

### SOIL EXAMINATION REPORT

SOIL EVALUATOR: TODD M. PILLING, P.E. (SE #1941) DATE: NOV. 16, 2021  
 APPROVING AUTHORITY: KATHLEEN WALDRON, BOARD OF HEALTH AGENT

#### DEEP OBSERVATION HOLE # 1

GROUND ELEV.	DEPTH (IN INCHES)	SOIL HORIZ.	SOIL TEXTURE (MUNSELL)	SOIL COLOR (MUNSELL)	MOTTLING (IN INCHES)	OTHER (% OF GRAVEL, STRUCTURE, STONES, CONSISTENCY ETC)	
176.4	0"-32"	Ap	SANDY LOAM	10 YR 5/2	NONE		
170.9	32"-66"	Bw	SANDY LOAM	10 YR 5/6	NONE		
167.9	66"-102"	C	COARSE SAND	10 YR 5/4	@ 72"	Common, Medium, Distinct Mottling @ 72" - 40% Gravel & Cobbles	
169.6	82"	GROUNDWATER OBSERVED (STANDING WATER IN HOLE)					
170.4	72"	GROUNDWATER OBSERVED (WEeping FROM PIT FACE)					
170.4	72"	GROUNDWATER OBSERVED (MOTTLING)					
N/A	N/A	GROUNDWATER OBSERVED (FRIMPTER)					
176.4	N/A	GROUND SURFACE ELEVATION					

