

LOCUS MAP

SCALE: 1" = 1,500'

CALCULATIONS:

HYDRAULIC LOADING:

FOUR (4) BEDROOMS AT 110 GALLONS PER DAY PER BEDROOM = 440 GALLONS PER DAY.

SEPTIC TANK SIZE:

AVERAGE DAILY FLOW = 440 G.P.D.
MINIMUM STORAGE REQUIRED:
COMPARTMENT #1 = 440 G.P.D. X 200% = 880 GALLONS
COMPARTMENT #2 = 440 G.P.D. X 100% = 440 GALLONS
SEPTIC TANK PROVIDED = 1500 GALLON, 2 COMPARTMENT (1,000/500)

PRIMARY LEACHING AREA (PRESBY ENVIRONMENTAL, INC.):

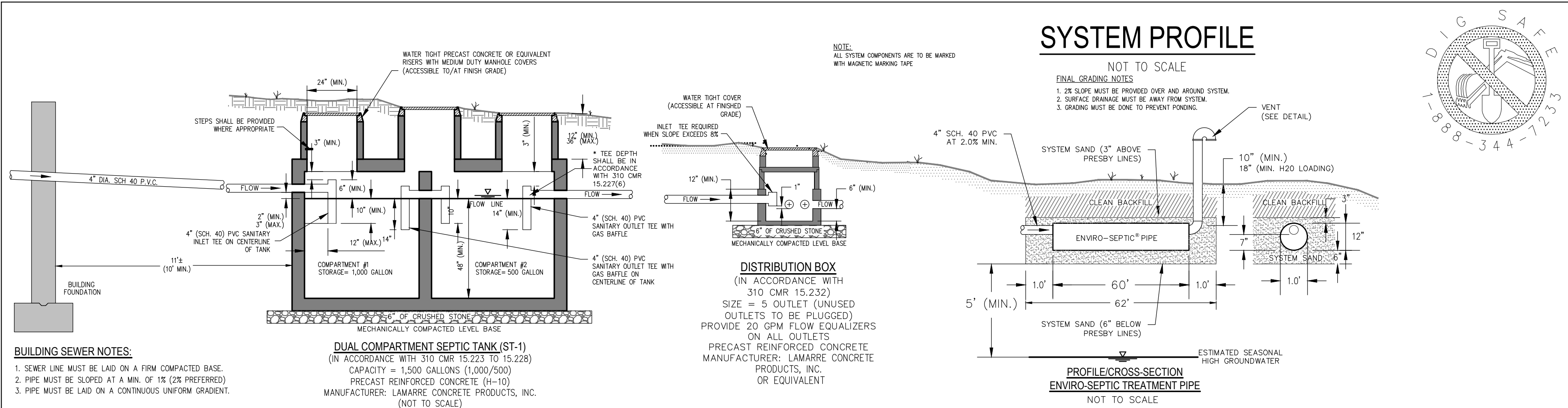
DESIGN PERCOLATION RATE = 2 N/I (SOIL CLASS II)
SLOPE ACROSS SYSTEM = 10%
LINEAL FOOTAGE REQUIRED = 280 L.F. (TABLE A - DESIGN REFERENCE GUIDE-REV. SEPT. 2019)
LINEAL FOOTAGE PROVIDED = 300 L.F. (6' - 50' LINES)
MINIMUM CENTER TO CENTER SPACING REQUIRED = 1.50 FEET
CENTER TO CENTER SPACING PROVIDED = 1.50 FEET
MINIMUM SAND BED REQUIRED = 546 S.F. (TABLE D - DESIGN REFERENCE GUIDE-REV. SEPT. 2019)
SAND BED PROVIDED = 546 S.F. (52' x 10.5')

RESERVE LEACHING AREA (PRESBY ENVIRONMENTAL, INC.):

