

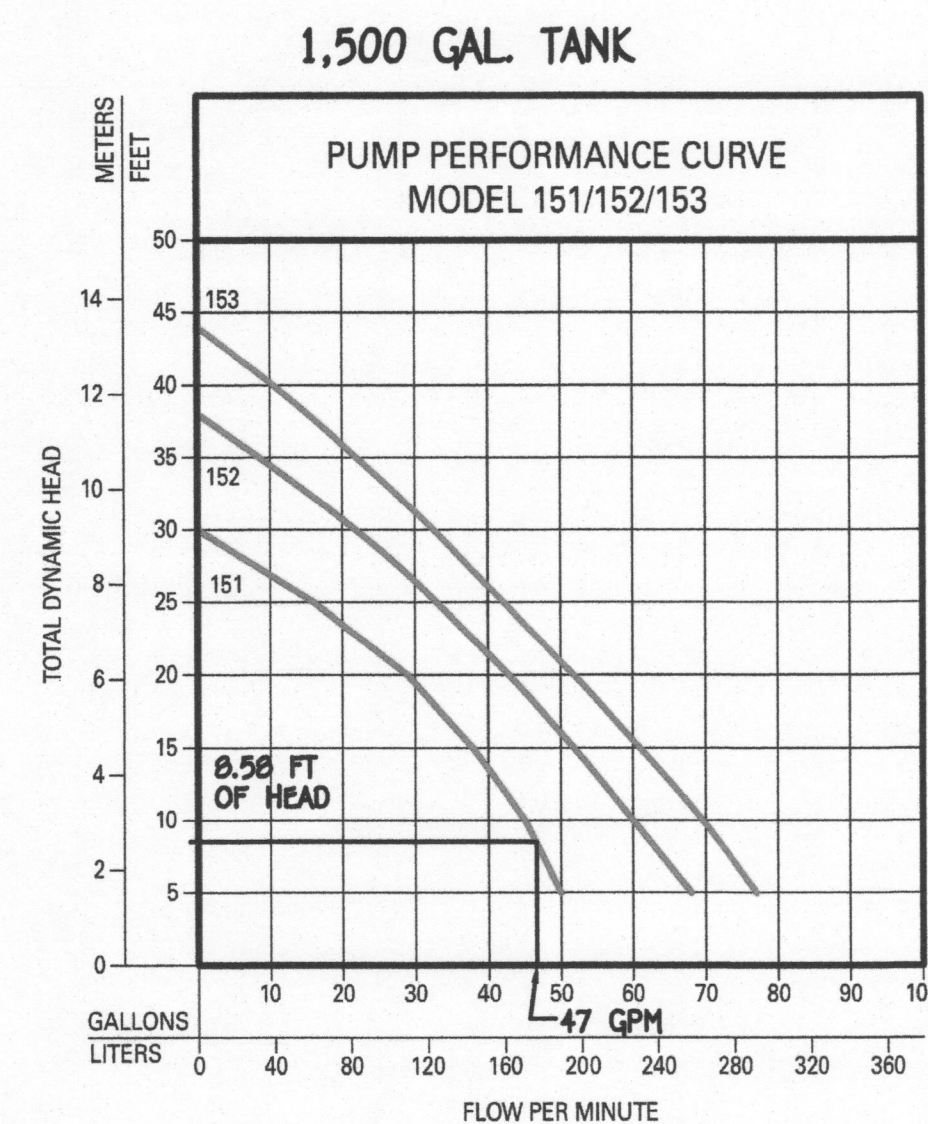
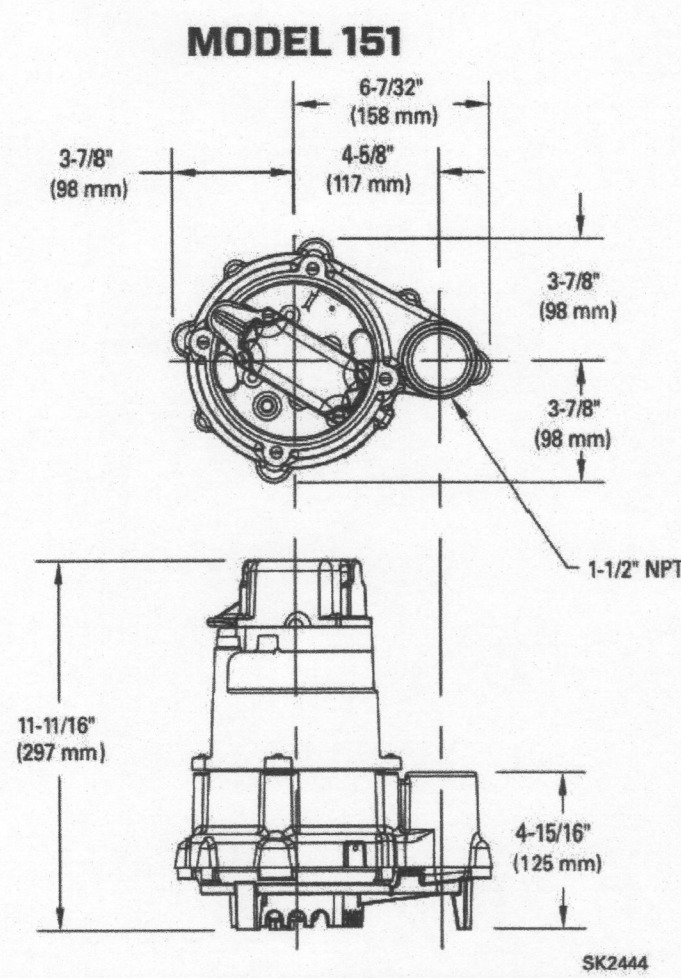
DESIGN DATA & GENERAL NOTES

- [1] Concrete strength $f_c=4,000$ p.s.i. @ 28 days. Density = 150 pcf.
- [2] Cement - Portland Type III per ASTM C 150-92.
- [3] Admixtures & plasticizers per ASTM C 260-96 & C 494-92.
- [4] Reinforcing per ASTM A196. Min. 1-1/2" cover.
- [5] Top slab sealed with butyl rope mastic.
- [6] 4" wall, base, & top thickness.
- [7] Max 3" of cover
- [8] Depending on use of tank, Inlet & Outlet baffle may be required by code.

WEIGHT = 16,000 lbs.

BACK RIVER PRE-CAST, LLC P.O. Box 329 Olyndon, MD 21071 410-833-3384 office 410-833-4116 fax www.backriverprecast.com	1,500 GALLON SEPTIC/PUMP TANK 1-Compartment NON-TRAFFIC MAX 3 ft. OF COVER	
	Dwg. No. 1500-1C	No Scale

ZOELLER 151 PUMP DETAIL
NOT TO SCALE



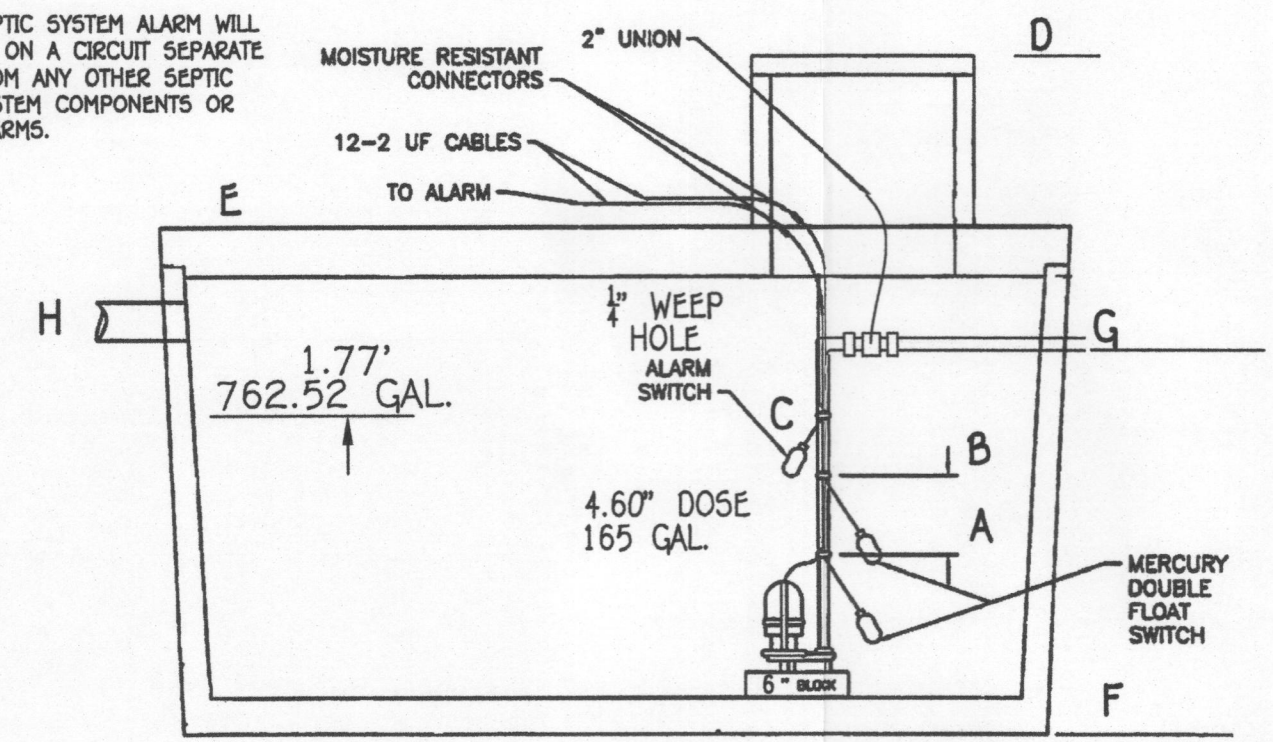
1 UNION @ 2" SDR-21 PVC = 06 LF
 1 1/8" HB @ 4" EQUIVALENT FEET = 4 LF
 TOTAL LINEAR FEET OF 2" SDR-21 PVC = 92 LF