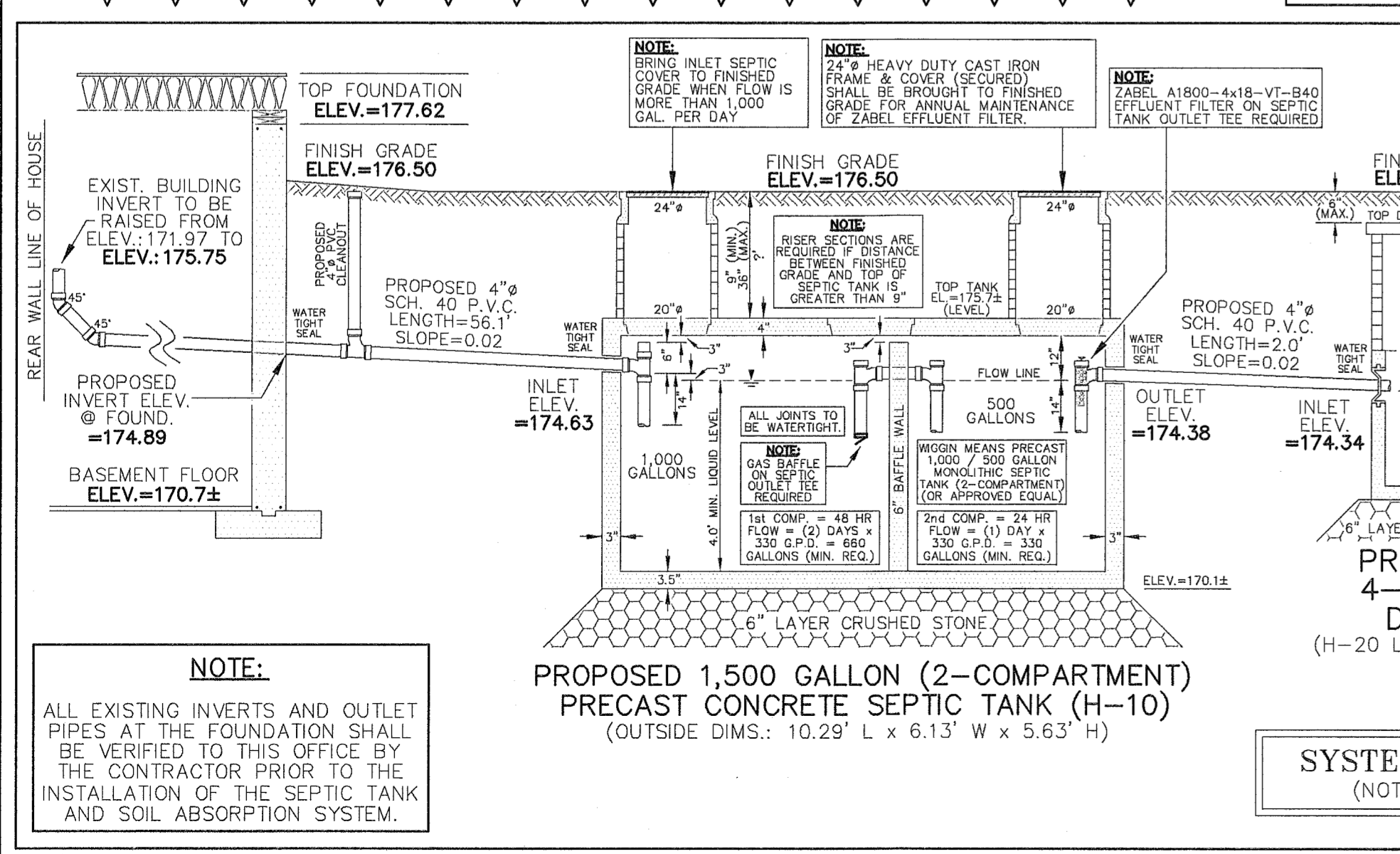
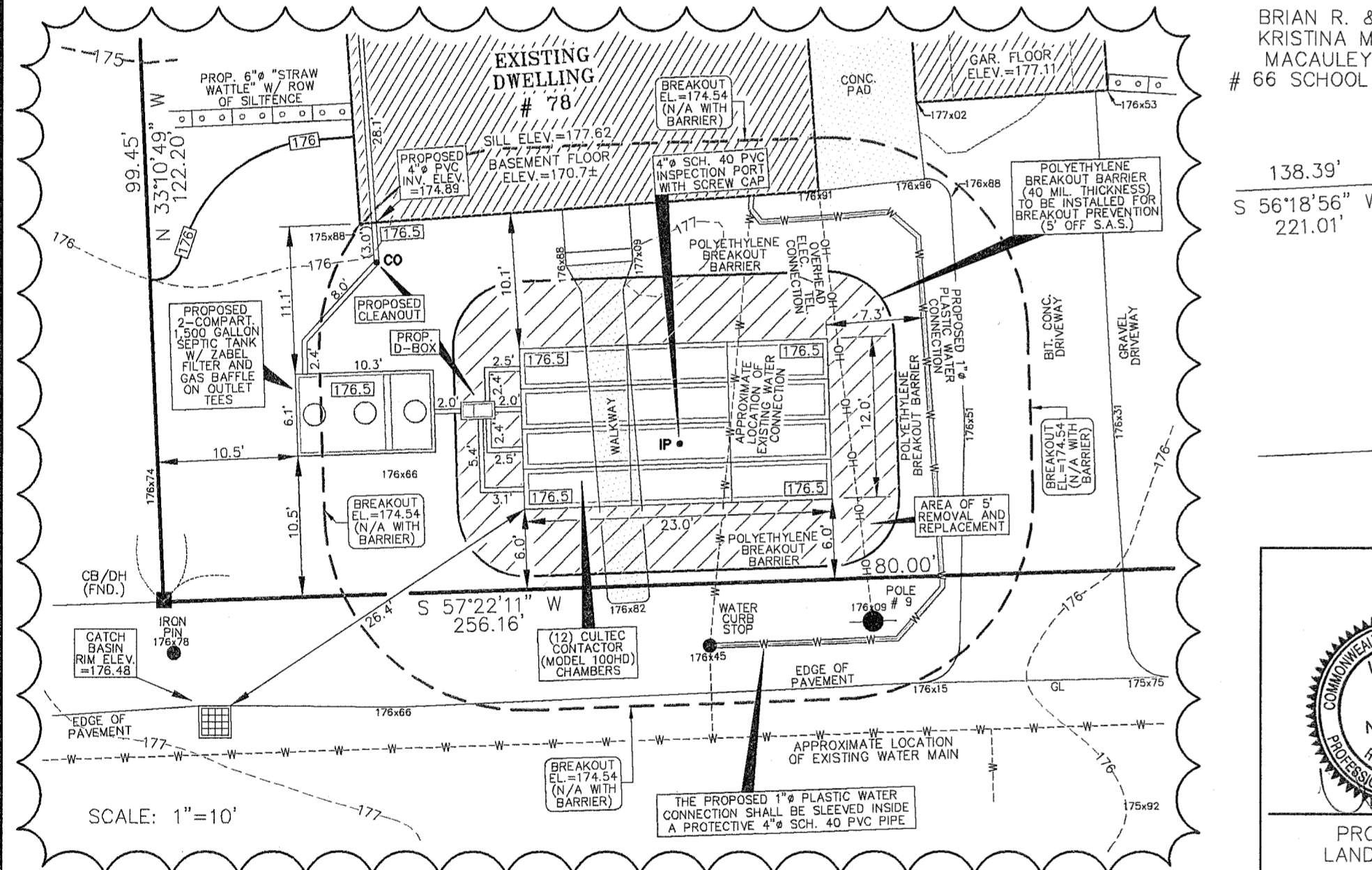
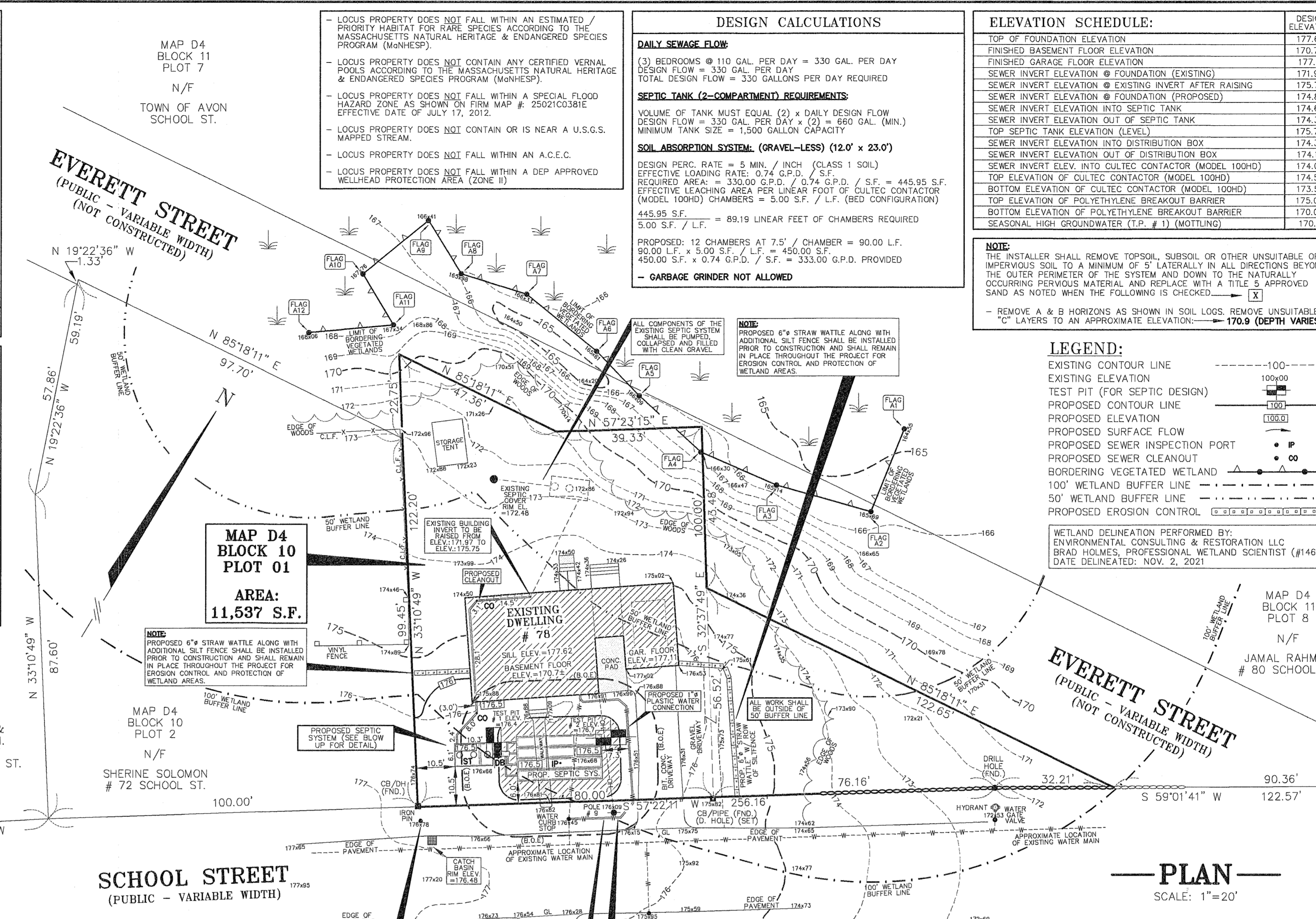