DESIGN PERCOLATION RATE = 2 N/I (SOIL CLASS II)
SLOPE ACROSS SYSTEM = 10%
LINEAL FOOTAGE REQUIRED = 280 L.F. (TABLE A - DESIGN REFERENCE GUIDE-REV. SEPT. 2019)
LINEAL FOOTAGE PROVIDED = 300 L.F. (6' - 50' LINES)
MINIMUM CENTER TO CENTER SPACING REQUIRED = 1.50 FEET
CENTER TO CENTER SPACING PROVIDED = 1.50 FEET
MINIMUM SAND BED REQUIRED = 546 S.F. (TABLE D - DESIGN REFERENCE GUIDE-REV. SEPT. 2019)
SAND BED PROVIDED = 546 S.F. (52' x 10.5')

SCHEDULE OF ELEVATIONS:

SYSTEM ELEVATIONS:				PIPE DATA:			
TOP EL. OF FOUNDATION WALL = 197.50±				PIPE 1			
INV. EL. AT FOUNDATION WALL = 190.00± (SEE REPAIR NOTES)				4" PVC (SCH. 40)			
SEPTIC TANK (ST-1) - H-10				L = 22.3'			
4" INV. (IN) = 188.73				S = 0.0569			
4" INV. (OUT) = 188.48				PIPE 2			
DISTRIBUTION BOX (DB-1)				4" PVC (SCH. 40)			
4" INV. (IN) = 188.27				L = 8.3'			
4" INV. (OUT) = 188.10				S = 0.0253			
PRIMARY PRESBY ELEVATIONS:				AS-BUILT PRESBY ELEVATIONS:			
LINE NO.	EL. INV. BEG. OF 4" PVC:	EL. INV. OF PRESBY PIPE:	EL. OF BOT. OF SAND BED:	LINE NO.	EL. INV. BEG. OF 4" PVC:	EL. INV. OF PRESBY PIPE:	
P1	187.93	187.35	186.85	P1	XXX.XX	XXX.XX	
P2	187.68	187.10	186.60	P2	XXX.XX	XXX.XX	
P3	187.43	186.85	186.35	P3	XXX.XX	XXX.XX	
P4	187.18	186.60	186.10	P4	XXX.XX	XXX.XX	
P5	186.93	186.35	185.85	P5	XXX.XX	XXX.XX	



BUILDING SEWER NOTES:

- SEWER LINE MUST BE LAD ON A FIRM COMPACTED BASE.
- PIPE MUST BE SLOPED AT A MIN. OF 1% (2% PREFERRED).
- PIPE MUST BE LAD ON A CONTINUOUS UNIFORM GRADIENT.

DUAL COMPARTMENT SEPTIC TANK (ST-1)

(IN ACCORDANCE WITH 310 CMR 15.223 TO 15.226)

CAPACITY = 1,500 GALLONS (1,000/500)

PRECAST REINFORCED CONCRETE (H-10)

MANUFACTURER: LAMARRE CONCRETE PRODUCTS, INC.

(NOT TO SCALE)

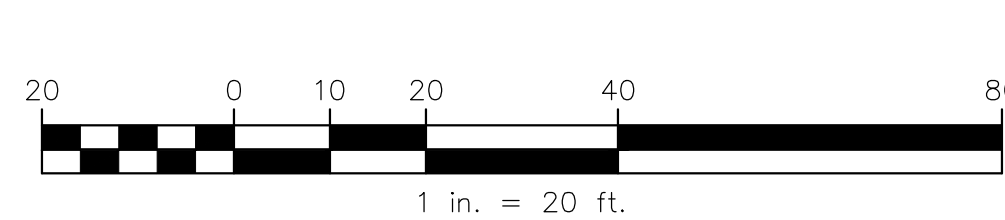
OWNER:

ALEXANDRA ESSMAN
161 TAHATTAWAN ROAD
LITTLETON, MASSACHUSETTS 01460

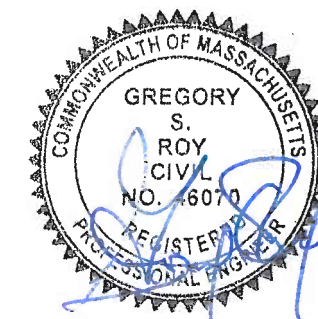
APPLICANT:

ALEXANDRA ESSMAN
161 TAHATTAWAN ROAD
LITTLETON, MASSACHUSETTS 01460

SCALE:



THE SEWAGE DISPOSAL SYSTEM SHOWN HEREON HAS BEEN DESIGNED IN ACCORDANCE WITH 310 CMR 15.00 (TITLE 5), MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION SYSTEM APPROVALS AND/OR CERTIFICATIONS AND THE MANUFACTURERS SYSTEM DESIGN GUIDANCE.