DYNAMIC HEAD
 92 LF X 2.05 FT PER 100 LF OF 2" PIPE = 1.89 FT OF FRICTION HEAD
 VERTICAL FROM PUMP OFF TO HIGHEST ELEV. OF SYSTEM = 1.40 FT OF HEAD
 HIGH POINT IN PUMP CHAMBER TO HIGHEST ELEV. OF SYSTEM = 5.29 FT (PUMP OUT IS THE HIGHEST POINT)
 TOTAL DYNAMIC HEAD = 0.56 FT

1/6 DESIGN FLOW (750/5=150) PLUS VOLUME OF 2" PIPE (14.04 GALLONS)
 USE 165 GALLON DOSE (150 GALLON MINIMUM)
 RUN TIME = 3.51 MIN (47 GPM X 3.51 = 165 GALLON DOSE)

PUMP NEEDS TO HANDLE 47 GPM AT 0.56 FT OF HEAD
 USE 0.3 HP (ZOELLER MODEL 151 PUMP)

NOTE: SEPTIC SYSTEM ALARM WILL BE ON A CIRCUIT SEPARATE FROM ANY OTHER SEPTIC SYSTEM COMPONENTS OR ALARMS.



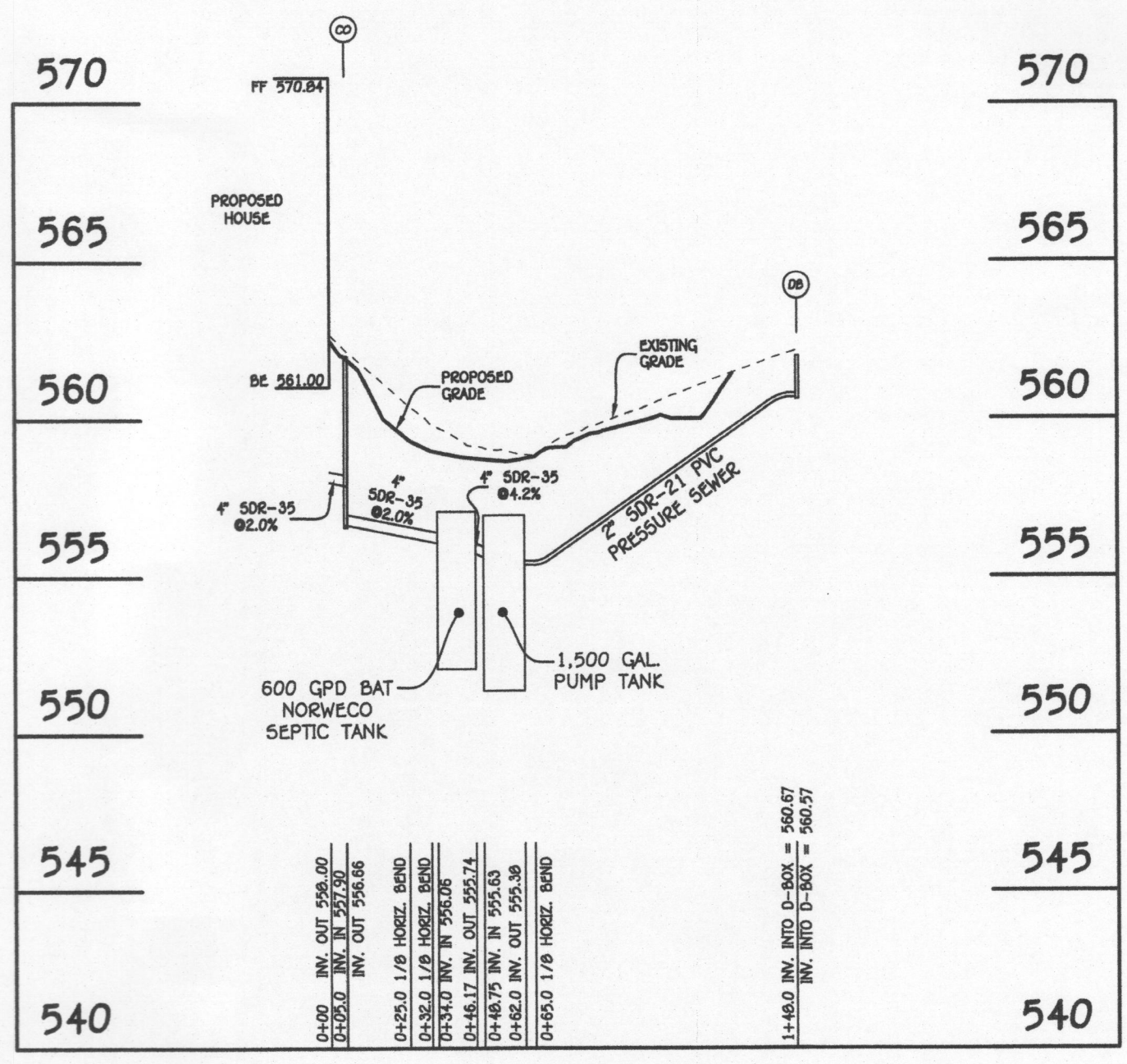
PUMP TANK DETAIL

762.52 GAL EMERGENCY STORAGE
 NOTE: THIS DETAIL IS TO BE USED FOR FLOAT CONFIGURATION ONLY - SEE DETAIL THIS SHEET FOR TANK DIMENSIONS AND ACTUAL LOCATION OF ACCESS COVER.

PUMP ALARMS / INFORMATION
 A PUMP OFF : 553.98'
 B PUMP ON : 554.36'
 C HIGH WATER ALARM : 554.86'
 D TOP OF ACCESS COVER : 556.66'
 E TOP OF TANK : 556.96'
 F BOTTOM OF TANK : 551.00'
 G DISCHARGE OUT OF TANK : 555.38'
 H INVERT INTO TANK : 555.63'

ONE 600-GAL BAT NORWECO SEPTIC TANK & ONE 1,500-GAL PUMP TANK W/ ZOELLER BN151 PUMP OR EQUAL TO GRAVITY DISTRIBUTION FOR 5 BEDROOM SFD

FF	570.84
BE	561.00'
INV. OUT OF HOUSE	= 558.00'
PROP. GROUND AT CLEANOUT	= 561.91'
INV. INTO CLEANOUT	= 557.90'
INV. OUT OF CLEANOUT	= 556.66'
EX. GROUND AT SEPTIC TANK	= 559.36'
PROP. GRADE ABOVE SEPTIC TANK	= 558.83'
TOP OF SEPTIC TANK	= 557.08'
INV. INTO SEPTIC TANK	= 556.08'
INV. OUT OF SEPTIC TANK	= 555.74'
EX. GROUND AT PUMP TANK	= 558.97'
PROP. GRADE ABOVE PUMP TANK	= 558.66'
TOP OF PUMP TANK	= 556.96'
INV. INTO PUMP TANK	= 555.63'
INV. OUT OF PUMP TANK	= 555.38'
EX. GROUND AT DISTRIBUTION BOX	= 562.17'
INV. INTO DISTRIBUTION BOX	= 560.67'
INV. OUT OF DISTRIBUTION BOX	= 560.57'



PROFILE SEPTIC LOT 2
SCALE HORZ. 1" = 50'
VERT. 1" = 5'

PROFESSIONAL CERTIFICATION
 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. 87020, EXPIRATION DATE: 01/25/26.
 PAUL G. CAVANAUGH
 DATE: JUNE 17, 2025



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALDORNE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