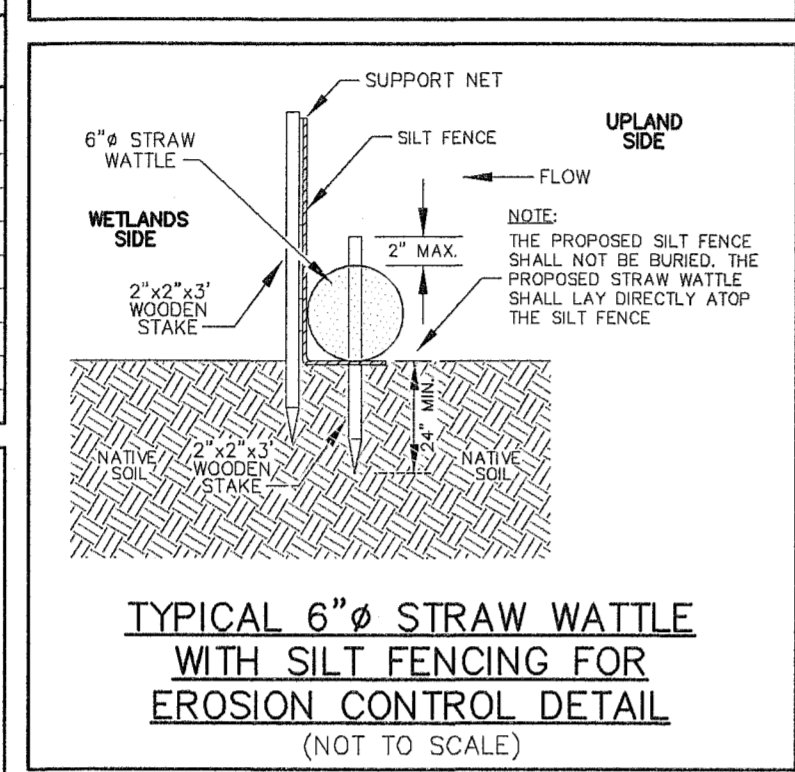
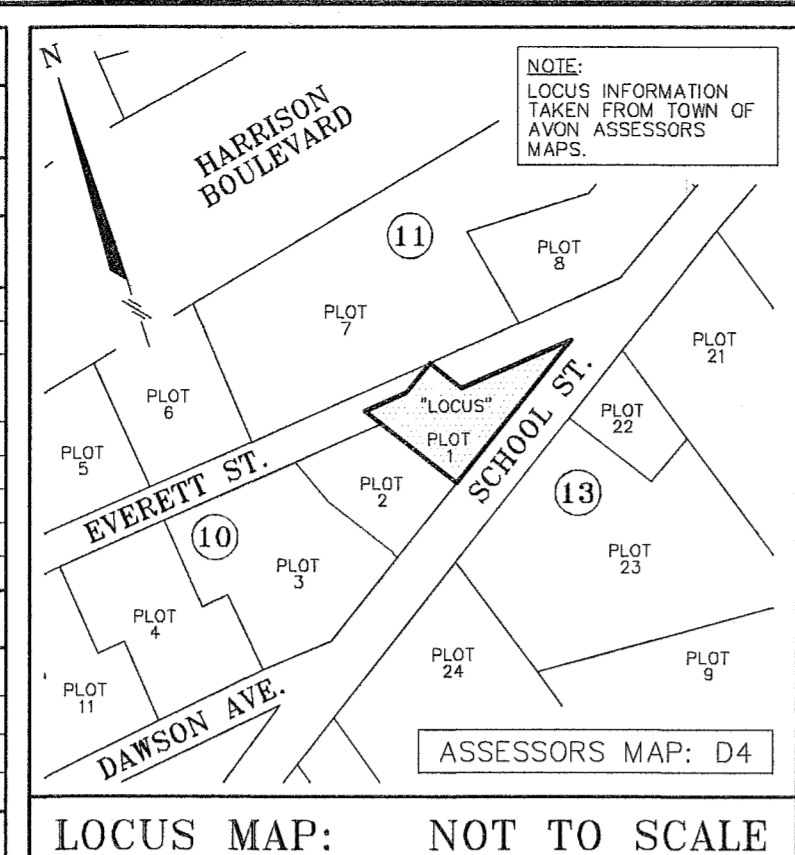
#### PERCOLATION TEST # 1

