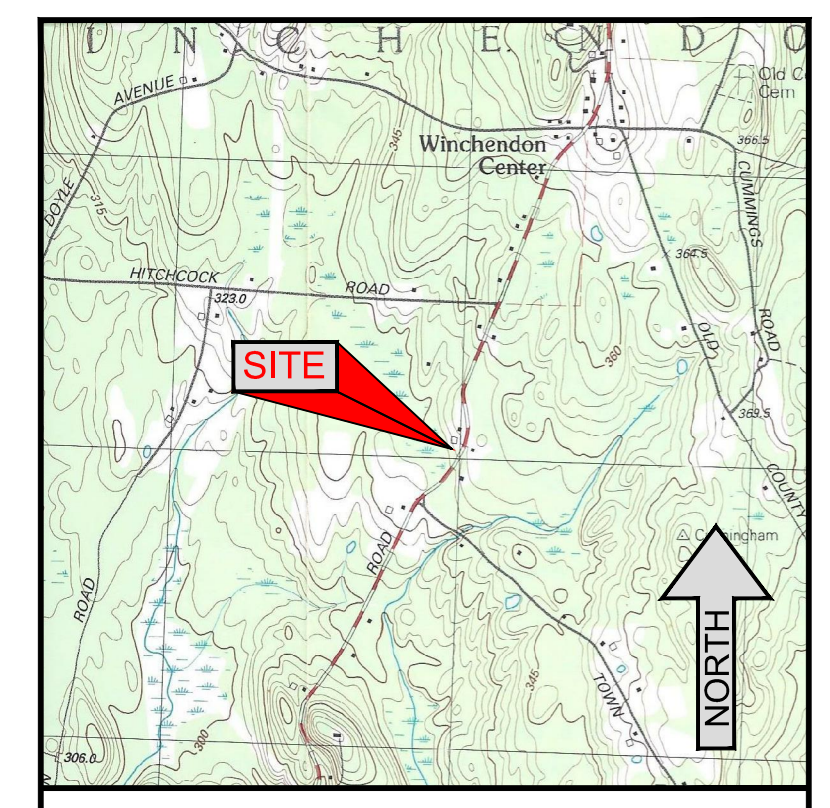
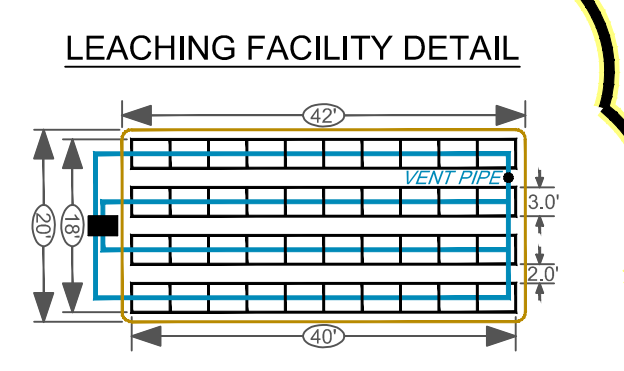


PROTECTION OF WETLANDS/RESOURCE AREAS

- 1) EROSION CONTROLS SHALL BE INSTALLED PRIOR TO BEGINNING ANY WORK. EROSION CONTROLS SHALL CONSIST OF STAKED STRAW WATTLES OR HAY BALES. IF HAY BALES ARE USED, THEY SHALL BE BUTTED UP TIGHTLY TO ONE ANOTHER TO PREVENT FLOW THROUGH OF ANY SOILS/SILTS OR SEDIMENT CONTAMINATED RUNOFF.
- 2) EROSION CONTROLS SHALL BE PROPERLY MAINTAINED UNTIL AT SUCH TIME ALL DISTURBED AREAS HAVE BEEN STABILIZED AND REVEGETATED. ANY ACCUMULATION OF SOILS/SILT AGAINST THE SILT BARRIER(S) SHALL BE REMOVED IF THE DEPTH REACHES 6 INCHES.
- 3) ANY REFUELING OF EQUIPMENT SHALL BE CONDUCTED AT THE MOST DISTANT LOCATION FROM THE WETLANDS/RESOURCE AREA POSSIBLE ON THE SITE.
- 4) NO MATERIAL SHALL BE PLACED OR STORED ON THE DOWN GRADIENT SIDE OF THE EROSION CONTROLS AND NO DISTURBANCE OF GROUND SHALL OCCUR ON THE DOWN GRADIENT SIDE OF THE EROSION CONTROLS.
- 5) AT NO TIME SHALL SILT-LADEN WATER BE ALLOWED TO ENTER RESOURCE AREAS/WETLANDS. ANY AND ALL RUNOFF FROM DISTURBED AREAS SHALL BE DIRECTED THROUGH SETTLING BASINS AND EROSION CONTROL BARRIERS PRIOR TO ENTERING SENSITIVE AREAS.