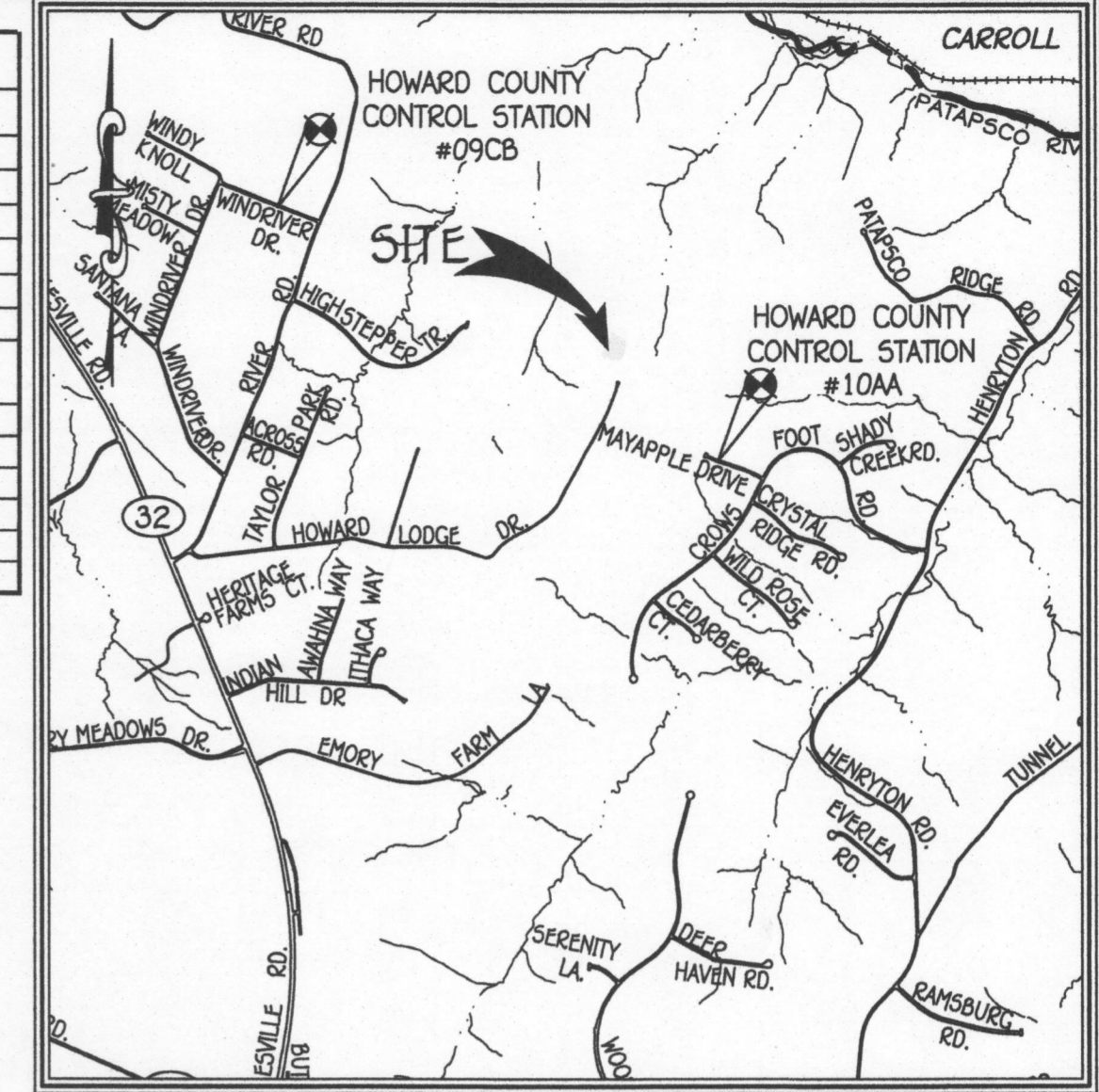
OWNERS/BUILDERS
 NVR, INC.
 9720 PATUXENT WOODS DRIVE
 COLUMBIA, MD 21046
 443-832-9102

SEPTIC SYSTEM INSTALLATION PLAN
BRICKELL PROPERTY
LOT 2
(1711 BRICKELL WAY)
 ZONING: RR-DEO
 GRID No. 1
 PARCEL No. 274
 TAX MAP No. 10
 THIRD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: JUNE, 2025
 SHEET 2 OF 2

SOILS LEGEND		
SOIL	NAME	CLASS
GgB	Glenns loam, 3 to 8 percent slopes	B
GgC	Glenns loam, 8 to 15 percent slopes	B
LAB	Legore silt loam, 3 to 8 percent slopes	C

THE PURPOSE OF THIS SEPTIC INSTALL PLAN IS FOR THE CONSTRUCTION OF A NEW SINGLE FAMILY HOME.

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
x 448.5	SPOT ELEVATION
GgB	EXISTING TREE LINE
GgC	SOIL LINES AND TYPES
---	SUBJECT PROPERTY LINE
---	ADJOINER PROPERTY LINE
○	DENOTES WELL LOCATION
○	DENOTES PASSED PERC TEST
○	DENOTES FAIL PERC TEST
---	EXISTING SDA



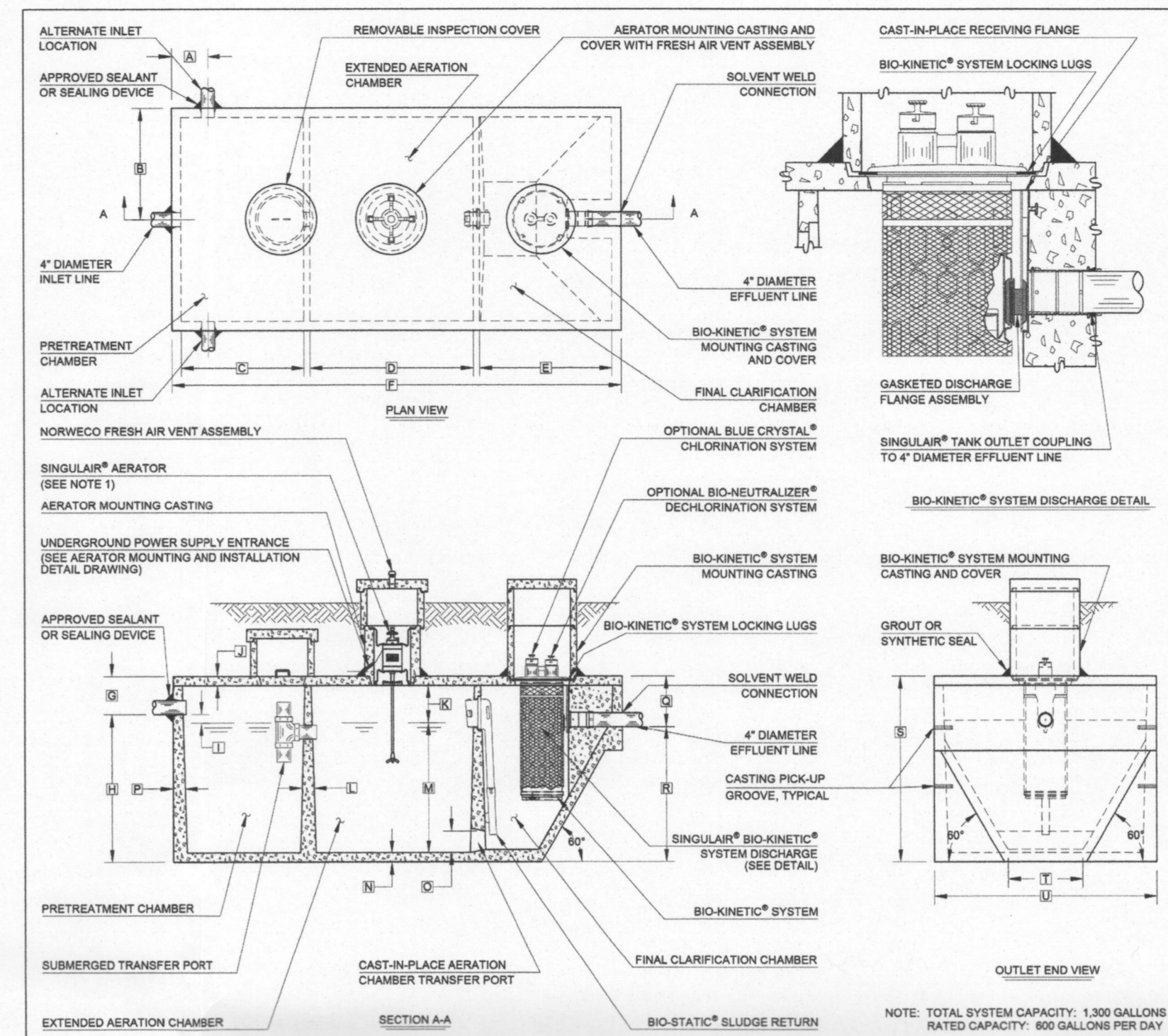
VICINITY MAP
SCALE: 1" = 200'

GEODETIC CONTROL STATIONS

HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 10AA N 609,753.356 E 1,331,668.825 ELEVATION: 563.997'	HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 09CB N 612,571.114 E 1,326,795.332 ELEVATION: 558.523'
---	---

BAT NOTES

1. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
2. THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
3. WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
4. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
5. THE SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.
6. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REISED SITE PLAN MAY BE REQUIRED.
7. ELECTRICAL WORK FOR BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN. AN OPERATIONS AND MAINTENANCE AGREEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDED OF HOWARD COUNTY.