DEPTH OF PERC SHELF (IN INCHES): 18"-36" ELEVATION: 174.9-173.4  
 START PRE-SOAK: 9:55 END PRE-SOAK: 10:11  
 TIME AT 12": 10:11 TIME AT 9": 10:19 TIME AT 6": 10:31  
 TIME FROM 9" TO 6": 12 M.P.I. PERC RATE: 4 M.P.I.

#### DEEP OBSERVATION HOLE # 2

GROUND ELEV.	DEPTH (IN INCHES)	SOIL HORIZ.	SOIL TEXTURE (MUNSELL)	SOIL COLOR (MUNSELL)	MOTTLING (IN INCHES)	OTHER (% OF GRAVEL, STRUCTURE, STONES, CONSISTENCY ETC)	
176.4	0"-20"	HTM	CLAY (HUMAN TRANS.)	N/A	N/A		
174.7	20"-24"	Ap	SANDY LOAM	10 YR 5/6	NONE		
167.7	24"-36"	Bw	SANDY LOAM	10 YR 5/6	NONE		
167.3	36"-84"	C	COARSE SAND	10 YR 5/4	NONE	40% Cobbles & Gravel	
N/A	N/A	GROUNDWATER OBSERVED (STANDING WATER IN HOLE)					
N/A	N/A	GROUNDWATER OBSERVED (WEeping FROM PIT FACE)					
N/A	N/A	GROUNDWATER OBSERVED (MOTTLING)					
N/A	N/A	GROUNDWATER OBSERVED (FRIMPTER)					
> 167.7	> 84"	NO GROUNDWATER OBSERVED (BOTTOM HOLE)					
176.7	N/A	GROUND SURFACE ELEVATION					

- #### TITLE 5 LOCAL B.O.H. UPGRADE WAIVER REQUESTS:
- 310 CMR 15.405 (1)(c): REDUCTION OF THE SEPARATION BETWEEN SOIL ABSORPTION SYSTEM AND PROPERTY LINE (10' REQUESTED WITH INSTALLATION OF POLYETHYLENE BREAKOUT BARRIER)
  - 310 CMR 15.405 (1)(d): REDUCTION OF THE SEPARATION BETWEEN SOIL ABSORPTION SYSTEM AND CELLAR WALL (10' REQUESTED WITH INSTALLATION OF POLYETHYLENE BREAKOUT BARRIER)
  - 310 CMR 15.405 (1)(g): REDUCTION OF SYSTEM LOCATION SETBACKS FROM WATER SUPPLY LINES (10' REQUESTED WITH THE PROPOSED WATER SUPPLY LINE BEING INSTALLED INSIDE A PROTECTIVE 4" PVC SLEEVE)
  - 310 CMR 15.405 (1)(h)(2): REDUCTION OF SEPARATION BETWEEN HIGH GROUNDWATER ELEVATION AND BOTTOM OF PROPOSED SOIL ABSORPTION SYSTEM (4' REQUESTED, 3' REQUESTED)