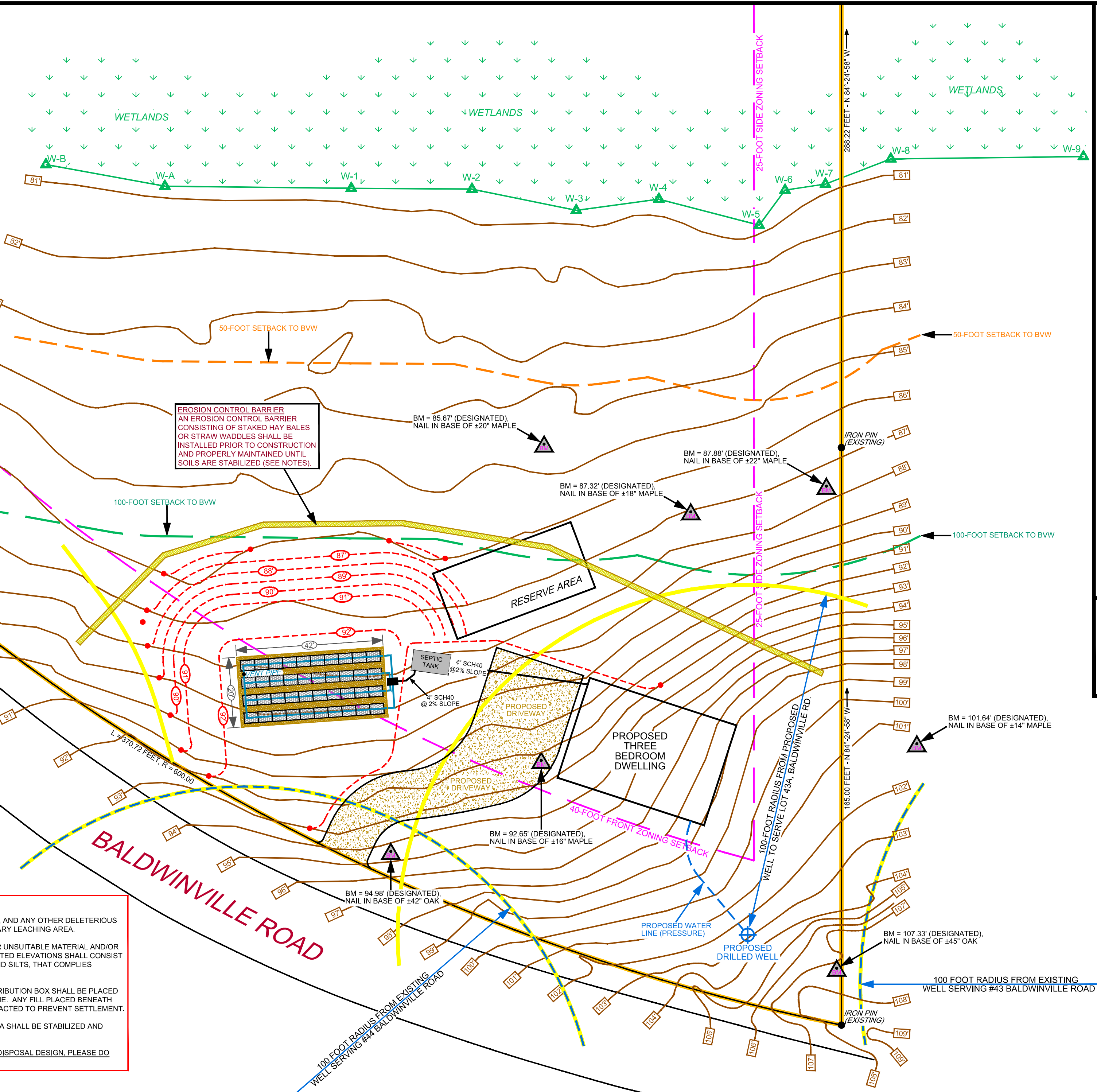
AREA OF LOT
2.983 ACRES
(129,942 SQ. FT.)



