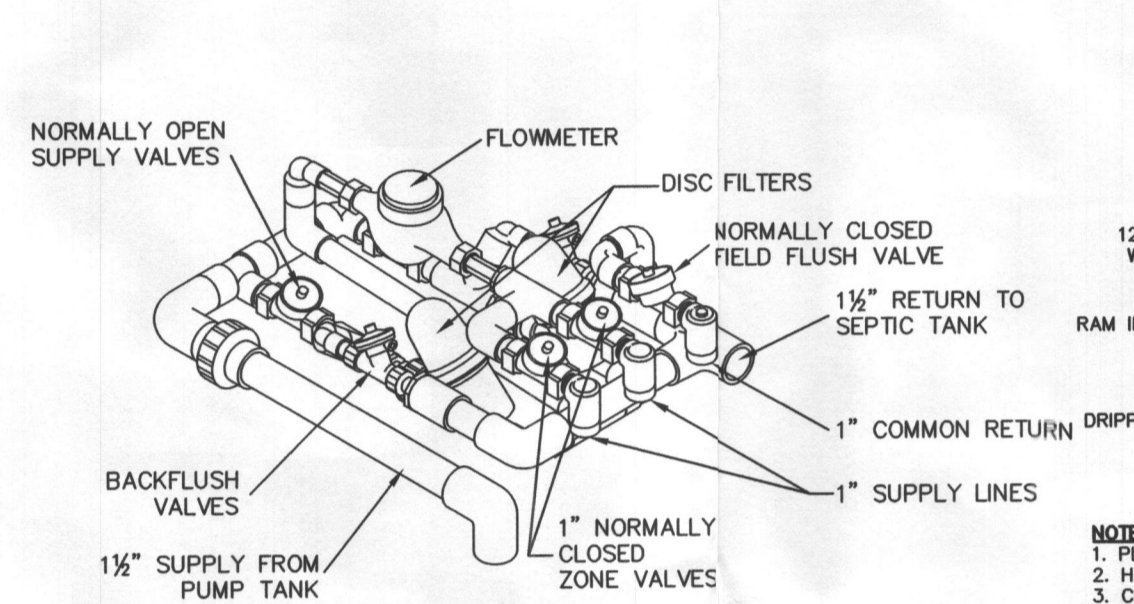
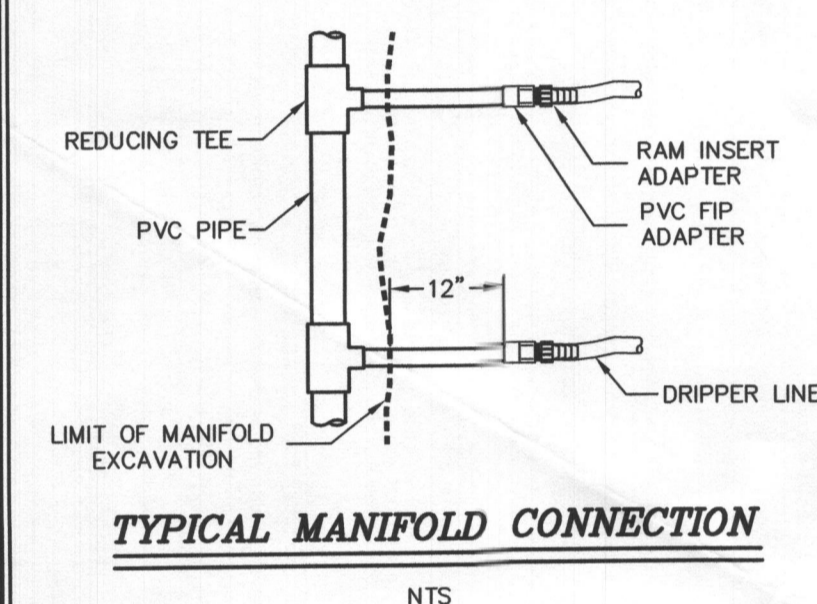
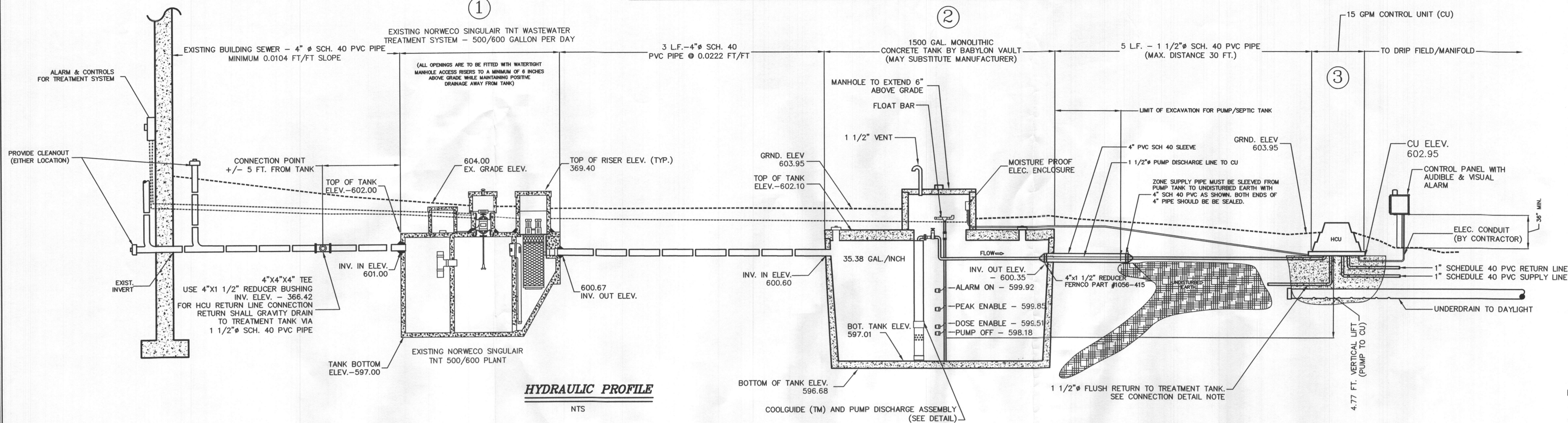
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1-800-257-7777
PROTECTION LAW THE UNDERGROUND UTILITY LINE
CONTRACTORS MUST VERIFY LOCATIONS OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES NO LESS THAN 3 WORK MORE THAN 10 DAYS PRIOR TO ANY WORKING FACILITY. ATTENTION ALL CONTRACTORS: LOCATION OF EXISTING UTILITIES SHOWN EXCAVATION OR DEMOLITION WORK.