- GENERAL NOTES:**
1. SINGULAR® AERATOR, AS TESTED AND ACCEPTED BY MDE, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
 2. FALL THROUGH SINGULAR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
 3. ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE.
 4. TANK REINFORCED PER ACI STD. 318-05.
 5. REMOVABLE COVERS ON RISERS MUST BE IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
 6. CONTACT THE LOCAL LICENSED SINGULAR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEER'S APPROVAL:
I HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE: _____

NAME: _____

CONTRACTOR'S CERTIFICATION:
I HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE: _____

NAME: _____

CRITICAL DIMENSIONS	
A	1'-0"
B	5'-0"
C	1'-0"
D	4'-0"
E	1'-0"
F	1'-0"
G	1'-0"
H	1'-0"
I	1'-0"
J	1'-0"
K	1'-0"
L	1'-0"
M	1'-0"
N	1'-0"
O	1'-0"
P	1'-0"
Q	1'-0"
R	1'-0"
S	1'-0"
T	1'-0"
U	1'-0"
V	1'-0"
W	1'-0"
X	1'-0"
Y	1'-0"
Z	1'-0"

NOTE: TOTAL SYSTEM CAPACITY: 1,300 GALLONS
RATED CAPACITY: 800 GALLONS PER DAY

1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. THE WELL HO-22-0110 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
4. 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.
5. THE ENGINEER IS REGISTERED WITH MDE TO PROVIDE ON-SITE WASTEWATER SERVICES IN MARYLAND. CARTER ON OR ABOUT FEBRUARY, 2024.
6. CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER.
7. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN AND AN ELECTRICAL PERMIT MUST BE PULLED PRIOR TO SEPTIC PERMIT.
8. CONTRACTOR TO PERFORM CONSTRUCTION PER CURRENT OSHA STANDARDS.

INITIAL SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS
LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 2 FEET
TRENCH DEPTH = 8 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 6 FEET
SF OF DRAINFIELD = 750 GPD / 0.8 = 938 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x6)) = 0.313
TRENCH LENGTH = (938 SF x 0.313)/W = 98 FEET
2 TRENCHES AT 49'
TRENCH SPACING = 2D+W = ((2x6) + 3) = 15' USE 15'

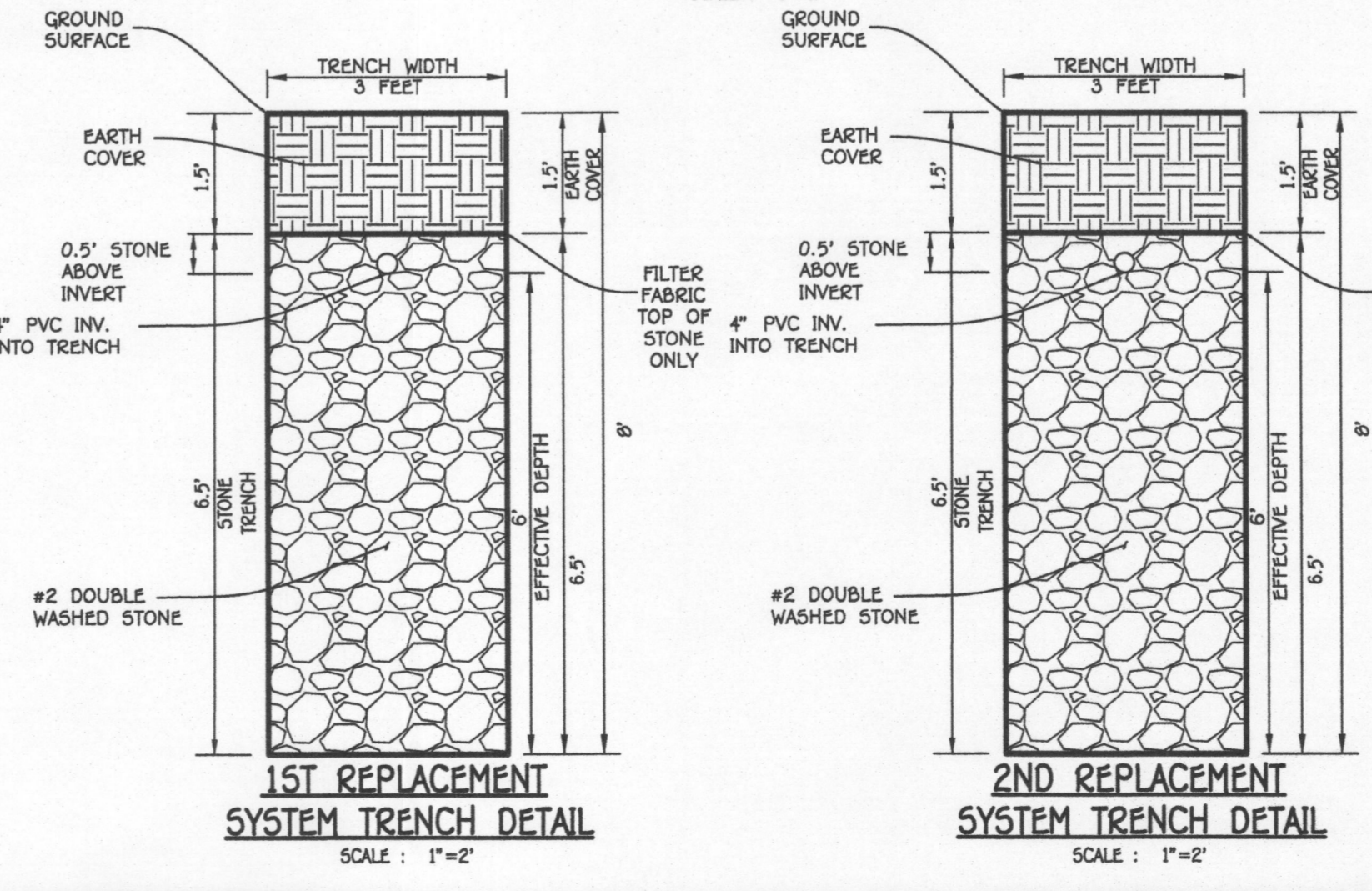
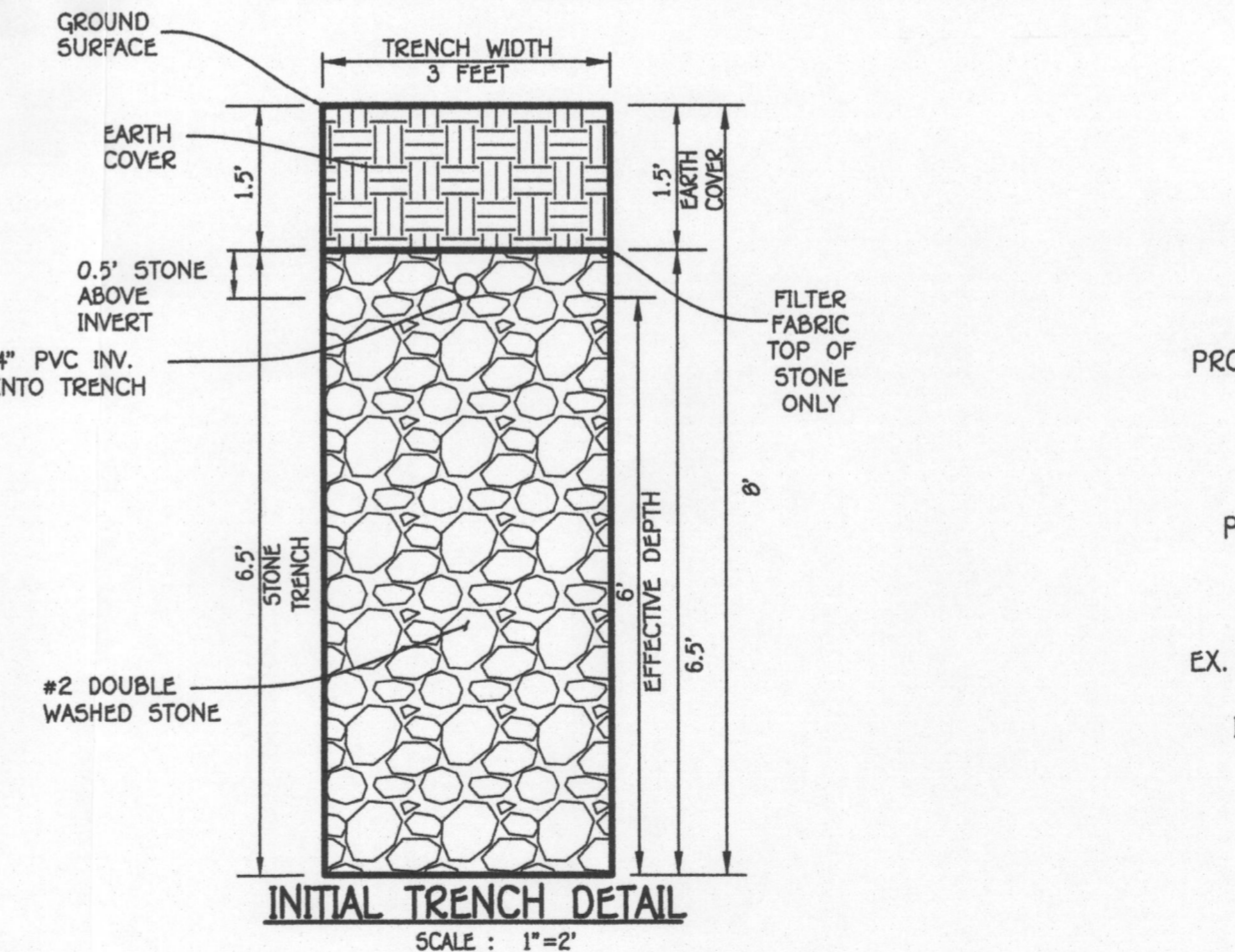
1ST REPLACEMENT SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS
LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 2 FEET
TRENCH DEPTH = 8 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 6 FEET
SF OF DRAINFIELD = 750 GPD / 0.8 = 938 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x6)) = 0.313
TRENCH LENGTH = (938 SF x 0.313)/W = 98 FEET
2 TRENCHES AT 49'
TRENCH SPACING = 2D+W = ((2x6) + 3) = 15' USE 15'