#### DESIGN CALCULATIONS

##### DAILY SEWAGE FLOW:

(3) BEDROOMS @ 110 GAL. PER DAY = 330 GAL. PER DAY  
 FINISHED FLOOR ELEVATION = 177.11  
 FINISHED GARAGE FLOOR ELEVATION = 177.11  
 SEWER INVERT ELEVATION @ FOUNDATION (EXISTING) = 171.97  
 SEWER INVERT ELEVATION @ EXISTING INVERT AFTER RAISING = 175.75  
 SEWER INVERT ELEVATION @ FOUNDATION (PROPOSED) = 174.89  
 SEWER INVERT ELEVATION INTO SEPTIC TANK = 174.83  
 SEWER INVERT ELEVATION OUT OF SEPTIC TANK = 174.38  
 TOP SEPTIC TANK ELEVATION (LEVEL) = 175.75  
 SEWER INVERT ELEVATION INTO DISTRIBUTION BOX = 174.34  
 SEWER INVERT ELEVATION OUT OF DISTRIBUTION BOX = 174.17

##### SEPTIC TANK (2-COMPARTMENT) REQUIREMENTS:

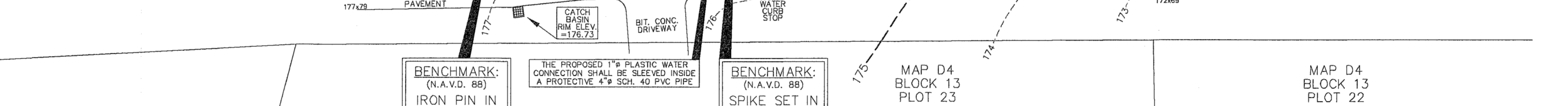
VOLUME OF TANK MUST EQUAL (2) x DAILY DESIGN FLOW  
 DESIGN FLOW = 330 GAL. PER DAY x (2) = 660 GAL. (MIN.)  
 MINIMUM TANK SIZE = 1,500 GALLON CAPACITY

