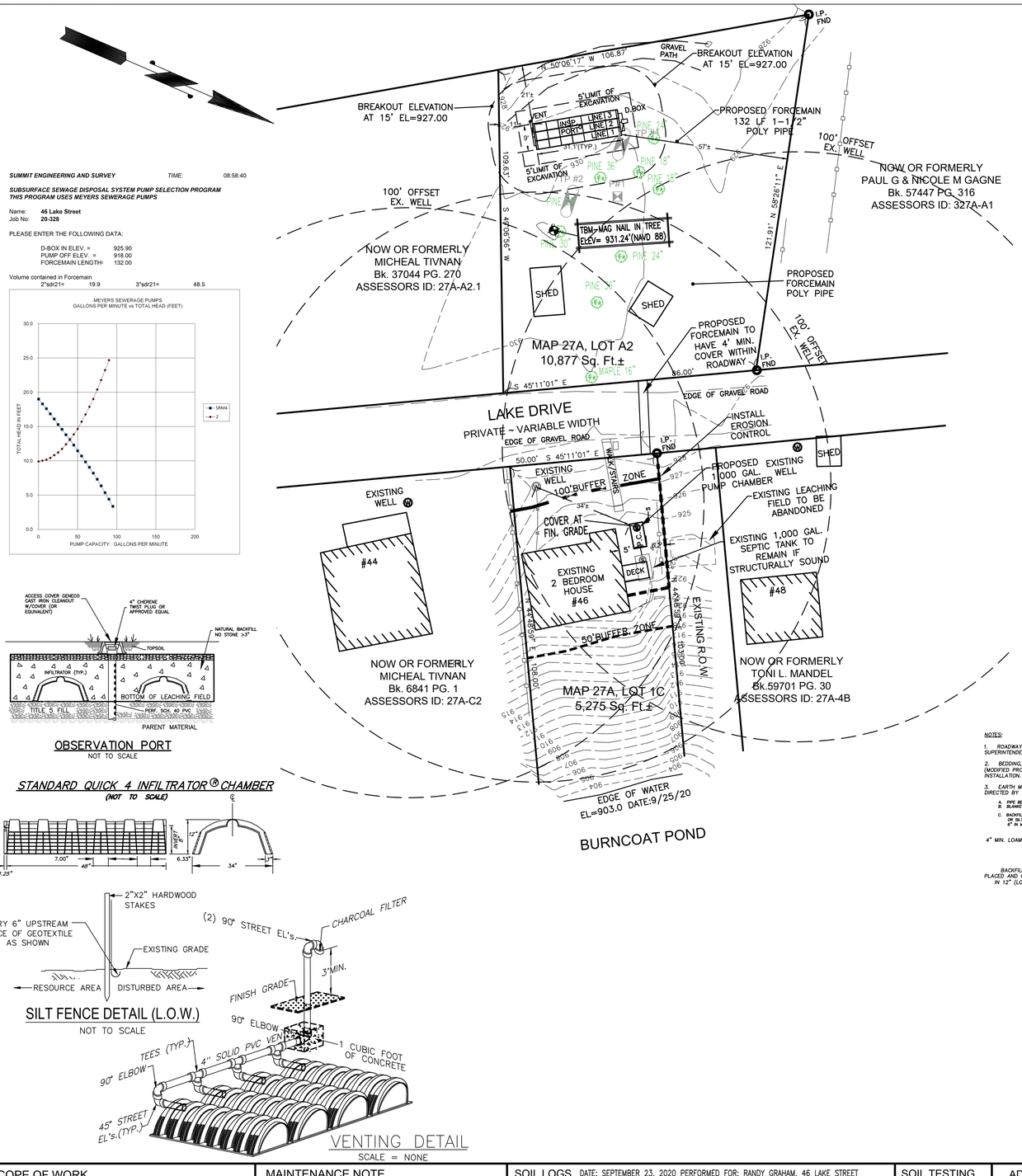
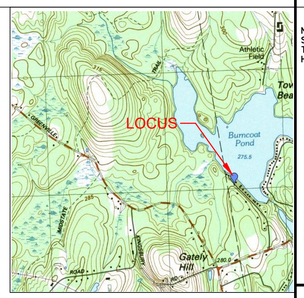
SITE PLAN & DETAILS





LOCUS MAP
1"=800'

811 DigSafe MA-ME-NH-RI-VT

CONTRACTOR TO NOTIFY DIG SAFE PRIOR TO ANY CONSTRUCTION.

