

SCHEDULE OF ELEVATIONS

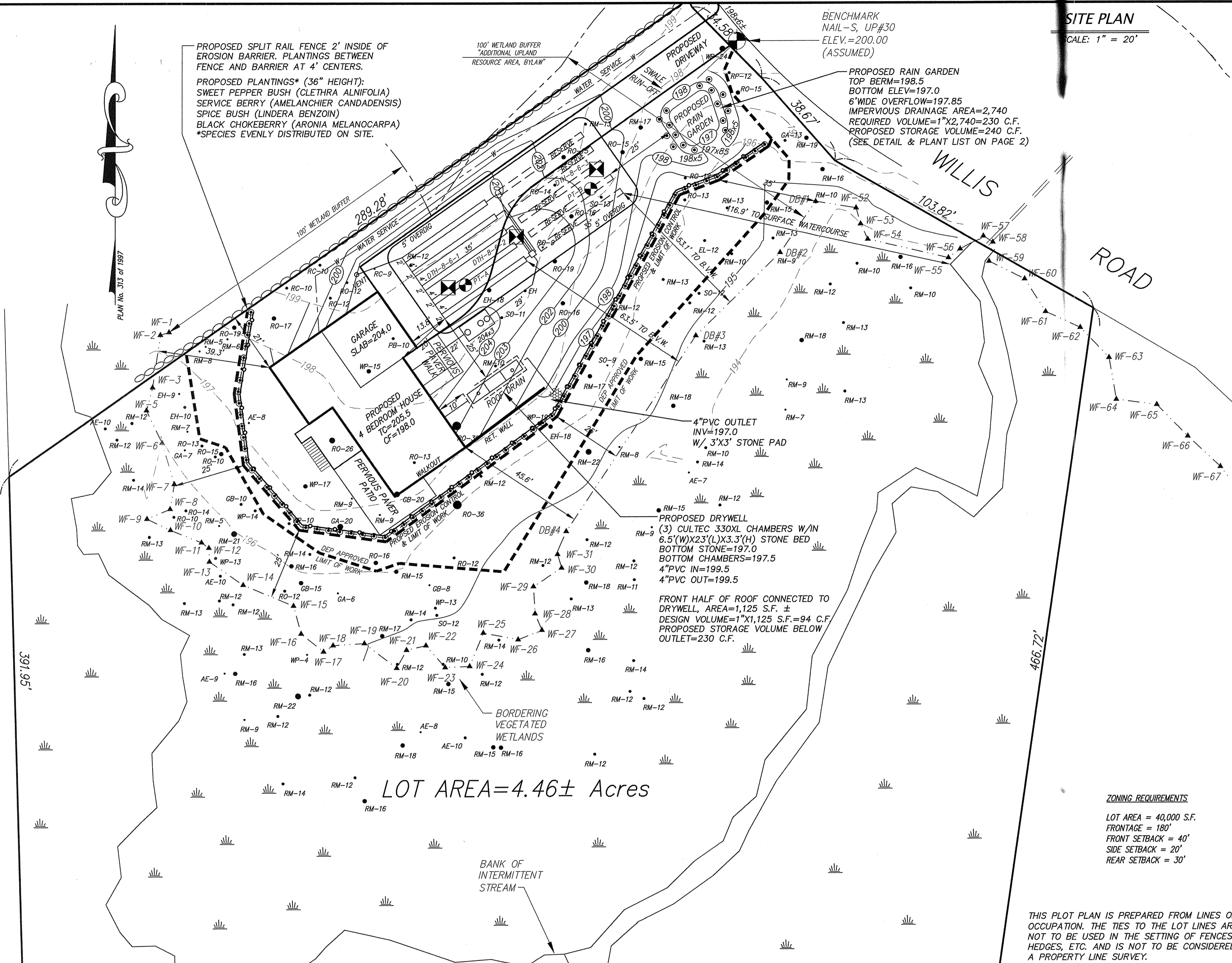
TOP OF FOUNDATION T.C. =	205.5
BASEMENT FLOOR FIN. C.F. =	198.0
INVERT OF PIPE AT FOUNDATION =	203.0
INVERT AT SEPTIC TANK INLET =	202.6
INVERT AT SEPTIC TANK OUTLET =	202.4
INVERT AT DISTRIBUTION BOX INLET =	202.1
INVERT AT DISTRIBUTION BOX OUTLET =	201.9
INVERT AT LEACHING LINES (BEGINNING) =	201.7
INVERT AT LEACHING LINES (END) =	201.5
ELEVATION OF TRENCH BOTTOM =	199.5
FINISH GRADE OVER LEACHING AREA =	204-203

DESIGN CRITERIA

- ESTIMATED FLOW = 4 BDRMS X 110 GPD/BR=440 GPD
- DESIGN PERCOLATION RATE = 15 MPI
- LEACHING AREA CALCULATION =
TOWN REGULATIONS LEACH AREA REQUIREMENT:
15 MPI REQUIRES 170 S.F. OF SIDEWALL PER BEDROOM 4x10=688 S.F. REQ'D.
SA=10(2'X39') = 780 S.F. > 1050 S.F.(0.56 GPD/SF)=588 GPD
BA=5(2'X39') = 390 S.F.