2ND REPLACEMENT SYSTEM
SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 5 BEDROOMS
LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 2 FEET
TRENCH DEPTH = 8 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 6 FEET
SF OF DRAINFIELD = 750 GPD / 0.8 = 938 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x6)) = 0.313
TRENCH LENGTH = (938 SF x 0.313)/W = 98 FEET
2 TRENCHES AT 49'
TRENCH SPACING = 2D+W = ((2x6) + 3) = 15' USE 15'

TRENCH DATA:

TRENCH 1:
EX. GROUND ABOVE = 561.80
INV. IN = 559.80
BOTTOM TRENCH = 553.80

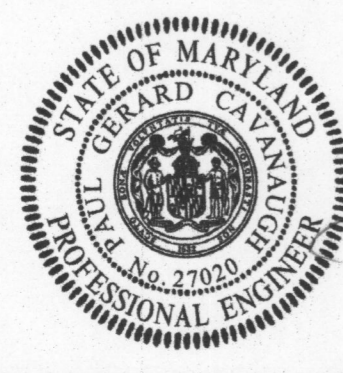
TRENCH 2:
EX. GROUND ABOVE = 560.06
INV. IN = 558.06
BOTTOM TRENCH = 552.06



DAILY STABILIZATION NOTE:
CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:
1. FOR AREAS TO BE PAVED, THAT APPLICATION OF STONE BASE.
2. FOR AREAS TO BE VEGETATIVELY STABILIZED:
A. PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS OR SWALES.
B. PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.
ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWN SLOPE SIDE.

PROFESSIONAL CERTIFICATION
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. 27020, EXPIRATION DATE: 01/25/28.

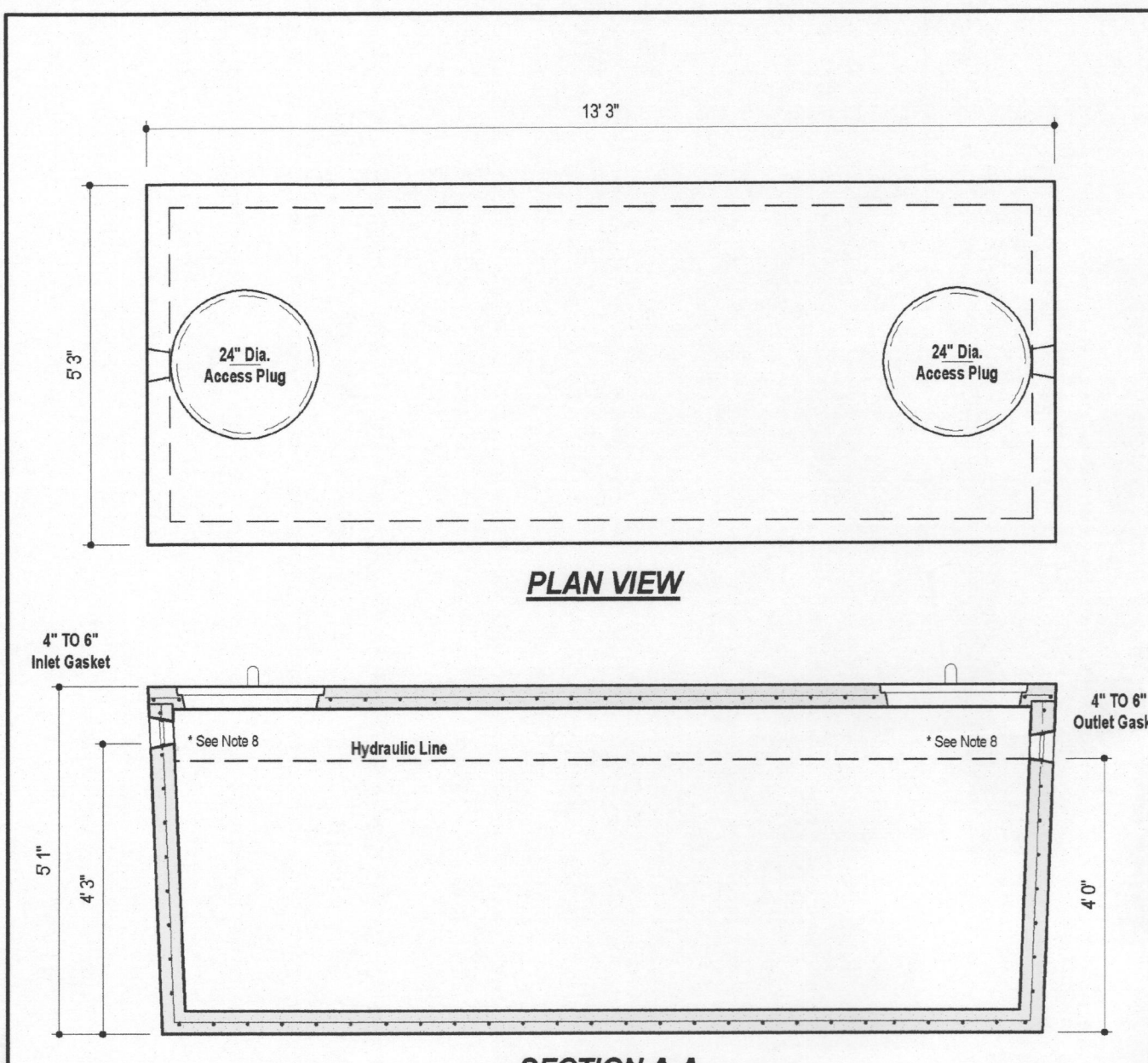
PAUL G. CAVANAUGH
DATE: JUNE 17, 2025



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2899

OWNERS/BUILDERS
NVR, INC.
9720 PATUXENT WOODS DRIVE
COLUMBIA, MD 21046
443-832-9102

Approved Septic System Plan
Howard County Health Department
Signature: *D. Berman* Date: *7-7-25*
Signature: *5 BR only!* Date: *Unfinished Basement*
SEPTIC SYSTEM INSTALLATION PLAN
BRICKELL PROPERTY
LOT 2
(1711 BRICKELL WAY)
ZONING: RR-DEO
TAX MAP NO. 10 GRID NO. 1 PARCEL NO. 274
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN SHEET 1 OF 2 DATE: JUNE, 2025



