

**SITE PLAN:**  
SCALE 1"=20'

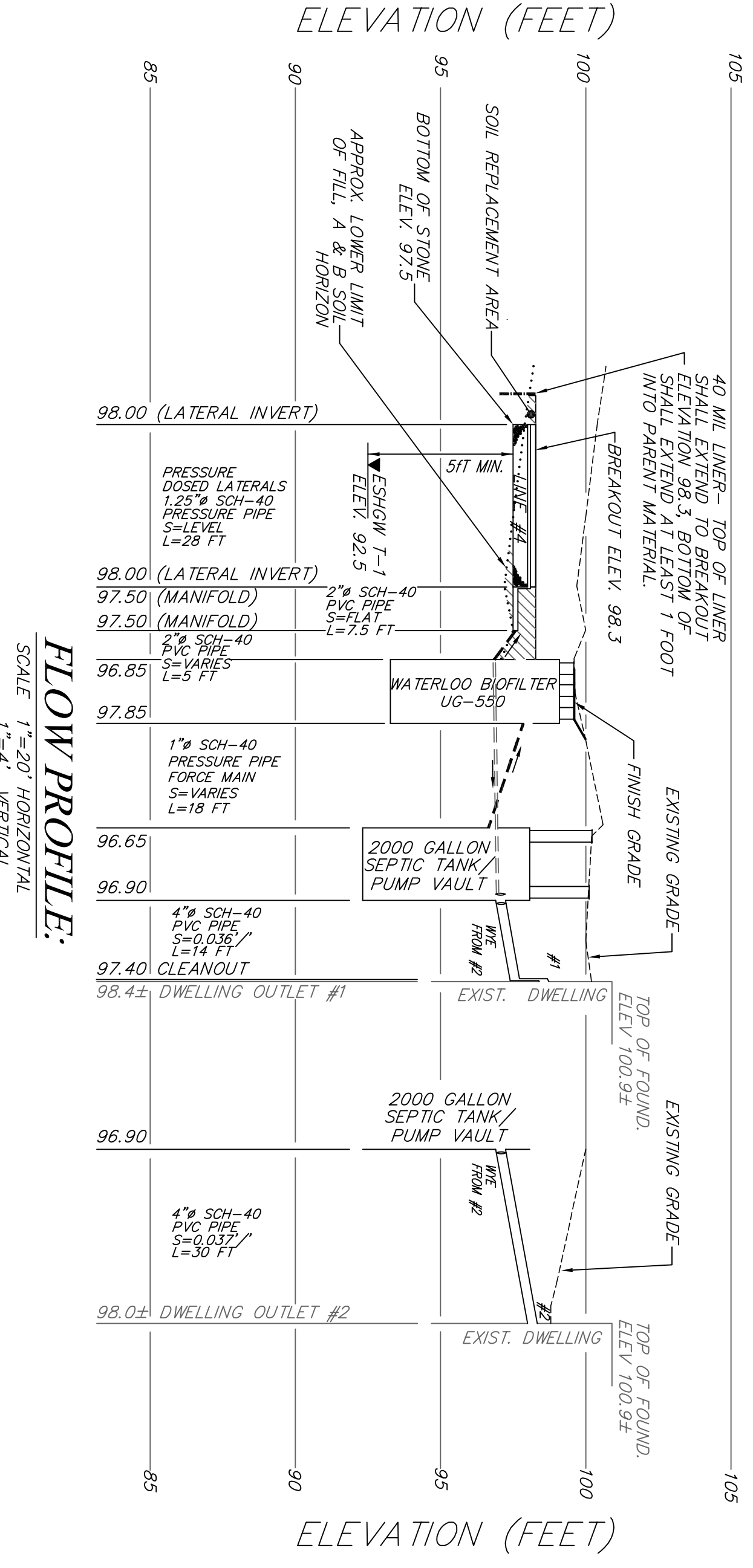
**PLAN REFERENCE:**

- 1) PLAN OF LAND IN BOXFORD MASS OWNED BY VERNON M HAWKINS BY CHARLES C MARTIN ASSOCIATES LAND SURVEYORS DATED MAY 1975 AND RECORDED IN PLAN BOOK 134 PLAN 28
- 2) PLAN OF LAND IN BOXFORD MASS SHOWING "PROPOSED LOT IMPROVEMENTS" 325 IPSWICH ROAD PREPARED FOR KIMBERLY & JEFFREY MARKUN'S DATED JUNE 30, 2010, BY THE NEW-MODERN GROUP, INC.