NOTES - PLEASE READ CAREFULLY

- 1) REMOVE ALL TREES/STUMPS/ROOTS, TOPSOIL/SUBSOIL, AND ANY OTHER DELETERIOUS MATERIAL WITHIN AND FIVE (5) FEET AROUND THE PRIMARY LEACHING AREA.
- 2) FILL NEEDED TO REPLACE TOPSOIL, SUBSOIL, OR OTHER UNSUITABLE MATERIAL AND/OR BUILD UP AREA FOR LEACHING FACILITY TO ACHIEVE NOTED ELEVATIONS SHALL CONSIST OF A FINE GRAVEL OR COARSE SAND, FREE OF FINES AND SILTS, THAT COMPLIES FULLY WITH 310 CMR 15.255 (3).
- 3) SEPTIC TANK, PUMP CHAMBER (IF INSTALLED) AND DISTRIBUTION BOX SHALL BE PLACED UPON A BED OF A MINIMUM OF 6" OF 3/4" CRUSHED STONE. ANY FILL PLACED BENEATH THE TANK(S) AND/OR D-BOX SHALL BE PROPERLY COMPACTED TO PREVENT SETTLEMENT.
- 4) AREA ABOVE AND SLOPES ADJACENT TO LEACHING AREA SHALL BE STABILIZED AND LOAMED AND SEEDED.

IF THERE ARE ANY QUESTIONS REGARDING THIS SEWAGE DISPOSAL DESIGN, PLEASE DO NOT HESITATE TO CONTACT THE DESIGN ENGINEER.



SOIL EVALUATION RESULTS

Tests completed by: John M. Deline, Jr., R.S., Licensed Soil Evaluator
 Witnessed by: Steve Calichman, R.S., Winchendon B.O.H.
 Date(s) Completed: 10/03/22
 Percolation Tests: 10/03/22
 Deep Observation Holes: 10/03/22

Deep Observ. Hole - DH - #1	Existing Grade Elevation = FT.	Deep Observ. Hole - DH - #2	Existing Grade Elevation = FT.
0'-7" A SL 10YR 3/2		0'-8" A SL 10YR 3/2	
7'-27" Bw SL 7.5YR 4/6		8'-24" Bw SL 7.5YR 4/6	
27'-82" C SL 2.5Y 5/3		24'-79" C SL 10YR 4/4	
Weeping Observ. at: none		Weeping Observ. at: none	
Standing Water at: none		Standing Water at: none	
Greater than 5% mottling observed at: 42 inches, 10YR 5/8, 5Y 4/2 E.S.H.G.W.T. = 42 inches		Greater than 5% mottling observed at: 31 inches, 10YR 5/8, 2.5Y 4/2 E.S.H.G.W.T. = 31 inches	
Deep Observ. Hole - DH - #3	Existing Grade Elevation = FT.	Deep Observ. Hole - DH - #4	Existing Grade Elevation = FT.
0'-10" A SL 10YR 3/2		0'-9" A SL 10YR 3/1	
10'-24" Bw SL 7.5YR 4/6		9'-22" Bw SL 7.5YR 5/6	
24'-82" C SL 10YR 4/4		22'-86" C SL 10YR 4/4	
Weeping Observ. at: none		Weeping Observ. at: none	
Standing Water at: none		Standing Water at: none	
Greater than 5% mottling observed at: 41 inches, 10YR 5/8, 2.5Y 4/2 E.S.H.G.W.T. = 41 inches		Greater than 5% mottling observed at: 30 inches, 10YR 5/8, 2.5Y 5/2 E.S.H.G.W.T. = 30 inches	

SOIL TEXTURAL CLASS = III
 Percolation Rate: P-#1 = 18 min./inch, P-#2 = 32 min./inch
 use 40 min./inch rate for design (effluent loading rate = 0.25 g.p.d./sq. ft.).

DESIGN CALCULATIONS

ESTIMATED DAILY SEWAGE FLOW
 Three bedrooms X 110 gallons per bedroom per day = 330 gallons per day (g.p.d.).

SEPTIC TANK REQUIREMENTS
 330 gallons X 200% = 1,320 gallons. 310 CMR 15.223 requires minimum of 1,500 gallon tank. Use two-compartment, 1,500 gallon pre-cast concrete tank.