WAIVER REQUEST

1. REQUEST WAIVER PER SECTION 15.405 (A.) SETBACK TO EXISTINIG PROPERTY LINES TO ALLOW PROPOSED PUMP CHAMBER TO BE 5' TO PROPERTY LINE INSTEAD OF 10'.
2. REQUEST WAIVER PER SECTION 15.405 (B) SETBACK FROM FOUNDATION TO ALLOW 5' FROM EXISTING FOUNDATION INSTEAD OF 10'.
3. REQUEST A WAIVER TO ALLOW A PUMP CHAMBER TO BE 34' TO WELL INSTEAD OF 50'.

SUMMIT ENGINEERING AND SURVEY TIME: 08:58:40

SUBSURFACE SEWAGE DISPOSAL SYSTEM PUMP SELECTION PROGRAM
THIS PROGRAM USES MEYERS SEWERAGE PUMPS

Name: **46 Lake Street**
Job No: **20-328**

PLEASE ENTER THE FOLLOWING DATA:

D-BOX IN ELEV. = 925.90
PUMP OFF ELEV. = 918.00
FORCEMAIN LENGTH= 132.00

Volume contained in Forcemain
2"sdr21= 19.9 3"sdr21= 48.5

OBSERVATION PORT
NOT TO SCALE

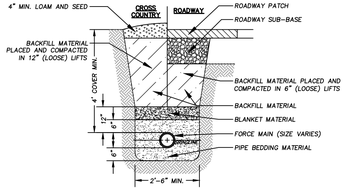
STANDARD QUICK 4 INFILTRATOR® CHAMBER
(NOT TO SCALE)

SILT FENCE DETAIL (L.O.W.)
NOT TO SCALE

VENTING DETAIL
SCALE = NONE

NOTES:

1. ROADWAY PATCH AND BASE/SUB-BASE SHALL BE INSTALLED AS DIRECTED BY THE HIGHWAY SUPERINTENDENT.
2. BEDDING, BLANKET, & BACKFILL MATERIALS SHALL BE COMPACTED TO 90% MAXIMUM DENSITY (MODIFIED PROCTOR) AT OPTIMUM MOISTURE CONTENT FOR BOTH CROSS COUNTRY AND ROADWAY INSTALLATION.
3. EARTH MATERIALS FOR FORCE MAIN INSTALLATION SHALL BE AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR THE APPROVING AUTHORITIES:
   A. PIPE BEDDING: ¼" TO 1½" CRUSHED STONE CONFORMING TO ISWE M2.01.3 – CRUSHED STONE
   B. BLANKET & BACKFILL: ¼" TO 1½" CRUSHED STONE CONFORMING TO ISWE M2.01.3 – CRUSHED STONE OR CRUSHED GRAVEL CONFORMING TO ISWE M2.02.1 – PROCESSED GRAVEL FOR SUB-BASE
   C. BACKFILL MATERIAL: EXCAVATED OR IMPORTED MATERIAL WHICH IS FRIABLE, NATURAL SOIL COMPOSED OF GRAVEL, SAND, OR SILTY/CLAYEY GRAVEL AND SAND, FREE FROM DEBRIS, CONCRETE, OR OTHER RUBBLE, AND STONES GREATER THAN 6" IN MAXIMUM DIMENSION.



FORCE MAIN TRENCH
NOT TO SCALE

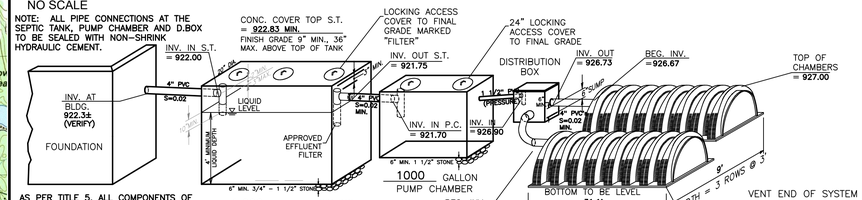
LEGEND

- 300 — EXISTING CONTOUR
- 300 — PROPOSED CONTOUR
- PERCOLATION TEST HOLE
- OBSERVATION TEST HOLE
- S — SEWER LINE
- W — WATER LINE
- G — GAS LINE
- OHW — OVERHEAD WIRES
- D — FOUNDATION DRAIN

SYSTEM PROFILE

NO SCALE

NOTE: ALL PIPE CONNECTIONS AT THE SEPTIC TANK, PUMP CHAMBER AND D.BOX TO BE SEALED WITH NON-SHRINK HYDRAULIC CEMENT.



