

**GENERAL NOTES:**

- EXISTING SEPTIC TANK AND PUMP CHAMBER TO REMAIN. EXISTING TANK WAS INSPECTED BY A LICENSED TITLE 5 INSPECTOR AND DETERMINED TO BE IN VERY GOOD CONDITION WITH A CAPACITY OF 1,500 GAL. AND PUMP CHAMBER WAS DETERMINED TO BE IN VERY GOOD CONDITION WITH BOTH PUMP AND ALARMS OPERATING (REFERENCE TITLE 5 INSPECTION PERFORMED BY DEAN G. LUSCOMB II & SONS, DATED MAY 24, 2017 ON FILE WITH THE BOXFORD BOARD OF HEALTH). EXISTING FILTER IN SEPTIC TANK OUTLET SHALL BE REMOVED.
- CONTRACTOR SHALL VERIFY THAT ALL EXISTING PLUMBING, WITH THE EXCEPTION OF ANY FOUNDATION DRAINS OR WATER SOFTENERS, SHALL BE TIED INTO NEW SEPTIC SYSTEM.
- THIS PLAN IS TO SHOW THE DESIGN OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM ONLY. THE SYSTEM IS DESIGNED FOR FLOWS ESTIMATED UNDER DESIGN CRITERIA.
- SYSTEM IS DESIGNED ONLY TO ACCOMMODATE SANITARY SEWAGE ASSOCIATED WITH NORMAL DOMESTIC USAGE AND CONSISTING OF WATER-CARRIED PUTRESCIBLE WASTE.
- THE SYSTEM IS DESIGNED FOR A GARBAGE GRINDER, HOWEVER USE OF A GRINDER IS NOT RECOMMENDED BY THE ENGINEER.
- THE SYSTEM SHALL BE VENTED IN ACCORDANCE WITH THE PRESBY ENVIRO-SEPTIC DESIGN MANUAL.
- THE PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON DATE OF THE TOPOGRAPHY.
- THE INSTALLER OF THIS SYSTEM MUST BE LICENSED BY THE LOCAL BOARD OF HEALTH AND WITH PRESBY FOR INSTALLATION OF THE ENVIRO-SEPTIC LEACHING FACILITY.
- THERE ARE NO KNOWN WELLS WITHIN 150 FEET OF THE PROPOSED SOIL ABSORPTION SYSTEM.
- DISPOSAL SYSTEM AREAS ARE TO BE RAKED (SCARIFIED) BEFORE INSTALLATION OF STONE. ALL STONES EXCEEDING 2 INCHES IN EXCAVATION ARE TO BE REMOVED FROM THE LEACHING AREA BED.
- FINISHED SURFACE OF THE LEACHING AREA SHALL BE GRADED TO ASSURE WATER RUNOFF (2% MINIMUM SLOPE).
- ALL DISTURBED AREAS TO BE LOAMED, SEEDED, AND MAINTAINED TO PREVENT EROSION.
- THE SEPTIC TANK SHOULD BE PERIODICALLY INSPECTED AND MAINTAINED AND SHOULD BE PUMPED WHEN THE SLUDGE IN THE BOTTOM EXCEEDS 1/4 OF THE DEPTH.
- ALTERNATE MANUFACTURERS FOR CONCRETE STRUCTURES AND EQUIPMENT SHOWN ON THESE PLANS MAY BE USED UPON THE WRITTEN APPROVAL OF THE DESIGN ENGINEER. ALTERNATE MANUFACTURERS WILL NOT BE USED IF THE USE OF THEIR EQUIPMENT REQUIRES DESIGN CHANGES.
- NO CHANGES ARE TO BE MADE IN THE FIELD WITHOUT THE APPROVAL OF THE BOARD OF HEALTH OR ITS DESIGNEE AND THE DESIGN ENGINEER.
- ALL WORK IS TO COMPLY WITH THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AGENCY STATE SANITARY CODE, TITLE 5 AND ANY LOCAL BOARD OF HEALTH SUPPLEMENTARY REGULATIONS.
- THE LOCAL BOARD OF HEALTH AGENT WILL CONDUCT PERIODIC INSPECTIONS AS NEEDED.
- THESE PLANS AND SPECIFICATIONS ARE INTENDED TO BE EXPLANATORY OF THE WORK TO BE DONE AND OF EACH OTHER, BUT SHOULD ANY OMISSION, ERRORS, OR DISCREPANCIES APPEAR, THEY SHALL BE SUBJECT TO CORRECTION AND INTERPRETATION BY THE DESIGN ENGINEER THEREBY DEFINING AND FULFILLING THE INTENT OF THE PLANS. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO INSTALLATION.
- FILL REQUIREMENT: REMOVE TOPSOIL AND SUBSOIL FOR A DISTANCE OF 5 FEET BEYOND THE LEACHING FACILITY. REPLACE WITH FILL AS SPECIFIED IN 310 CMR 15.000, "TITLE 5" SECTION 15.255 (3) OR ASTM C-33 SAND (SYSTEM SAND). FOR THE BOUNDARY OF THE SAND FILL REQUIREMENT, SEE PLAN VIEW, CROSS-HATCHED AREA ON SYSTEM PROFILE. A SIEVE ANALYSIS SHALL BE PERFORMED ON THE FILL MATERIAL TO BE USED. A COPY OF THE SIEVE ANALYSIS RESULTS SHALL BE SUBMITTED TO THE BOARD OF HEALTH.
- ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE IN ACCORDANCE WITH 310 CMR 15.221(11).
- ABUTTING WELL LOCATION TAKEN FROM "SEPTIC SYSTEM AS-BUILT" ON FILE WITH THE BOXFORD BOARD OF HEALTH PREPARED BY HAYES ENGINEERING, INC.