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DRIP DISPERSAL SYSTEM DESIGN PLAN
PREPARED FOR
2020 MILLERS MILL ROAD TRACT
4TH ELECTION DISTRICT, HOWARD COUNTY, MD
DATE: MAY 24, 2019
SCALE: AS NOTED



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



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 THIS HOLE.

PUMP COOLING SPECIFICATIONS 15 GPM CONTROL UNIT SYSTEM:

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 1/2" 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:

- MEASURE THE DISTANCE FROM THE BOTTOM OF THE TANK TO 6" DOWN FROM THE TOP OF THE RISER.
- 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.
- GLUE THE EXTENSION COUPLING TO THE EXTENSION PIPE AND TO THE PERFORATED SECTION HOUSING THE PUMP AND FLOW INDUCER.
- 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.
- PLACE THE PIPE DOPE ON THE ADAPTER THREADS AND THREAD THEM INTO PUMP DISCHARGE.
- ATTACH COOLING COLLAR TO ADAPTER WITH SET SCREWS.
- GLUE PIPE INTO FLOW COLLAR AND WITH PUMP ATTACHED, LOWER INTO THE GUIDE TUBE.
- ATTACH TO DISCHARGE PIPE, TORQUE ARRESTOR, VALVES, AND CONNECT ELECTRICAL AS SPECIFIED.

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. THERE ARE MINIMUM REQUIREMENTS. ADDITIONAL MANUFACTURER OR MUNICIPAL RECOMMENDATIONS/REQUIREMENTS ARE TO BE APPLIED.

MAINTENANCE TO BE PROVIDED EVERY:

6-MONTH

- 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.
- INSPECT TANKAGE, HYDRAULIC CONTROL UNIT AND VISIBLE PIPING FOR STRUCTURAL INTEGRITY.
- 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.
- 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.
- TEST PUMPS AND PANEL FIELD CONTROLS.
- INSPECT HYDRAULIC CONTROL UNIT MECHANICS FOR LEAKS OR ABNORMAL FLOW METER READINGS.
- INLINE EFFLUENT FILTERS ARE TO BE REMOVED MANUALLY, CLEANED AND REPLACED.

3-YEARS

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

PEAT FILTERS REQUIRE REPLACEMENT OF MEDIA PERIODICALLY. PLEASE CHECK WITH YOUR DISTRIBUTOR OR INSTALLER FOR REPLACEMENT SCHEDULE.

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PROTECTION LAW THE UNDERGROUND UTILITY LINE

CONTRACTORS MUST VERIFY LOCATIONS OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENN. ACT 101, CONTRACTORS SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES. NO LESS THAN 30 DAYS PRIOR TO DATE PRIOR TO ANY UNDERGROUND UTILITY WORK, CONTRACTORS SHALL OBTAIN RECORD DRAWINGS AND RECORD DRAWINGS FROM THE UTILITY COMPANY RECORDS AND 1-800-257-7777. PENN. ACT 101, CONTRACTORS SHALL OBTAIN RECORD DRAWINGS AND RECORD DRAWINGS FROM THE UTILITY COMPANY RECORDS AND 1-800-257-7777. PENN. ACT 101, CONTRACTORS SHALL OBTAIN RECORD DRAWINGS AND RECORD DRAWINGS FROM THE UTILITY COMPANY RECORDS AND 1-800-257-7777. PENN. ACT 101, CONTRACTORS SHALL OBTAIN RECORD DRAWINGS AND RECORD DRAWINGS FROM THE UTILITY COMPANY RECORDS AND 1-800-257-7777.

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DRIP DISPERSAL SYSTEM DESIGN PLAN

PREPARED FOR
2020 MILLERS MILL ROAD TRACT
4TH ELECTION DISTRICT, HOWARD COUNTY, MD

DATE: MAY 24, 2019
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ADAM B. BROWNING
OFFICER
P.E. 0004
SEAL

PTE#4008
SHEET 3 OF 3