AS PER TITLE 5, ALL COMPONENTS OF THE SEWAGE DISPOSAL SYSTEM SHALL BE MARKED WITH MAGNETIC LOCATOR TAPE PRIOR TO BACKFILL.

1,000 SEAL JOINT WATERTIGHT

EXISTING SEPTIC TANK (TO REMAIN)

LEACHING FIELD 31.1' x 3' X 3 = 279.9* S.F.
*SEE CALCULATIONS FOR LEACHING AREA PROVIDED.

COMPONENT NOTES

SEPTIC TANK

SEPTIC TANK SHALL BE A PRECAST, REINFORCED CONCRETE TANK MADE WATERTIGHT. CONSTRUCTION MATERIALS AND DIMENSIONS SHALL CONFORM TO TITLE 5 AND AASHTO HS 10 REQUIREMENTS AND PLACED ON A STABLE MECHANICALLY COMPACTED LEVEL BASE.

TANK/ SYSTEM TO BE VENTED THROUGH THE BUILDING PLUMBING SYSTEM AS REQUIRED BY BUILDING CODE.

TANK SHOULD BE INSPECTED, MAINTAINED AND BE PUMPED OUT WHEN SLUDGE DEPTH IN THE BOTTOM EXCEEDS ONE FOURTH OF THE TOTAL LIQUID DEPTH.

AT LEAST THREE 20" MANHOLES SHALL BE PROVIDED. AT LEAST ONE OF THE MANHOLES SHALL HAVE AN ACCESS PORT ACCESSIBLE TO WITHIN 6" OF FINISH GRADE.

"D" BOX

"D" BOX TO BE MADE WATERTIGHT. CONSTRUCTION MATERIALS AND DIMENSIONS SHALL CONFORM TO TITLE 5 AND AASHTO HS 10 REQUIREMENTS AND PLACED ON A STABLE MECHANICALLY COMPACTED LEVEL BASE.

"D" BOX OUTLETS SHALL BE INSTALLED LEVEL ("BUILT UP" INVERTS, NOT PERMITTED.

FIRST 2' (MIN.) OF OUTLETS SHALL BE INSTALLED LEVEL TO EQUALIZE FLOW.

THE MINIMUM INSIDE DIMENSIONS OF THE "D" BOX TO BE 12" AND THE MINIMUM WALL THICKNESS TO BE 2".

WHEN INLET PIPE SLOPE EXCEEDS 8%–PVC INLET TEE REQUIRED. CUT LOW END 1" ABOVE OUTLET INVERT.

"D" BOX COVER TO BE SEALED WITH BITUMEN.

LEACH AREA

ALL LOAM, LARGE BOULDERS OR FOREIGN MATERIAL ENCOUNTERED DURING EXCAVATION ARE TO BE REMOVED FROM THE LEACHING AREA.

ALL SOIL INTERFACES SHALL BE SCARIFIED PRIOR TO THE PLACEMENT OF STONE.

ALL STONE IN PLACE SHALL BE DURABLE, FREE FROM IRON, FINES AND DUST AND DOUBLE WASHED.

WHEN GRAVEL FILL IS REQUIRED, ALL LOAM AND ORGANIC MATERIAL SHALL BE REMOVED FROM AREA TO BE FILLED. FILL SHALL BE COMPACTED TO MINIMIZE SETTLEMENT AND SHALL BE CLEAN GRANULAR MATERIAL, FREE FROM FINES AND ORGANIC MATERIALS, AND SHALL BE IN ACCORDANCE WITH 310 CMR 15.255(3).

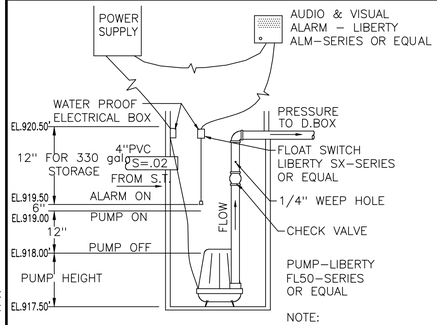
ALL DISTURBED AREAS ARE TO BE LOAMED, SEEDED AND MAINTAINED TO PREVENT EROSION.

AREAS ABOVE THE SOIL ABSORPTION SYSTEM SHALL REMAIN PERVIOUS UNLESS UNAVOIDABLE. IN SUCH CASES THE SYSTEM SHALL BE VENTED.