STAMP DATE: 9/19/2024

DATE:

9/11/2024

DESIGN BY:

MJM

DRAWN BY:

MJM

CHECKED BY:

GSR

SEWAGE DISPOSAL SYSTEM DESIGN

161 TAHATTAWAN ROAD (M:U32 P:7.0)
LITTLETON, MASSACHUSETTS 01460

NO.	DATE	DESCRIPTION	BY

JOB NO.

7645

DRAWING NO.

7645-SDS

SHEET NO.

1

OF 1

GENERAL NOTES:

- TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY DILLIS & ROY CIVIL DESIGN GROUP, INC. ELEVATIONS REFER TO AN ASSUMED DATUM (SEE BENCH MARK LOCATED ON PLOT PLAN).
- PROPERTY LINE INFORMATION TAKEN FROM RECORDED PLAN ON FILE WITH THE MASSACHUSETTS REGISTRY OF DEEDS.
- PROPERTY LINES SHALL BE DETERMINED PRIOR TO CONSTRUCTION OR INSTALLATION OF ANY OF THE PROPOSED IMPROVEMENTS HEREON.
- PERCOLATION TESTS PERFORMED IN ACCORDANCE WITH 310 CMR (TITLE 5) REGULATIONS 15.104 AND 15.105.
- ANY DEVIATIONS FROM THE DESIGN PLAN MUST BE APPROVED IN WRITING BY DILLIS & ROY CIVIL DESIGN GROUP, INC.
- NO PERMANENT STRUCTURES MAY BE CONSTRUCTED OVER THE RESERVE LEACHING AREA.
- THE BOARD OF HEALTH REQUIRES INSPECTION OF ALL CONSTRUCTION BY THE DESIGN ENGINEER OR BY AN AGENT OF THE BOARD OF HEALTH, AND THAT SUCH A PERSON CERTIFIES IN WRITING THAT WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THE TERMS OF THE PERMIT AND THE APPROVED PLANS.
- FOR PROPER PERFORMANCE, A SEPTIC TANK SHOULD BE INSPECTED AT LEAST ONCE EVERY YEAR AND WHEN THE TOTAL DEPTH OF SOLID AND SOLIDS EXCEEDS ONE THIRD OF LIQUID DEPTH OF THE TANK, THE TANK SHOULD BE PUMPED.
- THERE ARE NO POTABLE DRINKING WATER WELLS WITHIN 150 FEET OF THE PROPOSED SEWAGE DISPOSAL SYSTEM UNLESS OTHERWISE NOTED. THIS DESIGN DOES NOT ACCOMMODATE A GARBAGE DISPOSAL.
- CONSTRUCTION WITHIN 100 FEET OF A WETLAND RESOURCE AREA AS DEFINED IN THE MASSACHUSETTS WETLAND PROTECTION ACT AND REGULATIONS (310 CMR 10.00) SHALL NOT BE PERFORMED UNTIL AN ORDER OF CONDITIONS OR NEGATIVE DETERMINATION OF APPLICABILITY HAS BEEN OBTAINED FROM THE LOCAL CONSERVATION COMMISSION.
- EXISTING UTILITIES SHOWN ON THIS PLAN WERE COMPILED FROM FIELD MEASUREMENT AND RECORD PLANS. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND SHOULD NOT BE ASSUMED TO BE CORRECT NOR SHOULD IT BE ASSUMED THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES LOCATED ON OR NEAR THE SITE. THE CONTRACTOR SHALL CALL DIG SAFE 1-888-DIG-SAFE PRIOR TO CONSTRUCTION IN ACCORDANCE WITH STATE LAWS.
- A NOTICE OF THE EXISTENCE OF THIS ALTERNATIVE SYSTEM SHALL BE RECORDED AT THE REGISTRY OF DEEDS IN THE CHAIN OF TITLE TO THE PROPERTY.
- THE OWNER SHALL BE RESPONSIBLE FOR THE APPLICABLE PROVISIONS SET FORTH IN 310 CMR 15.287.
- THIS PLAN HAS BEEN PREPARED TO DETAIL THE CONSTRUCTION REQUIREMENTS FOR A SUBSURFACE SEWAGE DISPOSAL SYSTEM ONLY. THIS PLAN SHALL NOT BE UTILIZED FOR ANY OTHER PURPOSE.