##### SOIL ABSORPTION SYSTEM: (GRAVEL-LESS) (12'0\"/>

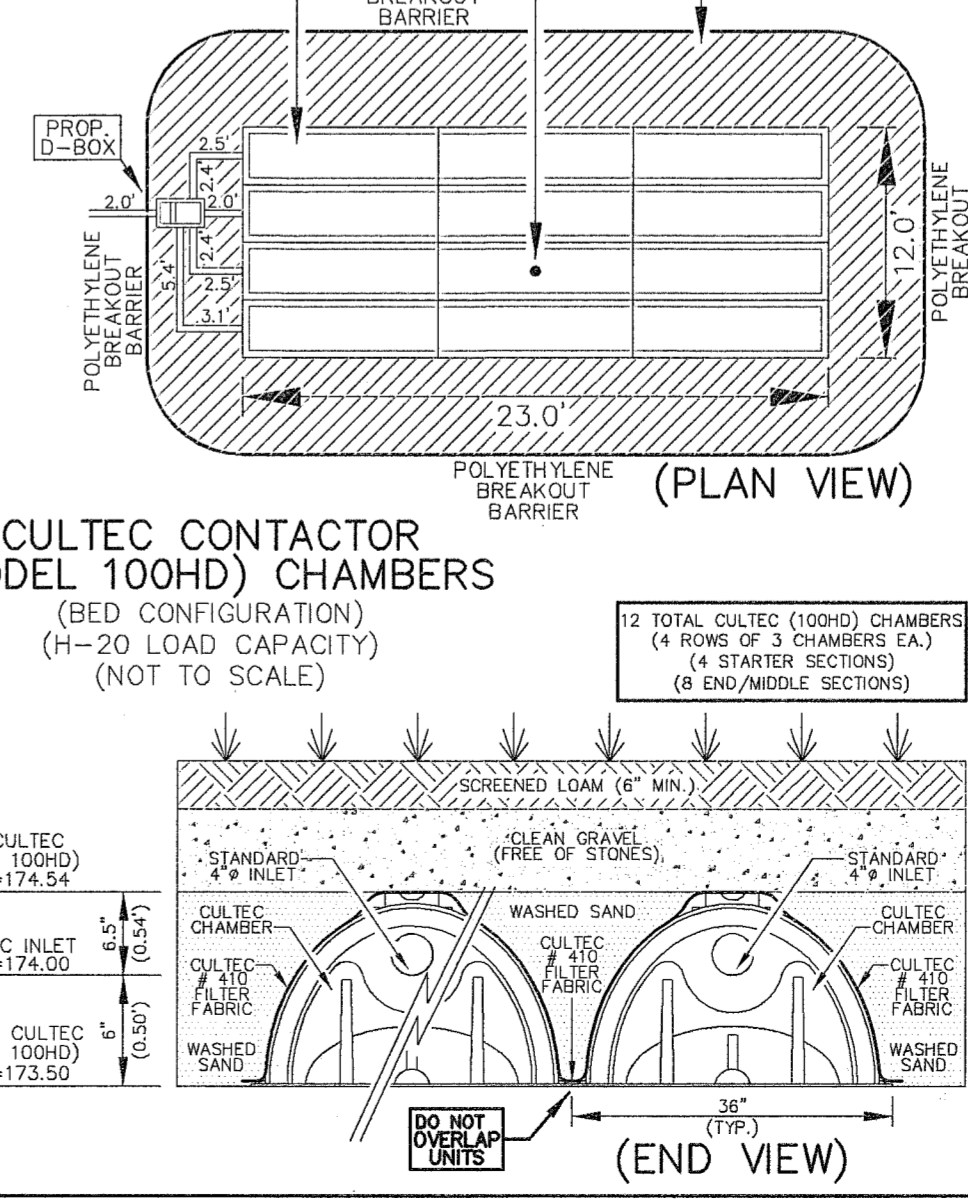
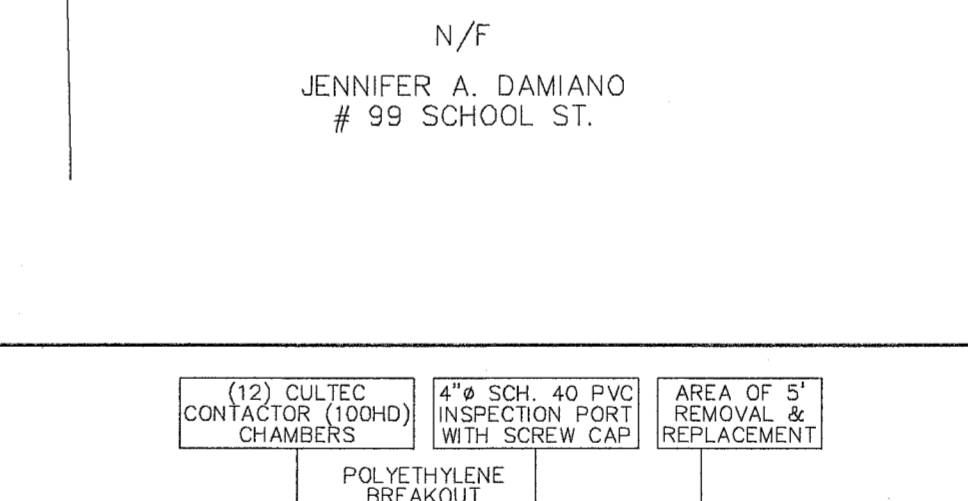
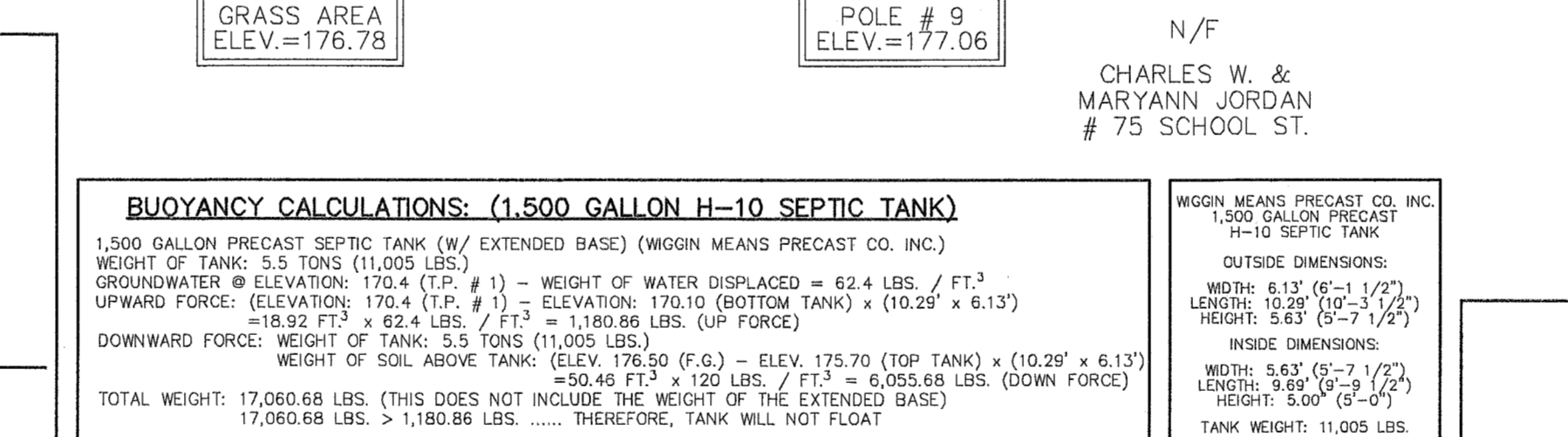
#### ELEVATION SCHEDULE:

ITEM	DESIGN ELEVATION
TOP OF FOUNDATION	177.82
FINISHED BASEMENT FLOOR ELEVATION	170.72
FINISHED GARAGE FLOOR ELEVATION	177.11
SEWER INVERT ELEVATION @ FOUNDATION (EXISTING)	171.97
SEWER INVERT ELEVATION @ EXISTING INVERT AFTER RAISING	175.75
SEWER INVERT ELEVATION @ FOUNDATION (PROPOSED)	174.89
SEWER INVERT ELEVATION INTO SEPTIC TANK	174.83
SEWER INVERT ELEVATION OUT OF SEPTIC TANK	174.38
TOP SEPTIC TANK ELEVATION (LEVEL)	175.75
SEWER INVERT ELEVATION INTO DISTRIBUTION BOX	174.34
SEWER INVERT ELEVATION OUT OF DISTRIBUTION BOX	174.17
SEWER INVERT ELEV. INTO CULTEC CONTACTOR (MODEL 100HD)	174.00
TOP ELEVATION OF CULTEC CONTACTOR (MODEL 100HD)	174.54
BOTTOM ELEVATION OF CULTEC CONTACTOR (MODEL 100HD)	173.50
TOP ELEVATION OF POLYETHYLENE BREAKOUT BARRIER	175.02
BOTTOM ELEVATION OF POLYETHYLENE BREAKOUT BARRIER	170.02
SEASONAL HIGH GROUNDWATER (T.P. # 1) (MOTTLING)	170.4