SYSTEM IN FILL ☐ REQUIRED ☒ NOT REQUIRED

IF ANY PORTION OF THE PROPOSED LEACHING AREA IS LOCATED ABOVE EXISTING GRADE OR WITHIN TOPSOIL, SUBSOIL, PEAT OR OTHER UNSUITABLE OR IMPERVIOUS SOIL LAYER, THEN THE PLACEMENT OF FILL IS REQUIRED. PRIOR TO THE PLACEMENT OF FILL, ALL UNSUITABLE OR IMPERMEABLE SOILS SHALL BE EXCAVATED TO A MINIMUM OF FIVE FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE SOIL ABSORPTION SYSTEM TO THE DEPTH OF NATURALLY OCCURRING PERVIOUS MATERIAL. FILL MATERIAL SHALL BE SELECT, ON-SITE OR IMPORTED SOIL, CONSISTING OF CLEAN GRANULAR SAND, FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES. MIXTURES AND LAYERS OF DIFFERENT SOIL CLASSES SHALL NOT BE USED. THE FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 2 INCHES. A SIEVE ANALYSIS USING A #4 SIEVE, SHALL BE PERFORMED ON A REPRESENTATIVE SAMPLE OF THE FILL. UP TO 45% BY WEIGHT OF THE FILL SAMPLE MAY BE RETAINED IN THE #4 SIEVE. SIEVE ANALYSES SHALL ALSO BE PERFORMED ON THE FRACTON OF FILL SAMPLE PASSING THE #4 SIEVE. SUCH ANALYSES MUST DEMONSTRATE THAT THE MATERIAL MEETS EACH OF THE FOLLOWING SPECIFICATIONS:

	EFFECTIVE PARTICLE SIZE		% THAT MUST PASS SIEVE
# 4	4.75	MM	100%
# 50	0.30	MM	10%–100%
#100	0.15	MM	0%–20%
#200	0.075	MM	0%–5%



PUMP SCHEMATIC
SCALE: NONE

NOTE:
PUMP AND ALARM TO BE WIRED INDEPEN–DENTLY.

DESIGN CRITERIA: PROPOSED/EXISTING USE

DESIGN FLOW FOR 2 BEDROOMS
2 Bedrooms x 110 gal./bedroom/day= 220 gallons/day

THIS SYSTEM IS NOT DESIGNED TO ACCOMMODATE A GARBAGE DISPOSAL. THE USE OF A GARBAGE DISPOSAL IS NOT ALLOWED.

SEPTIC TANK CAPACITY: 1,000 GALLON (EXISTING)(TO REMAIN)

SQUARE FOOTAGE:
SIDEWALL: NOT APPLICABLE = 0 sq.ft.
TOTAL L.F. OF CHAMBERS = 21* 4 = 84 L.F.
TOTAL S.F. PROVIDED = (84+5.5) * 4.72 S.F./L.F.
= 442 S.F.

SOIL CLASSIFICATION: 2 – Windsor Loamy Sand (255A)
LTAR: MIN RATE=0.56 gpd/sq.ft

LEACHING CAPACITY:
SIDEWALL: NOT APPLICABLE = 0 gallons
BOTTOM: 0.56 gal./sq.ft. x 442 sq.ft. = 247 gallons
TOTAL: = 247 gallons

GENERAL NOTES

SYSTEM IS DESIGNED TO ACCOMMODATE SANITARY SEWAGE ASSOCIATED WITH NORMAL DOMESTIC USE AND CONSISTING OF WATER CARRIED PUTRESIBLE WASTE ONLY.

ALL COMPONENTS OF THE SEWAGE DISPOSAL SYSTEM SHALL BE COVERED BY A MAXIMUM OF 36" OF CLEAN BACKFILL MATERIAL, FREE OF STONES AND BOULDERS GREATER THAN 6" IN SIZE.

OWNER SHALL VERIFY EFFECTIVE ZONING REGULATIONS PRIOR TO CONSTRUCTION.

PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON DATE OF TOPOGRAPHY, AND THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. IS NOT INTENDED OR IMPLIED.

ALL PIPING SHALL BE LAID TRUE TO LINE, GRADE AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

THERE ARE NO KNOWN WELLS WITHIN 100' OF THE PROPOSED SEWAGE DISPOSAL SYSTEM. (50' OF THE SEPTIC TANK.)
THERE ARE NO KNOWN SEWAGE DISPOSAL SYSTEMS WITHIN 150' OF THE PROPOSED DISPOSAL SYSTEM.

ALL KNOWN WELLS WITHIN 200' OF THE PROPOSED PRIMARY AND EXPANSION LEACH AREAS ARE SHOWN.