CONSTRUCTION NOTES:

- CONTACT DESIGN ENGINEER PRIOR TO SYSTEM INSTALLATION. DESIGN ENGINEER MUST BE ON SITE ONCE TOPSOIL AND ORGANIC MATERIAL IS REMOVED AND PRIOR TO PLACEMENT OF ANY SAND OR FILL.
- SYSTEM TO BE INSTALLED IN ACCORDANCE WITH PRODUCT DESIGN AND INSTALLATION MANUAL, AND STATE AND LOCAL REGULATIONS. FOR PRODUCT INFORMATION OR THE NEAREST DEALER CONTACT PRESBY ENVIRONMENTAL, INC. 143 AIRPORT ROAD, WHITEFIELD, NH 03598 - PHONE 1-800-473-5298 - WWW.PRESBYECO.COM
- MINIMUM OF 6" OF MEDIUM TO COARSE SAND MEETING THE REQUIREMENTS OF ASTM C-33, WITH LESS THAN 2% PASSING A # 200 SIEVE REQUIRED AROUND CIRCUMFERENCE OF ENVIRO-SEPTIC PIPES. (SEE DESIGN AND INSTALLATION MANUAL FOR COMPLETE SAND AND FILL SPECIFICATIONS.)
- THE SYSTEM INSTALLER SHALL PROVIDE THE SYSTEM OWNER AND LOCAL APPROVING AUTHORITY WITH A BILL OF LADING CERTIFYING THE SYSTEM SAND FILL MEETS ASTM C-33.
- SYSTEM SHALL NOT BE INSTALLED ON FROZEN GROUND OR LEFT UNCOVERED FOR EXTENDED PERIODS OF TIME.
- FINISH GRADING SHALL BE DONE IN ACCORDANCE WITH THE PLOT PLAN. ALL DISTURBED AREAS SHALL BE COVERED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH A NATIVE GRASS MIXTURE.
- BACKFILL OVER THE SOIL ABSORPTION SYSTEM, SEPTIC TANK AND DISTRIBUTION BOX SHALL BE A MINIMUM OF 9 INCHES EXCLUDING TOPSOIL, PLACED IN LIFTS AND SUFFICIENTLY COMPACTED TO PREVENT DEPRESSIONS DUE TO SETTLING. BACKFILL OVER THE SOIL ABSORPTION SYSTEM SHALL BE FREE OF STONES AND BALLASTS GREATER THAN 6 INCHES IN SIZE.
- THE BUILDING SEWER SHALL BE LAD ON A COMPACTED FIRM BASE.
- ALL PIPING SHALL BE MINIMUM OF SCHEDULE 40 UNLESS OTHERWISE NOTED.
- ALL PIPE JOINTS AND CONNECTIONS TO SYSTEM COMPONENTS SHALL BE MECHANICALLY SOUND, WATER TIGHT AND PROTECTED AGAINST DAMAGE BY ROOTS.
- ALL BUILDING SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STATE PLUMBING CODE 248 CMR 2.00.
- OUTLET DISTRIBUTION LINE FROM THE D-BOX TO THE FIRST LINE SHALL BE LAD AT A MINIMUM SLOPE OF 2.00%.
- FINAL COVER OVER THE SYSTEM SHALL BE GRADED TO REDUCE INFILTRATION OF SURFACE WATER AND MINIMIZE EROSION. FINISH GRADE SHALL HAVE A MINIMUM SLOPE OF 2%.
- EFFLUENT DISTRIBUTION LINES SHALL BE LAD LEVEL.
- FILL MATERIAL FOR SYSTEMS CONSTRUCTED IN FILL SHALL CONSIST OF SELECT ON-SITE OR IMPORTED SOILS MATERIAL THAT MEET THE MINIMUM REQUIREMENTS STATED IN 310 CMR 15.253(3).