DESIGN DATA & GENERAL NOTES

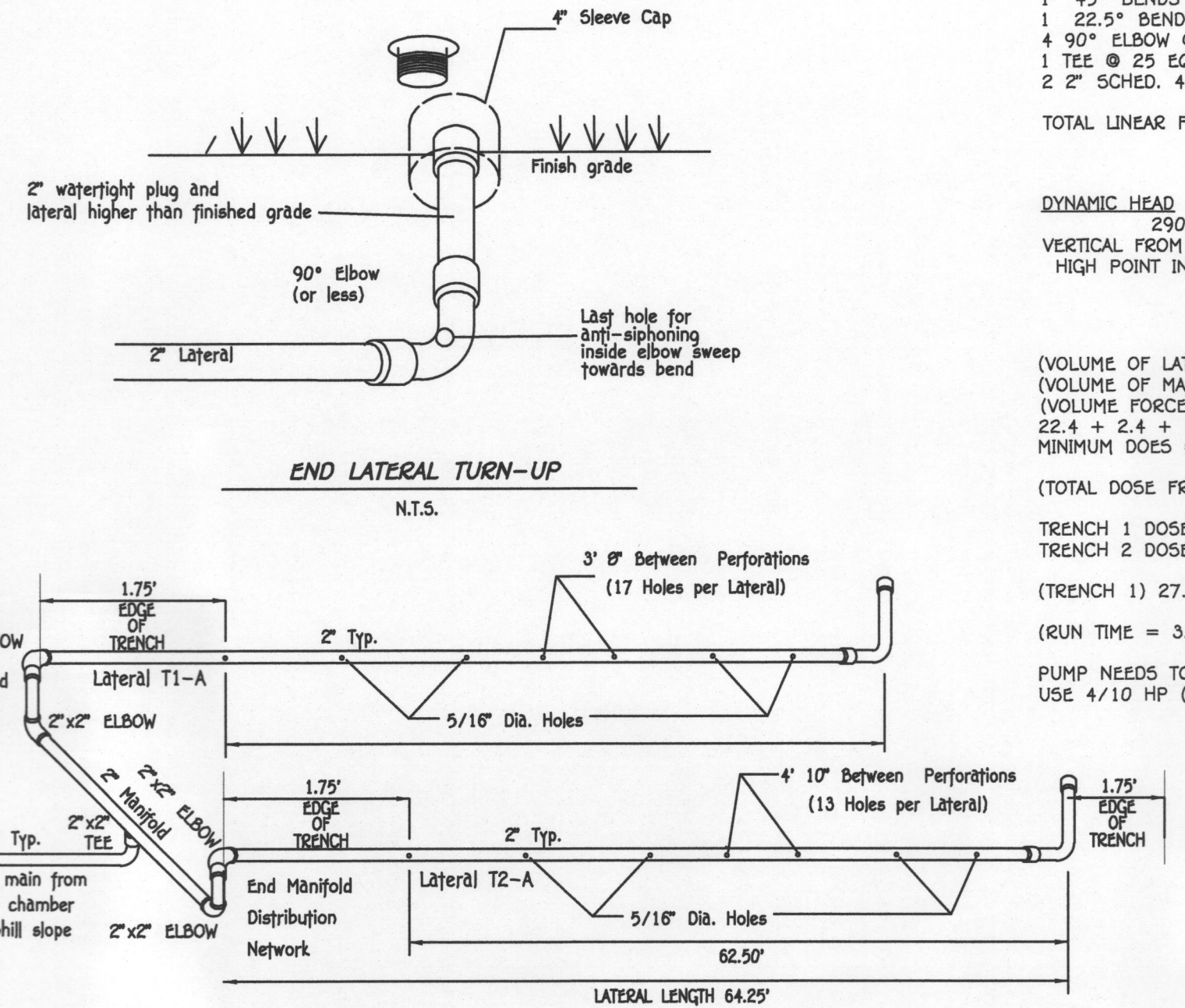
- Concrete strength $f'c=4,000$ p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-92.
- Admixtures & plasticizers per ASTM C 230-96 & C 484-92.
- Reinforcing per ASTM A108. Min. 1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, base, & top thickness.
- Max 3" of cover.
- Depending on use of tank, Inlet & Outlet baffles may be required by code.

WEIGHT = 16,000 lbs.

BACK RIVER PRE-CAST, LLC
 P.O. Box 329
 Claysville, MD 21071
 410-833-3384 office
 410-833-4116 fax
 www.backriverprecast.com

1,500 GALLON SEPTIC/PUMP TANK
1-Compartment
NON-Traffic MAX 3 ft. OF COVER

Dwg. No. 1500-1C No Scale Aug. 11, 2008



TRENCH LATERAL AERIAL/PLAN VIEW WITH LINEAR DIMENSIONS
 (Modified from EPA Design Manual) N.T.S.

EACH LATERAL SHALL HAVE 5/16" DIA. HOLES
 TRENCH LENGTH = 66'
 TWO END FEED LATERALS = 64.25'

LATERAL DETAIL CHART

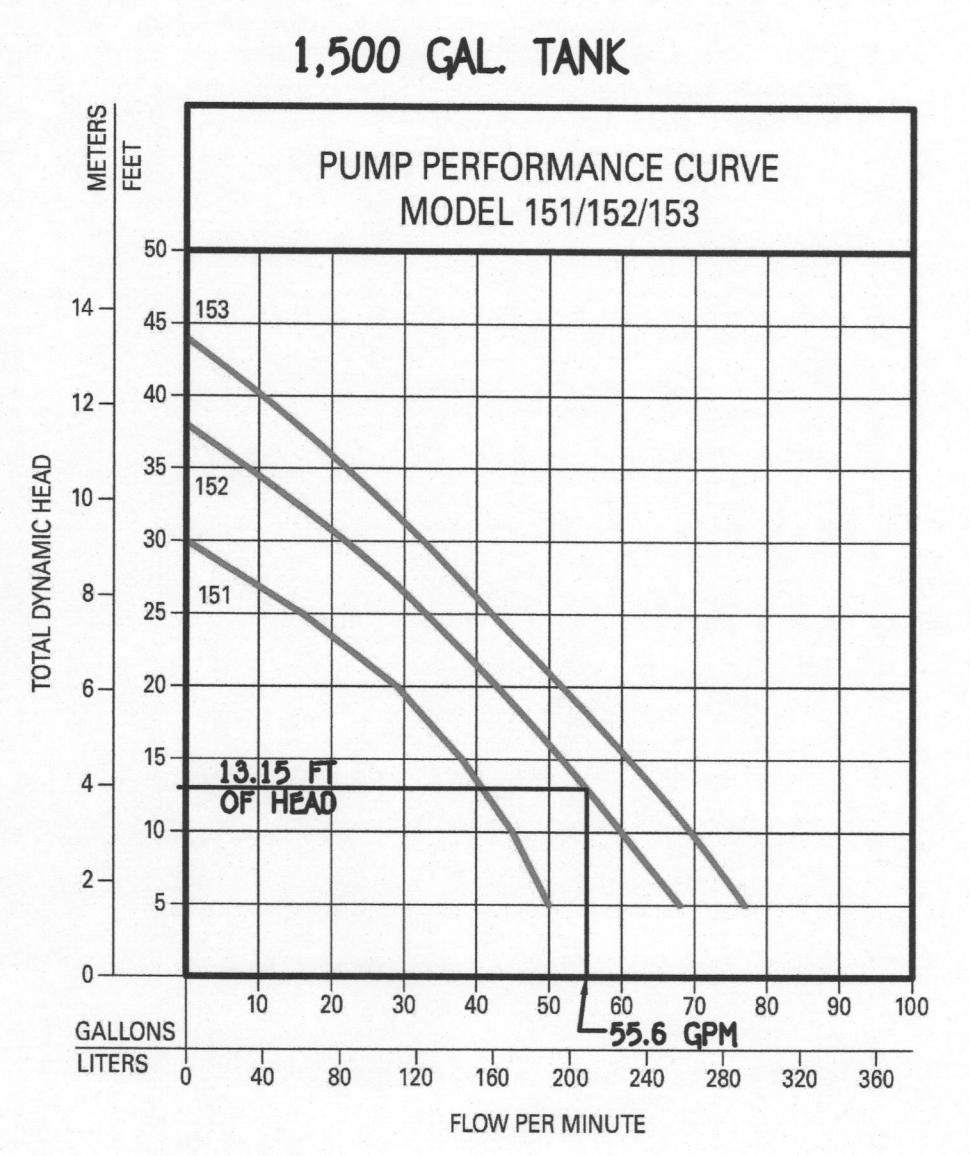
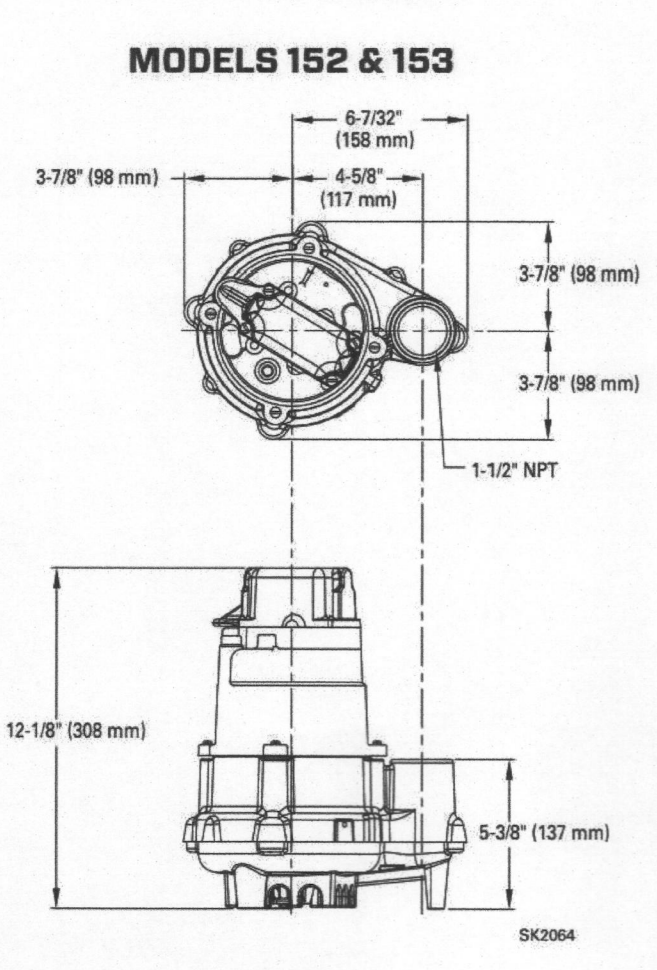
TRENCH NO.	LATERAL NO.	RELATIVE ELEV.	TRENCH LENGTH	LATERAL LENGTH	LATERAL DIA. (IN.)	HEAD (FT)	ORIFICE DIA. (IN.)	ORIFICE FLOW RATE (GPM)	ORIFICE SPACING (FT)	NO. OF ORIFICES	LATERAL FLOW RATE (GPM)
1	T1-A	559.20	66' 3"	64' 6 1/2"	2"	2.0'	5/16"	1.63	3' 0"	17	27.7
2	T2-A	557.90	66' 3"	64' 6 1/2"	2"	3.3'	5/16"	2.15	4' 10"	13	27.9