STORMWATER RECHARGE CALCULATIONS:
TOTAL IMPERVIOUS = 4,985 S.F.
REQUIRED RECHARGE (SOIL GROUP A) = 4,985 S.F. X 0.6 INCHES=250 C.F.
AREA ADJUSTMENT=TOTAL IMPERVIOUS/COLLECTED=4,985/3,865=1.3
TOTAL REQUIRED = 250 C.F. X 1.3 = 325 C.F.
TOTAL RECHARGE PROVIDED = 460 C.F.
(RAIN GARDEN=300 C.F. DRYWELL=160 C.F.)

STORMWATER TREATMENT CALCULATIONS:
DRIVEWAY AREA=2,740 S.F.
REQUIRED VOLUME=1 INCH X 2,740=230 C.F.
PROPOSED STORAGE VOLUME=300 C.F.



GENERAL NOTES:

- Contractor shall call Digsafe at (888) 344-7233 a minimum of 72 hours prior to commencing any construction activities on site.
- Inspections by Design Engineer and Board of Health are as required by the Board of Health.
- This plan was prepared for the design of the subsurface sewage disposal system only and is based on the subsurface explorations and percolation tests listed below.
- Subsate sanitary sewage associated with normal domestic usage, consisting of water carried putrescible waste, and for flows indicated in the design criteria.
- The system must be vented through the buildings plumbing in accordance with the state building code.
- Plans show only features that were visually apparent on the date of the topographic survey, and the absence of subsurface structures, utilities, etc. is not guaranteed.
- Contractor to determine if site conditions are suitable for construction of proposed system, and must promptly notify the Design Engineer and Owner, in writing, of any plan deficiencies, unforeseen subsurface conditions, or required changes.
- There are no wells located within 100 feet of the proposed leaching area or within 100 feet of the proposed septic tank (except as shown).
- The subject property is not located within a Zone II of a public drinking water supply well.
- All construction is to conform to the requirements of the Massachusetts Environmental Code, Title V, and the town of SUDBURY Board of Health regulations.
- There are no bordering vegetated wetlands, inland banks, or surface waters within 100' of the proposed system.
- There are no surface or subsurface drains which are used to lower the ground water.
- All elevations refer to TBM U-POLE#30 NAIL EL.=200.0
- For proper performance, septic tank should be pumped annually.
- System cannot be backfilled or concealed until design firm and board of health have inspected the system and permit to backfill has been given.
- Design firm must prepare and submit "As-Built" plan to Board of Health. This plan must certify that the system was installed in accordance with state and local regulations and that it complies with the proposed plan.
- Property lines and area are not to be used for boundary survey purposes. Surface features and topography outside of work area are approximate.
- System is not designed to accommodate a garbage grinder.

TECHNICAL NOTES:

- Building sewer shall be in accordance with state plumbing code and have a minimum of 4" of cover in landscaped areas. A minimum of 12" of cover and/or appropriate sleeving shall be used in areas subject to vehicular traffic.
- All tanks, including septic tanks, distribution boxes, dosing chambers, and grease traps shall be either watertight through manufacturer's specification and warranty, or made watertight by the manufacturer or other individual by means and persons as approved in 310 CMR 15.221. Septic tank shall be constructed and placed in accordance with 310 CMR 15.223 through 310 CMR 15.228.
- Septic tanks shall have at least three (3) 20" manholes with at least one (1) of these manholes located no more than 6" below finish grade. (Systems over 1,000 gpd shall have access ports at both the inlet and outlet tees.)
- Distribution box ("d-box") shall be of watertight construction, installed level on a firm base, and installed in accordance with 310 CMR 15.232.
- Septic tank covers and d-box are to be brought within 6" and 12" of finish grade respectively by the use of riser sections.
- When the soil absorption system (SAS) is to be dosed or the slope of the inlet pipe exceeds 0.08 feet per foot, an inlet tee, baffle or splash plate extending to one inch above the outlet invert must be provided to dissipate velocity of the influent.
- When the SAS is installed within the top and subsoil layers or above natural grade, all topsoil and subsoil shall be removed below and laterally a minimum of 3 feet surrounding the SAS. Removed material shall be replaced with clean granular material in accordance with 310 CMR 15.255(3).
- All disturbed areas shall be loamed, seeded, and maintained so as to prevent erosion.
- All native soil interfaces which will contact the SAS shall be scarified prior to placement of stone.