SOIL ABSORPTION SYSTEM - AREA REQUIREMENTS
 With a Class III soil textural class and percolation rates of 18 and 32 min./inch. Effluent loading rate = 0.25 g.p.d./sq. ft.
 Leaching area required = 330 g.p.d. divided by 0.25 g.p.d./sq. ft. = 1,320 square feet. 40% reduction of leaching area with proposed IA technology = 792 square feet.

TOTAL LEACHING AREA PROVIDED (PRIMARY) = 840 sq. ft.
 A total of 40.0 Eljen In-Drain B43 modules installed in a bed configuration measuring 20 ft. wide by 42 ft. long with 12 inches of C33 sand below the bottoms of the treatment units. There shall be four rows of 10 modules (each module is 3.0 feet wide and 4 feet long), with 2.0 feet between the sidewalls of each modules and 1.0 foot between the sidewall of the outside modules and the edge of the leach field (limit of C33 sand bed). Total leaching area = 20' X 42' = 840 sq. ft.

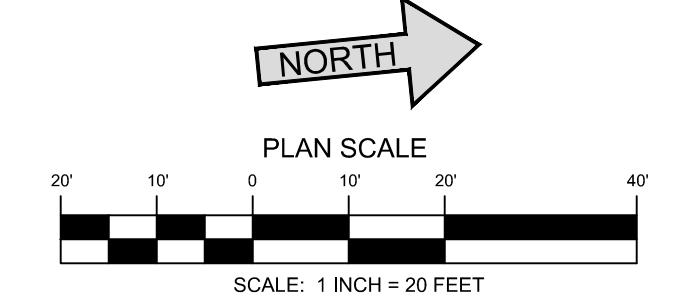
TOTAL LEACHING AREA PROVIDED (RESERVE) = 840 sq. ft.
 A total of 40.0 Eljen In-Drain B43 modules installed in a bed configuration measuring 20 ft. wide by 42 ft. long with 12 inches of C33 sand below the bottoms of the treatment units. There shall be four rows of 10 modules (each module is 3.0 feet wide and 4 feet long), with 2.0 feet between the sidewalls of each modules and 1.0 foot between the sidewall of the outside modules and the edge of the leach field (limit of C33 sand bed). Total leaching area = 20' X 42' = 840 sq. ft.

GENERAL NOTES

- 1) One H-20 load-rated, two-compartment, 1,500 gallon pre-cast concrete septic tank with a PVC tee on the tank inlet pipe and an effluent filter on the outlet pipe.
- 2) Soil Absorption System Consists of: Primary Area: Four rows of 10 (total of 28) Eljen GSF (In-Drain) B43 modules installed in a bed configuration measuring 20 ft. wide by 42 ft. long with 12 inches of C33 sand below the bottoms of the treatment units. (total leaching area = 840 sq. ft.). Reserve Area: Four rows of 10 (total of 28) Eljen GSF (In-Drain) B43 modules installed in a bed configuration measuring 20 ft. wide by 42 ft. long with 12 inches of C33 sand below the bottoms of the treatment units. (total leaching area = 840 sq. ft.).
- 3) All piping, except distribution lines, are to be SCH40 PVC and shall be watertight. Distribution lines shall be SDR35 PVC sewer pipe.
- 4) The installed system shall be left exposed until the agent of the Board of Health and the Design Engineer inspect it.
- 5) Area to be used for soil absorption system (SAS) shall be excavated to virgin ground and all topsoil/subsoil removed. If unsuitable material is found at or below the proposed elevation of the bottom of the SAS, it shall also be removed. Fill needed to replace excavated material or create mounded system shall be clean coarse sand or fine gravel complying with 310 CMR 15.255 (3).
- 6) This subsurface disposal system has not been designed for a garbage disposal. Therefore, no garbage disposal units shall be installed.
- 7) In accordance with 310 CMR 15.004 (8), no backwash from water filtration/treatment systems shall be disposed of in the subsurface disposal system.
- 8) In accordance with 310 CMR 15.221 (12), all system components shall be marked with magnetic marking tape or a comparable means in order to locate them once buried.
- 9) There are no wetlands within 100 feet of the sewage disposal system except as noted on the plan.

TITLE 5 LOCAL UPGRADE APPROVALS/VARIANCES REQUESTED:

NONE - NEW CONSTRUCTION.