- #### GENERAL NOTES:
- THIS PLAN IS NOT INTENDED TO ESTABLISH PROPERTY LINES OR LAND OWNERSHIP.
  - THIS PLAN IS NOT TO BE RECORDED AT THE REGISTRY OF DEEDS.
  - THIS PLAN MAKES NO REPRESENTATIONS AS TO WETLAND AREAS EXCEPT AS NOTED.
  - THERE ARE NO SURFACE WATER SUPPLY OR GRAVEL PACKED WELLS WITHIN 400' AND TUBULAR PUBLIC WELLS WITHIN 250' AND NO PRIVATE POTABLE WELLS WITHIN 150' OF THE PROPOSED SANITARY SYSTEM.
- #### DESIGN SPECIFICATIONS:
- (NOTICE TO THE INSTALLING CONTRACTOR:)
- THE SANITARY DISPOSAL FACILITY SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF 310 CMR 15.000 OF THE STATE ENVIRONMENTAL CODE TITLE 5: MINIMUM REQUIREMENTS FOR THE SUBSIDIARY DISPOSAL OF SANITARY SEWAGE AS WELL AS LOCAL BOARD OF HEALTH MUNICIPAL AND REGIONAL REQUIREMENTS. NO VARIATIONS FROM THIS PLAN SHALL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THIS OFFICE.
  - SOIL CONDITIONS CAN VARY - WATER TABLE ELEVATION AND THE LIMITS OF ACCEPTABLE SOIL MUST BE VERIFIED PRIOR TO INSTALLATION OF THE SYSTEM.
  - LOCATIONS OF UNDERGROUND UTILITIES ARE TAKEN FROM THE BEST AVAILABLE INFORMATION AND IS NOT WARRANTED TO BE CORRECT NOR THAT ALL UNDERGROUND UTILITIES ARE SHOWN. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY DIG-SAFE, MASSACHUSETTS STATE LAW REQUIRES THAT ANYONE WHO EXCAVATES ON PUBLIC OR PRIVATE PROPERTY MUST NOTIFY UTILITY COMPANIES AT LEAST 72 HOURS BEFORE DIGGING - EXCEPT IN AN EMERGENCY. THE EXPENSE OF REPAIRING DAMAGED FACILITIES GOES TO THOSE RESPONSIBLE FOR DAMAGING THEM. NOTIFY DIG-SAFE TO MARK FACILITIES ON THE GROUND PRIOR TO EXCAVATING. ("DIG-SAFE": 811)
  - ALL BENCHMARKS SHOWN ON THIS PLAN ARE TO BE CHECKED FOR CONSISTENCY BY THE CONTRACTOR. ANY DISCREPANCIES MUST BE RESOLVED BY THIS OFFICE.
  - FILL MATERIAL TO CONFORM WITH THE LATEST REQUIREMENTS OF 310 CMR 15.255. THE INSTALLER IS FULLY RESPONSIBLE FOR HAVING A SOIL ANALYSIS PERFORMED ON THE FILL MATERIALS. A COPY OF THE PLOT OF THE SOIL ANALYSIS SHALL BE PROVIDED TO THE DESIGN ENGINEER AND THE BOARD OF HEALTH PRIOR TO THE INSTALLATION OF THE SYSTEM. THE DESIGN IS INTENDED TO MEET TITLE 5 AND OTHER APPLICABLE REQUIREMENTS. THE PREPARATION OF THIS PLAN DOES NOT GUARANTEE THAT THE SYSTEM WILL BE INSTALLED AS DESIGNED, NOR DOES THIS PLAN GUARANTEE THE OPERATION OF THE SYSTEM.
  - IT IS THE INTENT OF THIS DESIGN THAT ALL MATERIALS AND CONSTRUCTION BE IN CONFORMANCE WITH TITLE 5. ANY SUBSTITUTIONS OR DEVIATIONS MUST BE APPROVED PRIOR TO INSTALLATION.
  - IF ANY PORTION OF THE EXISTING SEPTIC SYSTEM IS ENCOUNTERED DURING CONSTRUCTION, THAT PORTION OF THE SYSTEM IS TO BE REMOVED ALONG WITH ANY CONTAMINATED MATERIAL AND DISPOSED OF PROPERLY.
  - ANY EXISTING CESSPOOLS ARE TO BE PUMPED, COLLAPSED AND FILLED IN WITH CLEAN GRAVEL.
  - ALL PIPING SHALL BE SCHEDULE 40 P.V.C. (UNLESS NOTED OTHERWISE).
  - ALL BUILDING SEWERS SHALL BE CONNECTED TO SEPTIC TANK.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTING EXISTING LAUNDRY FLOW TO INTERIOR SEPTIC PLUMBING.
  - SEPTIC TANKS, GREASE TRAPS AND PUMP CHAMBERS SHALL BE PRECAST REINFORCED WATERPROOF CONCRETE (4,000 P.S.I. AT 28 DAYS) WITH SUITABLE WATERPROOFING MATERIALS. SEPTIC TANKS SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE (4,000 P.S.I. AT 28 DAYS) WITH SUITABLE WATERPROOFING MATERIALS. DISTRIBUTION BOXES SHALL BE A PRE-CAST CONCRETE WATER TIGHT STRUCTURE WITH A Baffle AND SUFFICIENT PIPE PENETRATION KNOCKOUTS.
  - ZABEL A1800 FILTER SHALL BE REQUIRED AT OUTLET TEE OF SEPTIC TANK.
  - CAST IRON FRAMES AND COVERS (WHEN REQUIRED), SHALL BE MEDIUM DUTY OR HEAVY DUTY IN TRAFFIC AREAS.
  - DISTRIBUTION BOXES SHALL BE A PRE-CAST CONCRETE WATER TIGHT STRUCTURE WITH A Baffle AND SUFFICIENT PIPE PENETRATION KNOCKOUTS.
  - LEACHING AREA REQUIREMENT IS NOT INCREASED BY 50% THEREFORE THE DESIGN OF THIS SYSTEM DOES NOT PERMIT THE USE OF GARAGE DISPOSAL UNITS.
  - ALL SOIL ABSORPTION SYSTEMS SHALL HAVE A MINIMUM OF ONE (1) INSPECTION POINT CONSISTING OF A PERFORATED FOUR (4) INCH DIAMETER PIPE PLACED VERTICALLY DOWN INTO THE STONE TO THE NATURALLY OCCURRING SOIL OR SAND FILL BELOW THE STONE. THE PIPE SHALL BE CAPPED WITH A SCREW TYPE CAP BE ACCESSIBLE TO WITHIN THREE (3) INCHES OF FINISH GRADE.
  - ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
  - AN AS-BUILT SURVEY OF THE INSTALLED SYSTEM IS REQUIRED. THIS OFFICE SHALL BE NOTIFIED PRIOR TO THE BACKFILLING OF THE SYSTEM COMPONENTS FOR OUR INSPECTION AND FIELD LOCATIONS.
  - A FINAL TOPOGRAPHIC AS-BUILT IS REQUIRED BY THE BOARD OF HEALTH PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF COMPLIANCE. THIS AS-BUILT IS FOR COMPLETION OF THE SURFACE RESTORATION ONLY AND DOES NOT REPRESENT COMPLETION OF THE SURFACE RESTORATION OR RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES FOR THE COMPLETION OF HIS WORK.