PERCOLATION TESTS

HOLE NO. & DATE	TOP ELEVATION	DEPTH (In.)	SATURATION (Min.)	12"-9" DROP (Min.)	9"-6" DROP (Min.)	PERC. RATE (Min./In.)
PT-A 8-6-15	198.5	40"	15 MIN	40 MIN	45 MIN	15 MIN/IN
PT-B 8-6-15	198.2	41"	15 MIN	13 MIN	23 MIN	8 MIN/IN

DEEP OBSERVATION HOLE LOG

NO. DATE & ELEV.	DEPTH (In.)	SOIL HORIZON	TEXTURE (USDA)	COLOR (MUNSELL)	SOIL MOTTLING	OTHER
DTH-1 8-6-15 198.5	0-9" 9-31" 31-106"	Ap Bw C1	SANDY LOAM LOAMY SAND SANDY LOAM	10YR3/2 10YR6/6 10YR5/4		37"

PARENT MATERIAL: GLACIAL TILL DEPTH TO BEDROCK: - STANDING WATER: 78" KEEPING FROM PIT FACE: - ESHWT: 195.4

DTH-2 8-6-15 198.7

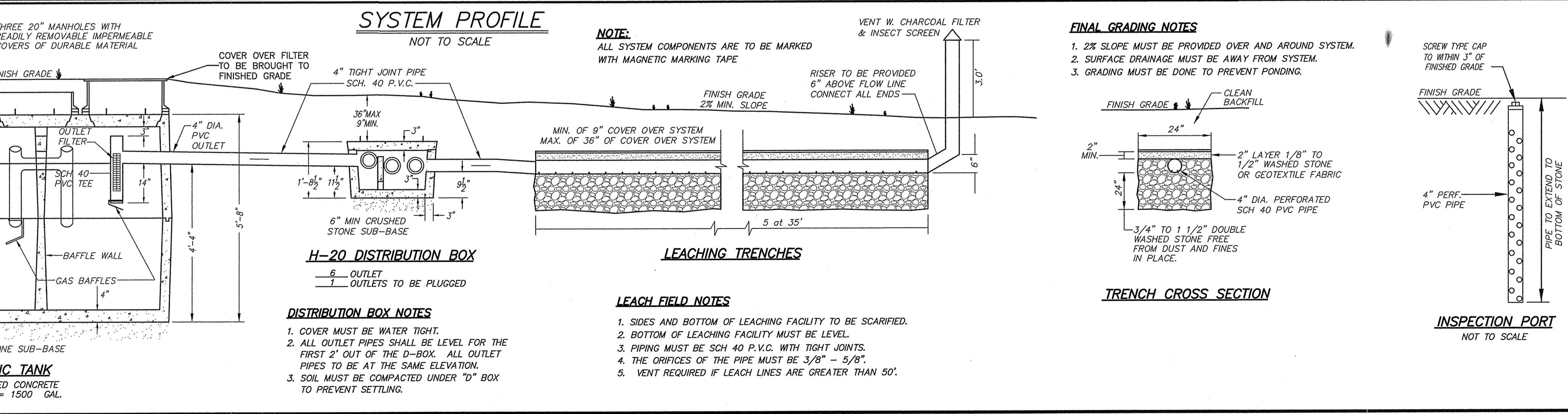
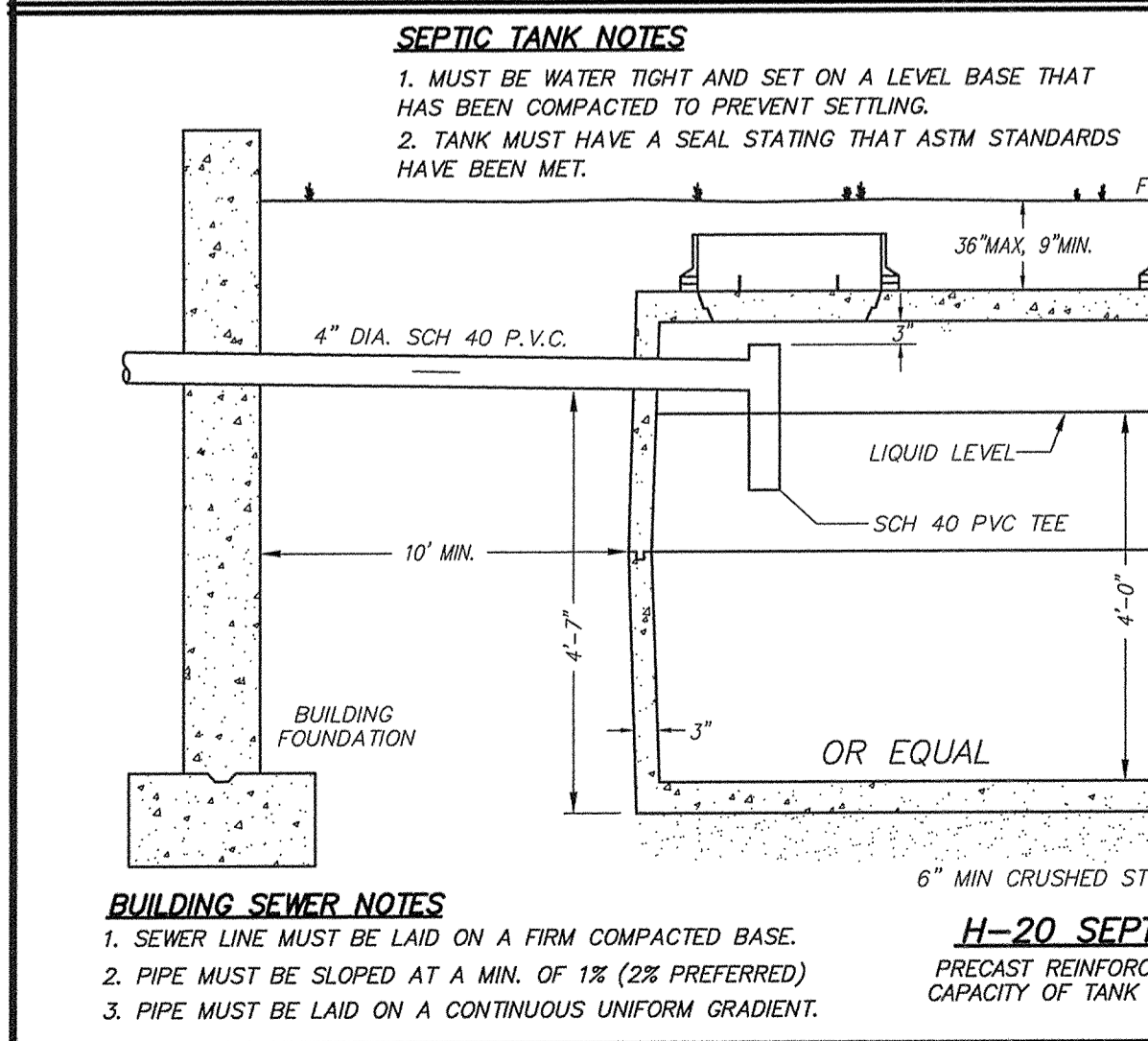
0-11"	Ap	SANDY LOAM	10YR3/2		
11-29"	Bw	LOAMY SAND	10YR6/6		41"
29-110"	C1	SANDY LOAM	10YR5/4		