2" SCH. 40 PVC = 83.3 LF
 1 UNION @ 2 EQUIVALENT FEET = 2 LF
 1 45° BENDS @ 6 EQUIVALENT FEET = 6 LF
 1 22.5° BENDS @ 6 EQUIVALENT FEET = 6 LF
 4 90° ELBOW @ 10 EQUIVALENT FEET = 40 LF
 1 TEE @ 25 EQUIVALENT FEET = 25 LF
 2 2" SCH. 40 PVC LATERALS = 128.5 LF
 TOTAL LINEAR FEET OF 2" SCH. 40 PVC = 290.8 LF

DYNAMIC HEAD
 290.8 LF X 2.05 FT PER 100 LF OF 2" PIPE = 5.96 FT OF FRICTION HEAD
 VERTICAL FROM PUMP OFF TO HIGH POINT IN PUMP CHAMBER = 1.40 FT OF HEAD
 HIGH POINT IN PUMP CHAMBER TO HIGHEST ELEV OF SYSTEM = 3.79 FT (PUMP OUT IS THE HIGHEST POINT)
 2.0 FT DISTAL END HEAD
 TOTAL DYNAMIC HEAD = 13.15 FT

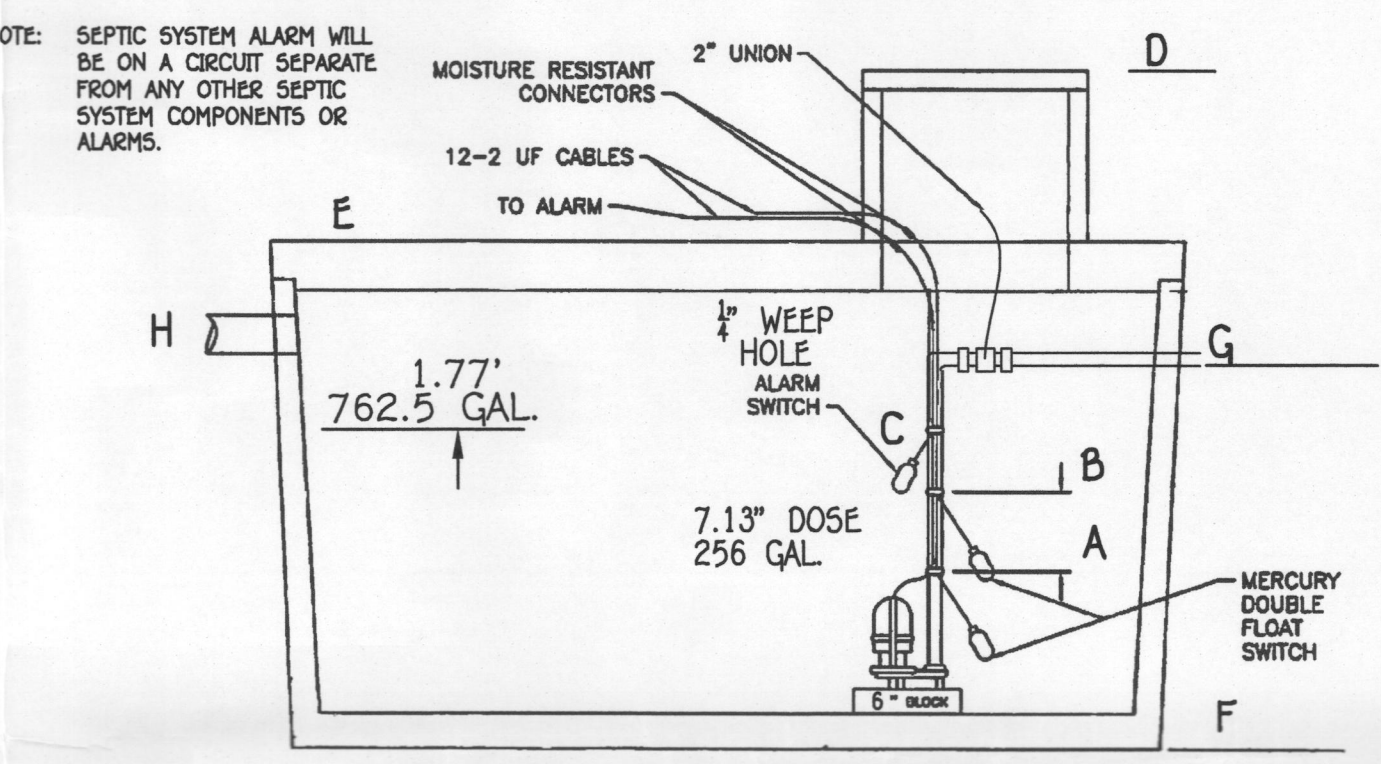
(VOLUME OF LATERALS) 128.5 FT OF 2" LATERALS X 0.174 = 22.4 GALLONS
 (VOLUME OF MANIFOLD) 14 FT OF 2" MANIFOLD X 0.174 = 2.4 GALLONS
 (VOLUME FORCE MAIN) 67 FT OF 2" FM X 0.174 = 11.7 GALLONS
 22.4 + 2.4 + 11.7 = 36.5
 MINIMUM DOSES = 36.5 GALLON X 7 = 256 GALLON DOSE
 (TOTAL DOSE FROM PUMP FOR EACH TRENCH)
 TRENCH 1 DOSE GPM = 1.63 (17 PERFORATION PER LATERAL) = 27.7 GPM
 TRENCH 2 DOSE GPM = 2.15 (13 PERFORATION PER LATERAL) = 27.9 GPM
 (TRENCH 1) 27.7 GPM + (TRENCH 2) 27.9 GPM = 55.6 GPM
 (RUN TIME = 3.15 MIN (55.6 GPM X 3.15 = 175 GALLON DOSE)
 PUMP NEEDS TO HANDLE 55.6 GPM AT 13.15 FT OF HEAD
 USE 4/10 HP (ZOLLER MODEL 152 PUMP)

ZOLLER 152 PUMP DETAIL
 NOT TO SCALE



TOTAL DYNAMIC HEAD CALCULATIONS

STATIC HEAD (FT)	5.96
FRICTION HEAD (FT)	5.19
DISTAL END HEAD (FT)	2
TOTAL DYNAMIC HEAD (FT)	13.15
GALLONS PER MINUTE	55.6 GPM
DOSE	256 GAL
PUMP RUN TIME	3.15 MIN



PUMP TANK DETAIL
 762.5 GAL EMERGENCY STORAGE

ONE 600-GAL BAT NORWECO SEPTIC TANK & ONE 1,500-GAL PUMP TANK W/ ZOLLER BN152 PUMP OR EQUAL TO - SEE DETAIL THIS SHEET FOR TANK DIMENSIONS AND ACTUAL LOCATION OF ACCESS COVER.