**PLAN INTENT:**

THIS PLAN IS INTENDED ONLY FOR THE CONSTRUCTION OF A SEPTIC SYSTEM TO SERVE THE SITE. NO OTHER USE OF THIS PLAN IS AUTHORIZED.

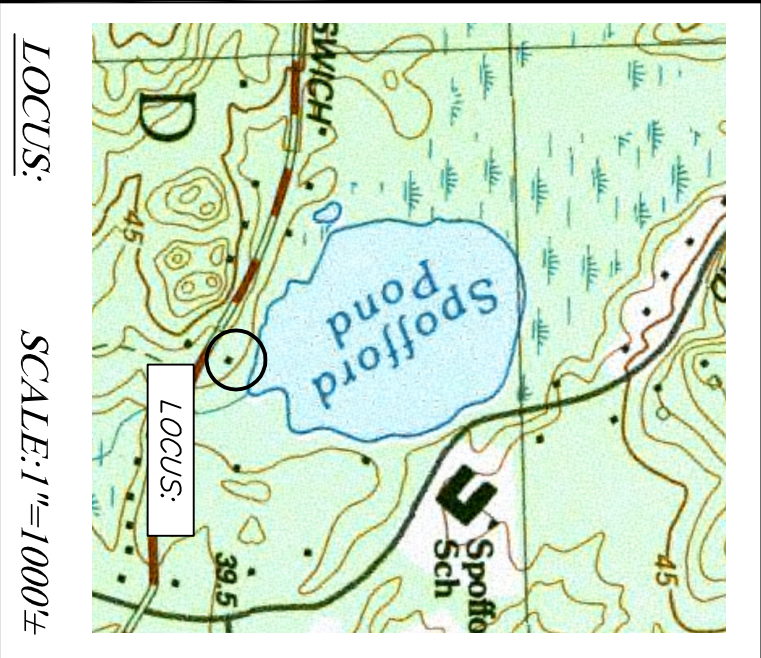
#	BENCHMARKS: ASSUMED DATUM	ELEV.
#1	NAIL IN PAVEMENT	100.00
#2	DOOR THRESHOLD	100.94
#3	DOOR THRESHOLD	100.80



**FLOW PROFILE:**  
SCALE 1"=20' HORIZONTAL  
1"=4' VERTICAL

**LEGEND:**

EXISTING	100	CONTOURS
100X10	SPOT SHOTS	
APPROX. PROPERTY LINES	WATER SERVICE LINE & WELL	
GAS	GAS SERVICE LINE	
FENCE	FENCE	
VEGETATED WETLAND	VEGETATED WETLAND	
APPROX. LIMIT 200 FT RIVERFRONT AREA	APPROX. LIMIT 200 FT RIVERFRONT AREA	
APPROX. LIMIT 100 FT RIVERFRONT AREA	APPROX. LIMIT 100 FT RIVERFRONT AREA	
LIMIT OF 100-FOOT BUFFER ZONE	LIMIT OF 100-FOOT BUFFER ZONE	
LIMIT OF 75-FOOT BUFFER ZONE	LIMIT OF 75-FOOT BUFFER ZONE	
LIMIT OF 50-FOOT BUFFER ZONE	LIMIT OF 50-FOOT BUFFER ZONE	
LIMIT OF 25-FOOT BUFFER ZONE	LIMIT OF 25-FOOT BUFFER ZONE	
NO DISTURBANCE ZONE	NO DISTURBANCE ZONE	
APPROX 100'-100' FLOOD PLAIN (MassGIS)	APPROX 100'-100' FLOOD PLAIN (MassGIS)	
APPROX EDGE OF POND (MassGIS)	APPROX EDGE OF POND (MassGIS)	
SILTATION BARRIER TEST PIT & NO. PERC TEST	SILTATION BARRIER TEST PIT & NO. PERC TEST	
BUILDING	BUILDING	
EDGE OF PAVEMENT FORCE MAIN DECIDUOUS TREE BUSHES TO BE REMOVED TO BE REMOVED CLEANOUT	EDGE OF PAVEMENT FORCE MAIN DECIDUOUS TREE BUSHES TO BE REMOVED TO BE REMOVED CLEANOUT	
TBA	TBA	
TBR	TBR	
CO	CO	



**SOILS INFORMATION:**

SOL Evaluator: JAMES SCANLAN, P.E.  
(SEN2159 - APRIL 1995)  
TOWN WITNESS: NENDELL LONGO  
DATE: NOVEMBER 20, 2019  
I CERTIFY THAT I AM CURRENTLY APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION PURSUANT TO 310CMR10.07 TO CONDUCT SOIL EVALUATIONS AND THE THE RESULTS OF MY SOIL EVALUATION AS INDICATED IN THE ATTACHED SOIL EVALUATION FORM ARE ACCURATE AND IN ACCORDANCE WITH 310CMR 15.100 THROUGH 15.107.