- WHERE FILL IS REQUIRED TO REPLACE UNSUITABLE OF IMPERMEABLE SOILS, THE EXCAVATION OF THE UNSUITABLE MATERIAL SHALL EXTEND A MINIMUM OF 5 FEET DEEPER THAN THE OUTER PERIMETER OF THE SOIL ABSORPTION SYSTEM TO THE DEPTH OF 3 INCHES INTO THE NATURALLY OCCURRING PERVIOUS MATERIAL.
- THE BOTTOM SURFACE OF THE EXCAVATION SHALL BE SCARIFIED AND RELATIVELY DRY. FILL SHALL NOT BE PLACED DURING RAIN OR SNOW STORMS. IF THE WATER TABLE ELEVATION IS ABOVE THE ELEVATION OF THE BOTTOM OF THE EXCAVATION, THE EXCAVATION SHALL BE DETAILED.
- SUBSURFACE COMPONENTS OF A SYSTEM SHALL NOT BE BACKFILLED OR OTHERWISE CONCEALED FROM NEW UNTIL A FINAL INSPECTION HAS BEEN CONDUCTED BY THE APPROVING AUTHORITY AND PERMISSION HAS BEEN GRANTED BY THE APPROVING AUTHORITY TO BACKFILL THE SYSTEM. THE DESIGNER SHALL INSPECT THE CONSTRUCTION AFTER THE INITIAL EXCAVATION, PRIOR TO BACKFILLING, AND DURING BACKFILLING. IN ADDITION, THE FINAL INSPECTION OF THE SYSTEM SHALL BE CONDUCTED BY THE SYSTEM INSTALLER AND THE DESIGNER PRIOR TO THE ISSUANCE OF A CERTIFICATE OF COMPLIANCE PURSUANT TO 310 CMR 15.02(3). ANY COMPONENT OF THE SYSTEM WHICH HAS BEEN COVERED WITHOUT SUCH PERMISSION SHALL BE UNCOVERED UPON THE REQUEST OF THE APPROVING AUTHORITY OR THE (DEP).
- ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
- ALL SOIL ABSORPTION SYSTEMS SHALL HAVE A MINIMUM OF ONE (1) INSPECTION PORT CONSISTING OF A PERFORATED FOUR (4) INCH PIPE PLACED VERTICALLY TO THE NATURALLY OCCURRING SOIL OR SAND FILL BELOW THE SYSTEM SAND. THE PIPE SHALL BE CAPPED WITH A SCREW TYPE CAP AND ACCESSIBLE TO WITHIN THREE (3) INCHES OF FINISH GRADE. (SEE DETAIL)

REPAIR NOTES:

- CONTRACTOR TO VERIFY ELEVATION (*) PRIOR TO THE START OF CONSTRUCTION AND REPORT TO ENGINEER ANY VARIATIONS IN ELEVATIONS TO THOSE SHOWN ON THIS PLAN.
- EXISTING BUILDING SEWER TO BE RAISED TO SPECIFIED ELEVATION ON PLAN AND REPLACED WITH NEW SCHEDULE 40 PVC BUILDING SEWER PIPE IN ACCORDANCE WITH 310 CMR 15.222.
- EXISTING SEPTIC TANK TO BE PUMPED, CRUSHED AND BACKFILLED WITH CLEAN GRANULAR MATERIAL AND/OR REMOVED IN ACCORDANCE WITH THE TOWN OF LITTLETON'S BOARD OF HEALTH RULES AND REGULATIONS AND A NEW 1,500 GALLON SEPTIC SHALL BE INSTALLED.
- EXISTING SYSTEM MAY BE EXCAVATED DURING THE INSTALLATION OF NEW SOIL ABSORPTION SYSTEM (S.A.S.) WHEN NECESSARY, DISPOSAL AND UTILIZATION OF MATERIAL SHALL BE IN ACCORDANCE WITH THE TOWN OF LITTLETON'S BOARD OF HEALTH RULES AND REGULATIONS.