**PUMP CHAMBER NOTES: (SEE GENERAL NOTE #1)**

- EXISTING PUMPS AND FLOATS SHALL BE INSPECTED TO ENSURE THEY ARE IN GOOD WORKING ORDER. ONCE THE FORCE MAIN HAS BEEN EXTENDED TO THE NEW DISTRIBUTION BOX THE PUMPS SHALL BE RUN, IN THE PRESENCE OF THE BOH AGENT AND THE DESIGN ENGINEER, TO ENSURE THAT THE PUMP PRODUCES THE REQUIRED FLOW. (I.E. MAXIMUM FLOW FOR EACH SECTION IS LIMITED TO 20 GPM.)
- FLOATS WITHIN PUMP CHAMBER SHALL BE MODIFIED TO PUMP A MINIMUM OF 6 DOSES PER DAY (I.E. 73 GALLONS MIN. PER DOSE).

**LOCAL B.O.H. VARIANCE REQUESTS**

	STATE (TITLE 5)	LOCAL (BOH)	REQUEST
MINIMUM SETBACK DISTANCE BETWEEN LEACHING FACILITY AND WETLAND RESOURCE AREAS (BOXFORD BOARD OF HEALTH REGULATIONS, CHAPTER 201, SECTION 9(B))	50'	100'	83'
MINIMUM SETBACK DISTANCE BETWEEN LEACHING FACILITY AND WETLAND RESOURCE AREAS WITH PERC RATE LESS THAN 5 MPI (BOXFORD BOARD OF HEALTH REGULATIONS, CHAPTER 201, SECTION 9(E))	50'	150'	83'