**SOIL PERCOLATION RATE:**  
P-1: DEPTH TO 12"=18" SOIL PERC RATE= 3 MIN/IN  
P-1A: DEPTH TO 12"=36" SOIL PERC RATE= <2 MIN/IN

**SOIL ELEVATIONS:**

TEST PIT	T-1	T-2
GRADE	100.8	99.5
ES.G.W.	92.5	92.0
OBS. G.W.	NONE	NONE
BOTTOM PIT	91.8	90.5

**SOIL PROFILES:**

T-1: 0-10" A FINE SANDY LOAM 10R3/2 GRANULAR FRAGILE  
10-22" B GRAVELY SANDY LOAM 10R4/6 MASSIVE FRAGILE  
22-32" C1 VERY GRAVELY LOAMY SAND 10R4/7 SINGLE GRAIN LOOSE  
32-108" C2 MEDIUM SAND 2.515/6 SINGLE GRAIN LOOSE  
ESHOW @ 100" ROOTS TO 65"

T-2: 0-15" FILL/A FINE SANDY LOAM 10R3/2 GRANULAR FRAGILE  
15-30" B GRAVELY SANDY LOAM 10R4/6 MASSIVE FRAGILE  
30-42" C1 VERY GRAVELY LOAMY SAND 10R4/7 SINGLE GRAIN LOOSE  
42-98" C2 MEDIUM SAND 2.515/6 SINGLE GRAIN LOOSE  
ESHOW @ 90" ROOTS TO 52"

**DESIGN CRITERIA:**

FACILITY TYPE:	SIZE:	SINGLE FAMILY DWELLING	SOIL CLASS:	CLASS 1
UNIT FLOW RATE:	110 GAL/BED/DAY		SOIL PERC RATE:	<3 MIN/INCH
DAILY FLOW:	440 GAL/DAY		LONG TERM ACCEPTANCE RATE:	0.74 GAL/SF/DAY
GARBAGE GRINDER:	NO		REQUIRED LEACH AREA (STATE):	892 SF
SYSTEM DESIGN:	660 GAL/DAY		PROVIDED LEACH AREA: 560 SF (LEACH AREA: 20' X 28' = 560 SF)	

**VARIANCES/WAIVERS:**

REGULATION:	REQUIRED:	PROVIDED:
310CMR15.211(1)	100 FOOT SETBACK BETWEEN LEACHING FACILITY AND WELLS	98 FOOT SEPARATION W/WATERLOO BIOTANK
CHAPTER 201-9(B)	100 FOOT SETBACK BETWEEN LEACHING FACILITY AND WETLANDS	52 FOOT SEPARATION
CHAPTER 201-9(D)	150 FOOT SETBACK BETWEEN LEACHING FACILITY AND WELL (PERC <3 MP)	98 FOOT SEPARATION
CHAPTER 201-9(E)	150 FOOT SETBACK BETWEEN LEACHING FACILITY AND WETLANDS (PERC <3 MP)	52 FOOT SEPARATION
310CMR15.242(1)(c)	560 SF WITH USE OF WATERLOO BIOTANKER (37% REDUCTION) ALLOWABLE UNDER CERTIFICATION FOR REMEDIAL USE OF WATERLOO	

**SUBSURFACE SEWAGE DISPOSAL SYSTEM UPGRADE**  
325 IPSWICH ROAD  
BOXFORD, MA 01921

REGISTRY INFORMATION:  
DEED:  
BOOK NO.: 29196  
PAGE NO.: 60

ASSESSORS INFORMATION:  
MAP: 18  
BLOCK: 2  
LOT: 15

PREPARED FOR:  
KIM & JEFF MARKUN'S  
325 IPSWICH ROAD  
BOXFORD, MA 01921

**SCANLAN ENGINEERING LLC**  
PHONE: (978) 372-3440  
FAX: (978) 891-3888  
EMAIL: info@scanlanengineering.com  
WEB: www.scanlanengineering.com

**PLAN & FLOW PROFILE**  
SHEET 1 OF 2 SCALE: 1"=20"  
PROJECT # 0990