LOT LINE DISTANCES AND BEARINGS WERE COPIED FROM THE PLAN TITLED "BOUNDARY PLAT, MAP-8 PARCEL-60 (LOT-4) BALDWINVILLE ROAD, WINCHENDON, MA", DATED NOVEMBER 9, 2023, PREPARED BY GRAZ ENGINEERING, 323 WEST LAKE ROAD, FITZ WILLIAM, MA 03447.

THE PREPARER OF THIS PLAN (JOHN DELINE D.B.A./ DELINE ENGINEERING) IS NOT A LICENSED OR REGISTERED LAND SURVEYOR AND, THEREFORE, THE BOUNDARY LOCATIONS SHOWN ON THIS PLAN ARE NOT INTENDED TO REPRESENT THE RESULTS OF A LEGAL LAND SURVEY. THE BOUNDARY LOCATIONS SHOWN ARE ONLY A SUMMARY OF EXISTING INFORMATION (SURVEY PLANS, DEED DESCRIPTIONS, ETC.) ON THE BOUNDS OF THE PROPERTY RELATIVE TO THE EXISTING MONUMENTS/MARKERS OBSERVED AT THE SUBJECT PROPERTY. THE BOUNDARY LOCATIONS SHOWN ARE INTENDED SOLELY FOR DEVELOPING REFERENCE POINTS FOR THE INSTALLATION OF THE PROPOSED SEWAGE DISPOSAL SYSTEM. NO WARRANTY OF ACCURACY OF PROPERTY BOUNDARY LOCATIONS IS EXPRESSED OR IMPLIED BY THIS PLAN.

Commonwealth of Massachusetts
 Town of Winchendon
 Board of Health
On-Site Sewage Disposal System Plan Review

This plan has been submitted and reviewed in accordance with 310 CMR 15.00 of the State Environmental Code and is part of the application for a Disposal Works Construction Permit. Permit No. _____ Dated: _____

NOTE: ISSUANCE OF THIS PERMIT THIS SHALL NOT BE CONSTRUED AS A GUARANTEE OF THE PERFORMANCE OF THE SYSTEM.

APPROVING AUTHORITY SIGNATURE(S):

LEGEND

- Proposed Contours: 100
- Existing Contours: 100
- Percolation Test Hole: P-#1
- Deep Observation Hole: DH-#1
- Water Supply Line:

PLAN FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM

FOR A PROPOSED THREE BEDROOM DWELLING AT LOT 43A - BALDWINVILLE ROAD WINCHENDON, MA

APPLIC./OWNER:

DELIN ENGINEERING

146 WINCHENDON ROAD, ROYALSTON, MA 01368
 TEL. (978) 249 - 6214 FAX (978) 249 - 6214

Designed By: JMD
 Drawn By: JMD
 Checked By:
 Original Plan Date: 12/23/23
 Plan Revision #: 0
 Current Revision Date: 12/23/23

John M. Deline, Jr.

NOTE: THE SEPTIC TANK SHALL HAVE A MINIMUM OF 9 INCHES OF COVER. ONE WATERTIGHT MANHOLE COVER RISER SHALL BE PROVIDED TO FINISH GRADE OVER THE TANK OUTLET TO ACCESS THE EFFLUENT FILTER. IF THE TOP OF THE TANK IS GREATER THAN 9 INCHES BELOW THE FINISH GRADE, RISERS SHALL ALSO BE INSTALLED ON THE OTHER TWO MANHOLE COVERS TO WITHIN 6 INCHES OF FINISH GRADE.

NOTE: USE OVERSIZED D-BOX FOR EQUALIZATION. IF THE TOP OF THE DISTRIBUTION BOX IS GREATER THAN 9 INCHES BELOW THE FINISH GRADE, A RISER SHALL BE INSTALLED TO WITHIN 6 INCHES OF THE FINISH GRADE.

REMOVAL OF TOPSOIL AND SUBSOIL. REMOVE TREE STUMPS/ROOTS AND TOPSOIL/SUBSOIL WITHIN AND 5 FEET AROUND THE AREA TO BE UTILIZED FOR THE PRIMARY LEACHING FACILITY. REPLACE WITH CLEAN, COARSE SAND OR FINE GRAVEL COMPLYING WITH 310 CMR 15.255.

CONNECT ENDS OF DISTRIBUTION LINES TOGETHER AND INSTALL 4" VENT PIPE. PLACE SCREEN OVER END OF PIPE TO PREVENT ENTRANCE OF INSECTS/ANIMALS.