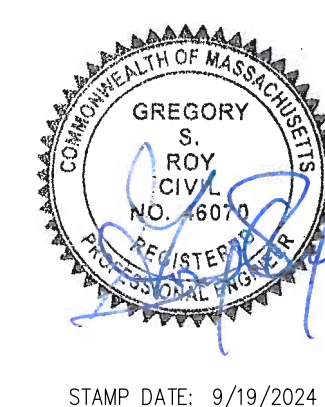
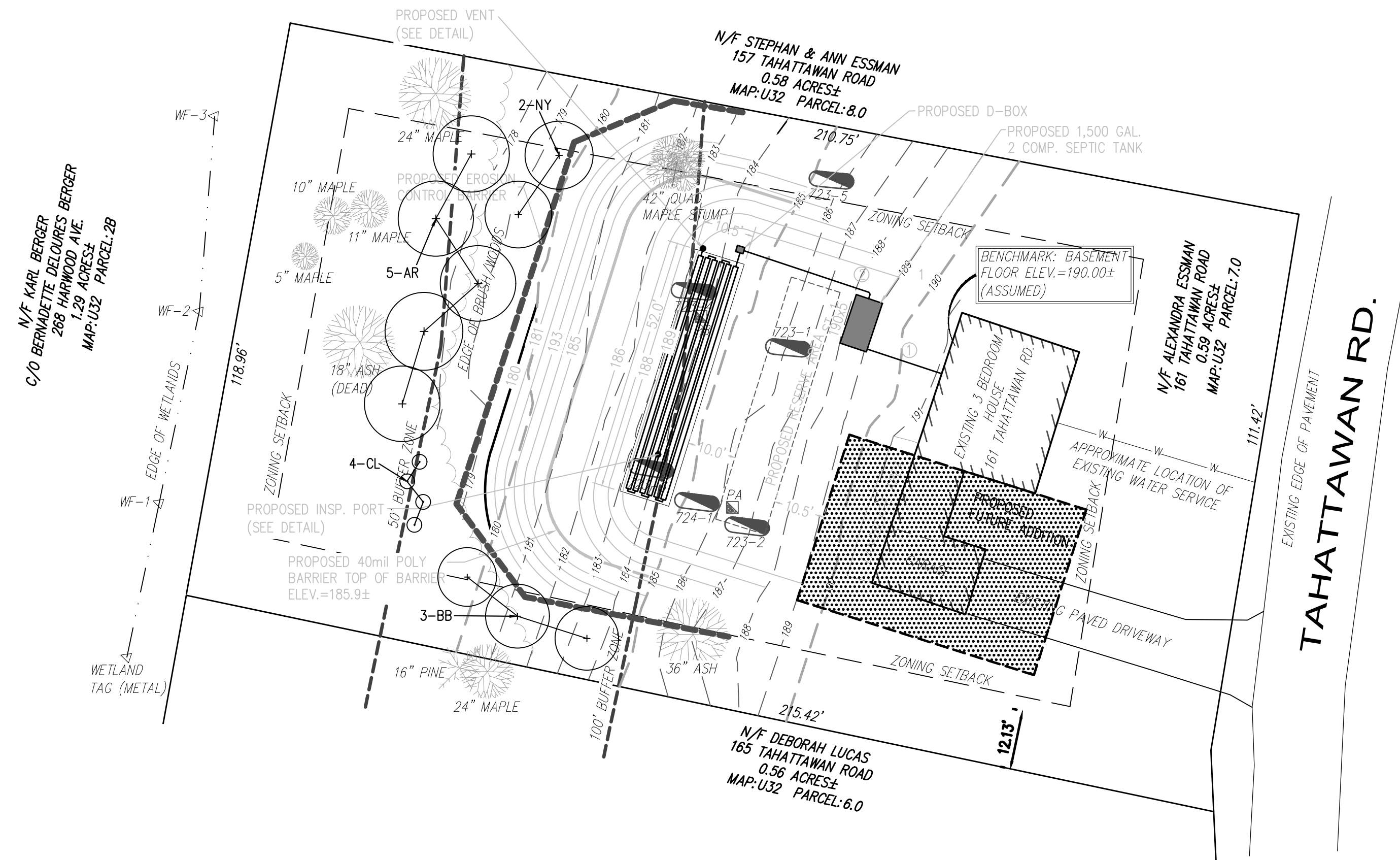
NAME OF APPROVING AUTHORITY: LITTLETON BOARD OF HEALTH JIM GARRETTI, N.A.B.O.H. AGENT				NAME OF SOIL EVALUATOR: DILLIS & ROY CIVIL DESIGN GROUP WILLIAM J. "JACK" MALONEY, JR. (SE-13704)				
SOIL CLASSIFICATION: GEOLICAL MATERIAL: LAND FORM: SOIL LIMITATIONS: GENERAL NOTES:				CHARLTON-HOLLIS ROCK OUTCROP SOURCE LOAMY MELT-OUT RIDGES, HILLS				
				PERCOLATION TEST DATA				
				TEST PIT NO.	DATE	DEPTH FROM SURFACE	BOTTOM OF TEST HOLE SURFACE ELEVATION	RATE MINUTES PER INCH
				PA	7/10/2024	48"	184.0±	2 M/I
				PB	7/10/2024	49"	186.5±	2 M/I