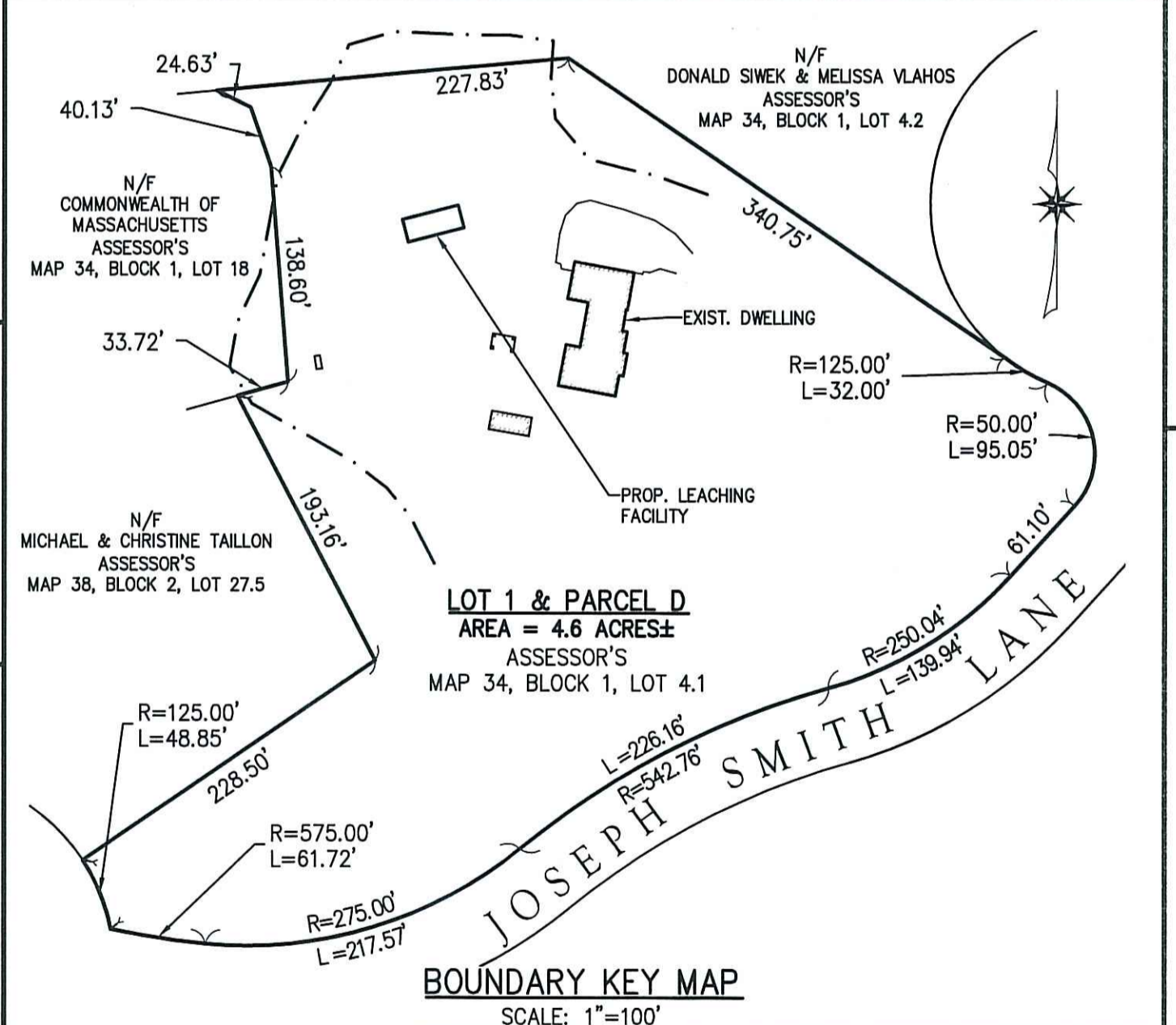
**DISCRETIONARY CUTTING AREA CALCULATIONS:**  
 TOTAL OVERSTORY WITHIN DISCRETIONARY CUTTING AREA ON PARCEL = 82,600 SF±  
 OVERSTORY WITHIN DISCRETIONARY CUTTING AREA TO BE REMOVED = 1,100 SF± (1.4%)