PARENT MATERIAL: GLACIAL TILL DEPTH TO BEDROCK: - STANDING WATER: 80" KEEPING FROM PIT FACE: - ESHWT: 195.4

DTH-3 8-6-15 198.5

0-10"	Ap	SANDY LOAM	10YR3/2		
10-37"	Bw	LOAMY SAND	10YR6/6		37"
37-101"	C1	SANDY LOAM	10YR5/4		

TESTS CONDUCTED BY: MIKE SULLIVAN
TESTS OBSERVED BY: BILL MURPHY
DATE: 8-6-15



FINAL GRADING NOTES

- 2% SLOPE MUST BE PROVIDED OVER AND AROUND SYSTEM.
- SURFACE DRAINAGE MUST BE AWAY FROM SYSTEM.
- GRADING MUST BE DONE TO PREVENT PONDING.

APPLICANT
MICHAEL MERULLO

LOCATION
LOT 178 WILLIS ROAD
SUDBURY, MA
ASSESSORS MAP E07 & PARCEL 178

NO.	DATE	REVISION	BY
2	1/2/2018	REVISED LIMIT OF WORK	VC
1	7/3/2017	CONSERVATION ITEMS	RM

PROPOSED SEWAGE DISPOSAL SYSTEM
SULLIVAN, CONNORS AND ASSOCIATES
LAND SURVEYING AND CIVIL ENGINEERING
121 BOSTON POST RD. SUDBURY, MA. 01776
PHONE: 978-443-9566 FAX: 978-443-8915

DATE: 3-3-16 SHEET 1 OF 2