LEGEND

- DESCRIBES EXISTING CONTOUR (INDEX)
DESCRIBES EXISTING CONTOUR (INTERMEDIATE)
DESCRIBES PROPOSED CONTOUR (INDEX)
DESCRIBES PROPOSED CONTOUR (INTERMEDIATE)
DESCRIBES LIMIT OF EXCAVATION OF UNSUITABLE SOILS
DESCRIBES PROPOSED SEWER LINE
DESCRIBES PROPOSED WATER LINE
DESCRIBES PROPOSED UNDERGROUND UTILITIES
DESCRIBES PROPOSED CONCRETE SEPTIC TANK
DESCRIBES PROPOSED CONCRETE PUMP CHAMBER
DESCRIBES PROPOSED CONCRETE DISTRIBUTION BOX
DESCRIBES PROPOSED SEWER CLEANOUT

DESCRIPTION	DRAWING ENTRY
100'	100'
96'	96'
100'	100'
96'	96'
5' EXC.	5' EXC.
ST-1	ST-1
PC-1	PC-1
DB-1	DB-1
C.O.	C.O.

161 TAHATTAWAN ROAD, LITTLETON, MA – TREE REPLACEMENT SCHEDULE 2024							
SALLIE HILL DESIGN salliehilldesign.com 781-223-8645							
PLANT SCHEDULE BASED ON 7 TREES REMOVED							
TREES							
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
BR	3	BETULA PAPHYRIFERA	PAPER BIRCH	2-2.5" CAL	BB	10' O.C.	
NY	2	NYSSA SYLVATICA	BLACK GUM	2-2.5" CAL	BB	12' O.C.	
AR	5	ACER RUBRUM	RED MAPLE	2-2.5" CAL	BB	12' O.C.	
TOTAL TREES PROP.	10						
SHRUBS							
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	REMARKS
CL	4	CLETHRA ALNIFOLA	SUMMER SWEET	#3	CONT.	5' O.C.	



SEWAGE DISPOSAL SYSTEM DESIGN

161 TAHATTAWAN ROAD (M:U32 P:7.0)

LITTLETON, MASSACHUSETTS 01460