**SITE NOTES:**

- RECORD OWNER: JOHN JR. & AMALIA D. LOMBARA, 36 JOSEPH SMITH WAY, BOXFORD, MA 01921, BOOK 25925, PAGE 446
- RECORD PLANS: PROPERTY LINE INFORMATION COMPILED FROM "DEFINITIVE PLAN, JOSEPH SMITH LANE EXTENSION, BOXFORD, MA," PREPARED BY HAYES ENGINEERING, INC., DATED AUGUST 28, 1990, RECORDED WITH THE ESSEX REGISTRY OF DEEDS, PLAN BOOK 274, PLAN 63 AND SHOULD BE CONSIDERED APPROXIMATE.
- WETLANDS: WETLAND RESOURCE AREA DELINEATED BY DEROSA ENVIRONMENTAL CONSULTING, INC., 167 MAIN STREET, PO BOX 716, ROWLEY, MA 01969 (978-948-7717).
- WATER SUPPLY: THERE ARE NO KNOWN DRINKING WATER SUPPLY ZONE II'S AND NO KNOWN INTERIM WELLHEAD PROTECTION ZONES ON THE SUBJECT PARCEL BASED ON THE DEPARTMENT OF ENVIRONMENTAL PROTECTION MAPS AND THE PARCEL IS NOT LOCATED WITHIN A NITROGEN SENSITIVE AREA.
- FLOOD PLAIN: THE AREA OF WORK ON THE PROPERTY IS SITUATED IN A ZONE "X" AS ILLUSTRATED ON THE MOST RECENT FLOOD INSURANCE RATE MAP PANEL 250090C-0263-F WITH EFFECTIVE DATE OF JULY 3, 2012.
- DATUM: ELEVATION SHOWN HEREON ARE BASED ON AN ASSUMED DATUM.
- EXISTING CONDITIONS: EXISTING CONDITIONS INFORMATION OBTAINED FROM A FIELD SURVEY PERFORMED BY THE MORIN-CAMERON GROUP, INC. IN SEPTEMBER 2017.

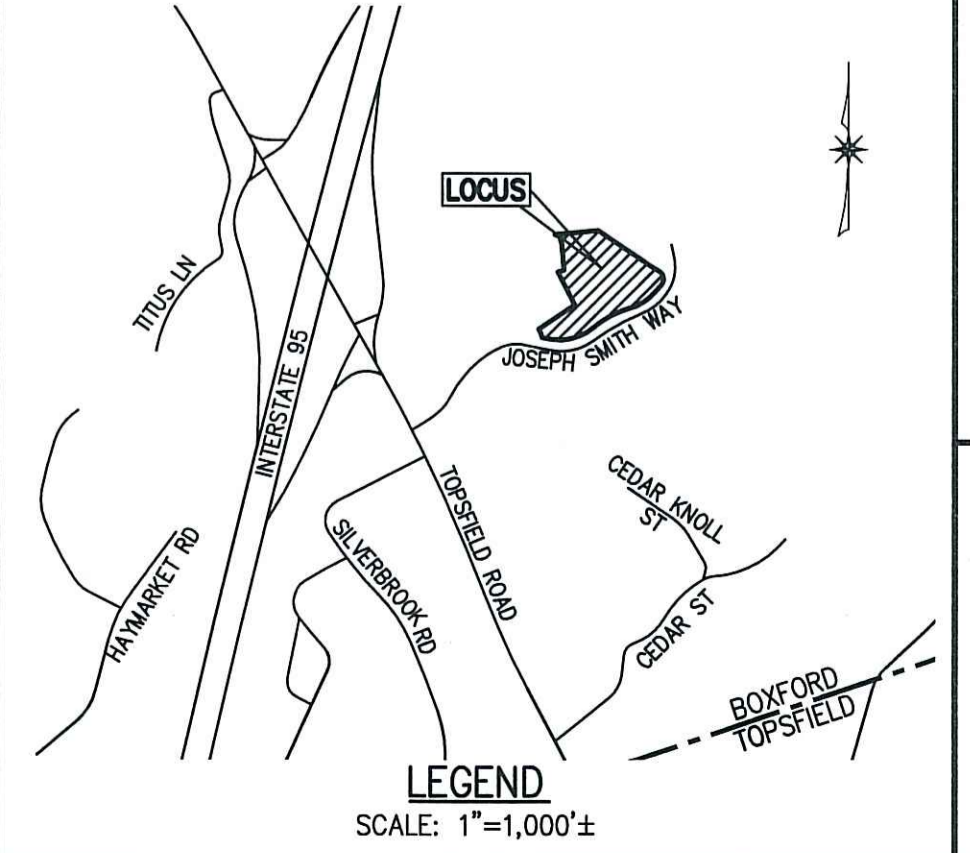
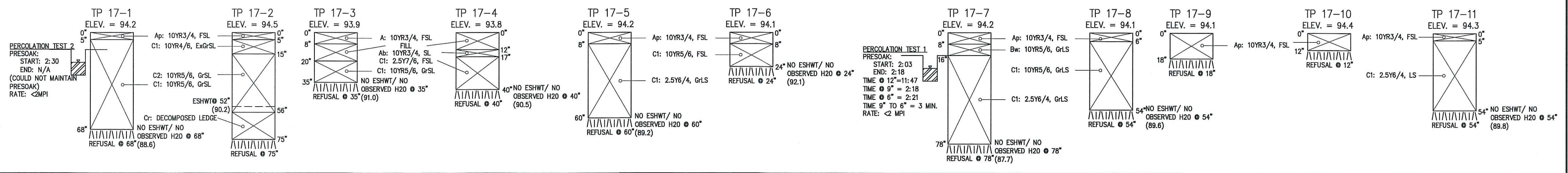
**SEPTIC SYSTEM DESIGN DATA:**