PROFESSIONAL LAND SURVEYOR: WILLIAM P. SELF, No. 8126  
 PROFESSIONAL ENGINEER: TODD M. PILLING, No. 4159



#### ZONING DISTRICT: RESIDENCE-SUBURBAN B ("RES R-40")

MINIMUM LOT SIZE: 40,000 S.F.  
 MINIMUM LOT AREA PER DWELLING UNIT: 40,000 S.F.  
 MINIMUM LOT FRONTAGE: 200'  
 MINIMUM LOT WIDTH: N/A  
 MINIMUM LOT DEPTH: N/A  
 MINIMUM LOT SETBACKS: FRONT YARD = 35'  
 SIDE YARD = 20'  
 REAR YARD = 40'

MAXIMUM BUILDING HEIGHT: 35'  
 MAXIMUM LOT COVERAGE BY STRUCTURE: 35%

PARKING REQUIREMENTS: 2 SPACES PER DWELLING UNIT  
 ASSESSORS MAP: D4 BLOCK 10 PLOT 1

F.E.M.A. FLOOD HAZARD INFORMATION:  
 F.I.R.M. MAP COMMUNITY #: 250231  
 PANEL #: 0381  
 SUFFIX: E  
 MAP #: 25021C0381E  
 EFFECTIVE DATE: JULY 17, 2012  
 ZONE: X

- LOCUS PROPERTY FALLS WITHIN TOWN OF AVON WATER SUPPLY PROTECTION DISTRICT

OWNER ON RECORD: KENNETH A. WAITT, TRUSTEE  
 KENNETH A. WAITT REALTY TRUST  
 # 8 INDIAN COVE WAY  
 SOUTH EASTON, MA. 02375

DEED REFERENCE: BOOK: 9318 PAGE: 303  
 PLAN REFERENCE: "SUBDIVISION PLAN OF LAND IN AVON, MASS.;"  
 JOHN J. CURLEY, SURVEYOR; SCALE: 1"=20';  
 FEB. 8, 1964

#### "SEPTIC SYSTEM DESIGN (REPAIR)"

#### SITE PLAN OF LAND IN AVON, MA.

#### # 78 SCHOOL STREET - AVON, MA.

PREPARED FOR: KENNETH A. WAITT, TRUSTEE  
 KENNETH A. WAITT REALTY TRUST  
 # 8 INDIAN COVE WAY  
 SOUTH EASTON, MA. 02375

DATE: JAN. 3, 2022 SCALE: 1"=20'

CURLEY & HANSEN SURVEYORS  
 160 Pond St. Avon, Ma.  
 (508) 580-2117