PUMP ALARMS / INFORMATION

- A PUMP OFF : 553.03'
- B PUMP ON : 554.39'
- C HIGH WATER ALARM : 554.89'
- D TOP OF ACCESS COVER : 559.01'
- E TOP OF TANK : 556.99'
- F BOTTOM OF TANK : 551.91'
- G DISCHARGE OUT OF TANK : 555.41'
- H INVERT INTO TANK : 555.66'

LOW PRESSURE DOSING TRENCH SEWAGE DISPOSAL SYSTEM INSPECTION CHECKLIST

I. SITE PREPARATION Date: _____

- Dosing trenches correctly staked out in proper location
- Area cleared of brush
- Fill cap (if required) properly placed:
 - Proper depth
 - Placed without compacting soil
 - Vegetation removed before placement
 - Site disked or plowed before placement
- Soil moisture level low enough to permit construction
- Location of pretreatment unit, septic tank (s) and pumping station properly staked out
- Site protected from compaction by vehicles or heavy equipment

II. CONSTRUCTION Date: _____

- Septic Tank (s) or BAT units**
 - Number of tanks
 - Tank type and construction meet specifications (i.e., top-seam, baffled, etc.)
 - Capacity requirements met
 - Proper installation
 - Inlet and outlet pipes at proper elevations and sealed at tank connections
 - Baffles and/or tees properly installed
 - Tank water tightness checked
 - Weep hole in tank wall/bottom sealed if present
 - 24-hour leakage test conducted if necessary
- Pump Chamber** Date: _____
 - Design specifications met
 - Six-inch block present under pump
 - Control panel meets specifications
 - Even counter-clockwise time meter/flow meter installed
 - Proper float elevations (on/off/alarm)
 - Quick disconnection hole present (if required)
 - Proper elevation of influent pipe
 - Pipes through tank walls sealed
 - Valves meet specifications
 - Tank joints above seasonal high water level
 - Access provided
 - One-day design flow storage capacity above high level alarm
 - Force main diameter as specified
 - High water alarm on separate circuit
- Trench Construction** Date: _____
 - Absorption trenches dug to proper depth
 - Placed without compacting soil
 - Absorption trenches level on bottom
 - Spacing of trenches correct
 - Earthen dam in trenches (if required) properly installed
 - Trenches protected from silting-in during construction
- Distribution System** Date: _____
 - Proper fittings used at joints (pressure-type)
 - Fittings adequately bonded
 - Proper diameter of manifold (s)
 - Proper diameter of lateral piping
 - Proper lateral length
 - Proper diameter of lateral perforations
 - Proper spacing of lateral perforations
 - Perforations oriented downward
 - End perforation suitable (sleeved/in end cap/on turn up radius)
 - Laterals at proper elevation in trench
 - Proper depth of gravel below lateral
 - Proper depth of gravel above lateral
 - Suitable gravel used in trenches
 - Size and type
 - Clean
- Trench Cover and Site Stabilization** Date: _____
 - Spun Geotextile fabric in place above gravel layer
- Monitoring Apparatus** Date: _____
 - Observation ports
 - Proper location and number
 - Installed to proper depth
 - Lateral turn-ups in place (sleeved)
 - Specified diameter
 - Specified depth
 - Screened in proper stratum
 - Grouted
 - Groundwater monitoring wells (if required)
 - Specified diameter
 - Specified depth
 - Screened in proper stratum
 - Grouted
- Site Drainage** (if required) Date: _____
 - Surface water diversion
- Curtain drain**
 - Width
 - Depth
 - Length
- Vertical drain**
 - Width
 - Depth
 - Length

III. Pumping System Test Date: _____

- Pump-on switch is operational
- Pump-off switch is operational
- High level alarm switch is operational
- Volume of drawdown corresponds with specified dose
- System achieves specified pressure

IV. Comments Date: _____

III. Pumping System Test Date: _____

- Pump-on switch is operational
- Pump-off switch is operational
- High level alarm switch is operational
- Volume of drawdown corresponds with specified dose
- System achieves specified pressure

IV. Comments Date: _____

PROF. GRADE ABOVE SEPTIC TANK = 559.01'

PROP. GRADE ABOVE PUMP TANK = 556.99'

INV. INTO SEPTIC TANK = 556.04'

INV. INTO PUMP TANK = 555.66'

PROP. GRADE ABOVE SEPTIC TANK = 559.01'

PROP. GRADE ABOVE PUMP TANK = 556.99'

INV. INTO SEPTIC TANK = 556.04'

INV. INTO PUMP TANK = 555.66'

PROP. GRADE ABOVE SEPTIC TANK = 559.01'

PROP. GRADE ABOVE PUMP TANK = 556.99'

INV. INTO SEPTIC TANK = 556.04'

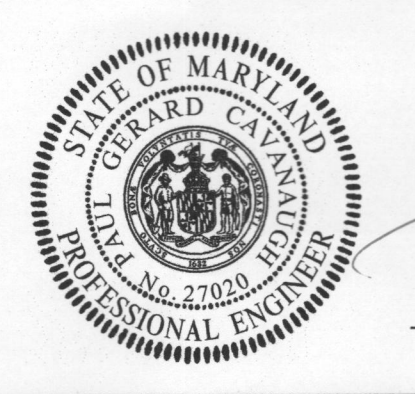
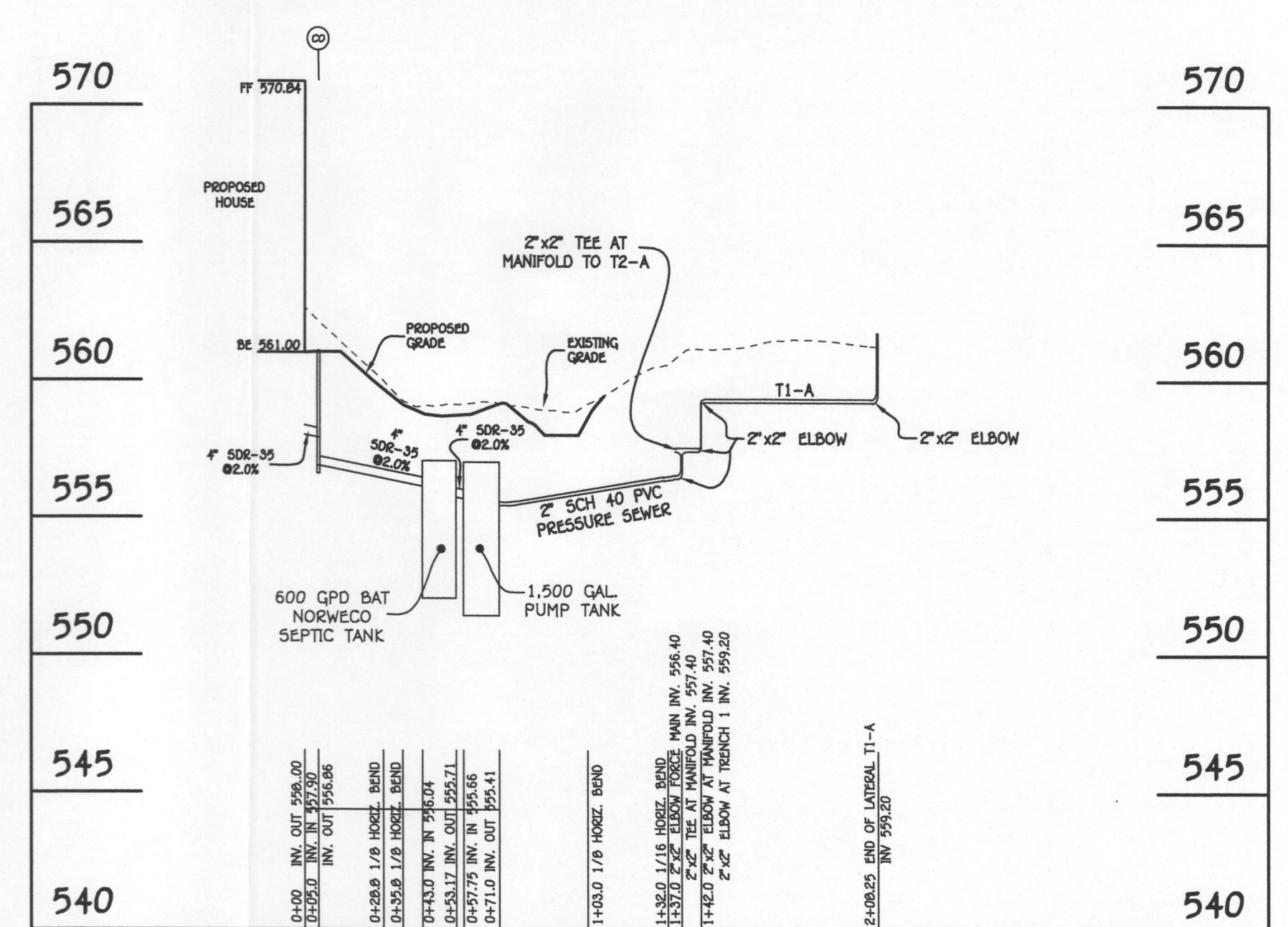
INV. INTO PUMP TANK = 555.66'

PROP. GRADE ABOVE SEPTIC TANK = 559.01'

PROP. GRADE ABOVE PUMP TANK = 556.99'

INV. INTO SEPTIC TANK = 556.04'

INV. INTO PUMP TANK = 555.66'



PROFESSIONAL CERTIFICATION

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. 21020, EXPIRATION DATE: 01/25/25.

PAUL G. CAVANAUGH NOV. 4, 2025 DATE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CONTINENTAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 2895

OWNERS/BUILDERS
 NVR, INC.
 9720 PATUXENT WOODS DRIVE
 COLUMBIA, MD 21046
 443-632-9102

SEPTIC SYSTEM INSTALLATION PLAN
BRICKELL PROPERTY
LOT 2
(1711 BRICKELL WAY)

ZONING: RR-DEO
 GRID No. 1 PARCEL No. 274
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: NOVEMBER, 2025
 SHEET 2 OF 2