- BUILDING TYPE: SINGLE FAMILY DWELLING
- NO. OF BEDROOMS: 4 BEDROOM DESIGN FLOW
- DESIGN FLOW (TITLE 5): 4 X 110 GPD/BEDROOM = 440 GPD
- DESIGN PERCOLATION RATE: CLASS I SOIL, <2 MPI, LTAR = 0.74 GPD/SF
- GARBAGE DISPOSAL: DESIGNED FOR, HOWEVER NOT RECOMMENDED BY DESIGN ENGINEER. (SEE NOTE 7)
- SEPTIC TANK DESIGN REQUIREMENT: EXISTING 1,500 GAL. SEPTIC TANK SHALL REMAIN (SEE GENERAL NOTE #1)
- SOIL ABSORPTION SYSTEM REQUIREMENTS: (SOIL ABSORPTION SYSTEM SHALL BE DESIGNED TO ACCOMMODATE A GARBAGE GRINDER PER BOXFORD BOH REGULATIONS) (440 GPD X 1.5) / (0.74 GPD/SF) = 892 SF (REQUIRED) REDUCTION FOR PRESBY ENVIRO-SEPTIC: 0.6 X 892 SF = 536 SF
- PER DEP GENERAL USE CERTIFICATION FOR PRESBY ENVIRO-SEPTIC LEACHING SYSTEM TABLES UTILIZED IN THE FOLLOWING SECTION ARE FROM THE PRESBY ENVIRO-SEPTIC QUICK REFERENCE GUIDE.
  - DETERMINE LINEAR FEET OF PIPE FROM TABLE A: 4 BEDROOM, PERC RATE = 1-9 MPI = 200 LF INCREASE TO ACCOMMODATE GARBAGE GRINDER = (200 LF X 1.5) = 300 LF REQUIRED
  - DETERMINE PERCENTAGE OF SLOPE ON THE PROPOSED SYSTEM: 0-10%
  - DETERMINE MINIMUM CENTER TO CENTER SPACING: FROM TABLE B: 0% SLOPE, PERC RATE = 1-10 MPI = 1.5' SPACING (MINIMUM)
  - DETERMINE PIPE LINE LAYOUT: ASSUME 35' PIPE LENGTH WITH 9 LATERALS = 315' OF PIPE TOTAL CTR. TO CTR. SPACING OF 1.5' OVERALL DIMENSIONS: 15' X 37' = 555 SF



**SOIL LOGS**

DATE PERFORMED: SEPTEMBER 14, 2017  
 PERFORMED BY: WILL SCHKUTA, SE#14030  
 WITNESSED BY: KENDALL LONGO, BOXFORD BOH AGENT



**The Morin-Cameron GROUP, INC.**  
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**REVISIONS**

NO.	DATE	DESCRIPTION

**SANITARY DISPOSAL SYSTEM REPAIR PLAN**  
 IN  
 BOXFORD, MASSACHUSETTS  
 36 JOSEPH SMITH WAY  
 (ASSESSOR'S MAP 34, BLOCK 1, LOT 4.1)  
 PREPARED FOR:  
**JOHN LOMBARA**

DRAWING NO. **S - 3592**  
 SHEET NO. **1 OF 2**