THE DESIGN ENGINEER SHALL BE NOTIFIED PROMPTLY OF ANY PLAN DEFICIENCIES FOUND DUE TO UNFORESEEN SUBSURFACE CONDITIONS OR OTHER REASONS THAT MIGHT AFFECT THE FUNCTION OF THIS DESIGNED SYSTEM.

DEVIATIONS IN DESIGN OR CONSTRUCTION FROM THIS PLAN OR ANY OF THE CONDITIONS RELATING TO THE USE OR MAINTENANCE OF THE PROPOSED SYSTEM SHALL BE DEEMED TO VOID ANY CERTIFICATION OR REPRESENTATION MADE RELATIVE TO THIS SUBSURFACE SEWAGE DISPOSAL SYSTEM.

CONTRACTOR SHALL NOTIFY "DIG SAFE" PRIOR TO ANY EXCAVATION. 1–888–DIG–SAFE (344–7233)

PRIOR TO ANY CONSTRUCTION A BENCHMARK SHALL BE SET WITHIN 50–75' OF THE PROPOSED SEWAGE DISPOSAL SYSTEM.

F.I.R.M. REFERENCE

COMMUNITY NO: 250313
PANEL NO.: 25027C0780E
EFFECTIVE DATE: 07/04/2011

THE DESIGN SHOWN HEREON DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD ZONE.

SCOPE OF WORK

THE CONTRACTORS SCOPE OF WORK INCLUDES BUT IS NOT LIMITED TO:
1. ALL LABORS AND MATERIALS TO INSTALL THE SEWAGE DISPOSAL SHOWN, COMPLETE AND PLACED IN SERVICE.
2. INSURING ALL PERMITS HAVE BEEN OBTAINED.
3. PERFORMING ALL WORK IN ACCORDANCE WITH TITLE 5.
4. ANY MEASURES TO PROTECT THE WETLAND, IF ANY.
5. TIMELY EXECUTION OF THE WORK.

MAINTENANCE NOTE

THE STATE ENVIRONMENTAL CODE, STATES: "SEPTIC TANKS SHOULD BE INSPECTED AND CLEANED AT LEAST ANNUALLY."
NO PERMANENT STRUCTURES ARE TO BE ERECTED IN THE RESERVE AREA.
DO NOT PLANT TREES OVER OR NEAR THE FIELD.
AVOID VEHICULAR TRAFFIC OVER SYSTEM.

SOIL LOGS

DATE: SEPTEMBER 23, 2020 PERFORMED FOR: RANDY GRAHAM, 46 LAKE STREET

TEST PIT #1			
0–12	A	SL	10YR3/2
12–26	B	SL	10YR5/6
26–108	C	SL	2.5Y6/2

REMARKS: LOOSE, SINGLE GRAIN, FRIABLE.
MOTTLES @ N/A

TEST PIT #2			
0–10	A	SL	10YR3/2
10–27	B	SL	10YR5/6
27–96	C	SL	2.5Y4/3

REMARKS: LOOSE, SINGLE GRAIN, FRIABLE.
MOTTLES @ N/A

SOIL TESTING

SEPTEMBER 23, 2020
PERFORMED BY:
PETER LAVOIE
OF SUMMIT ENG.
WITNESSED BY:
JULIE VAN ARSDELIN

RESULT:
PERC TEST 1: 15 MPI

ADDITIONAL NOTES

DEED REFERENCE: RANDY GRAHAM, BOOK 59718 PAGE 384.

PLAN REFERENCE: PLAN BOOK 58, PLAN 36.

WATER SOFTENERS ARE NOT TO BE CONNECTED TO SEPTIC SYSTEM.

AREA IS NOT TRIBUTARY TO A DRINKING WATER SUPPLY.

NO PUBLIC DRINKING WATER SUPPLY WELLS EXIST ON SITE.

REVISIONS

Rev	Date	Description	Made	Check	App.

MUNICIPALITY: LEICESTER PERMIT No.

SEWAGE DISPOSAL SYSTEM
FOR: LOT C1 STREET 46 LAKE STREET
ASSESSOR'S MAP 27A PARCEL C1
TOWN: LEICESTER, MASSACHUSETTS
DESIGNED FOR
RANDY GRAHAM
SCALE: 1" = 20' SEPTEMBER 25, 2020

SUMMIT ENGINEERING & SURVEY , INC.
REGISTERED ENGINEERS, TOPOGRAPHIC SURVEYS
PERCOLATION TESTING, ENVIRONMENTAL CONSULTANTS
710 MAIN STREET NORTH OXFORD, MA 01537
PHONE: (508) 987–8713

PROJECT NO. 20-328 DRAWING 17-192 38 HARWOOD SHEET 1 OF 1