



BREAKOUT CALCULATIONS

BREAKOUT EL= 204.84
DISTANCE = 5' MIN. W/
IMPERVIOUS BARRIER

DEEP HOLE 1 DATE: 07/18/18 ELEV. = 200.9						
DEEP OBSERVATION HOLE LOG						
DEPTH	DIAMETER	SOIL TYPE	WATER LEVEL	PERMEABILITY	REMARKS	TESTER
0'-0"	A	S.L.	10YRS/3	----	MASSIVE TO CHROMA, FEASIBLE	
0'-18"	Bw	S.L.	10YRS/4	----	MASSIVE, FEASIBLE	
18'-64"	C	S.L.	2.5YRS/3	----	MASSIVE, FIRM BOULDERS	

* MINIMUM OF TWO HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA
FURNISH MATERIAL (GRANULAR, GLASS, ETC.) DEPT. TO RECORD : HOLE # & C
DEPTH TO GROUNDWATER. STANDING WATER IN HOLE N.O. RESPONSE FROM PIT FACE N.O.
INTERPOLATED ELASIONAL FROM GROUND WATER : N.C.

DEEP HOLE 2 DATE: 07/18/18 ELEV. = 202.0						
DEEP OBSERVATION HOLE LOG						
DEPTH	DIAMETER	SOIL TYPE	WATER LEVEL	PERMEABILITY	REMARKS	TESTER
0'-0"	A	S.L.	10YRS/3	----	MASSIVE TO CHROMA, FEASIBLE	
0'-18"	Bw	S.L.	10YRS/6	----	MASSIVE, FEASIBLE	
18'-64"	C	S.L.	2.5YRS/3	----	MASSIVE, FIRM BOULDERS	

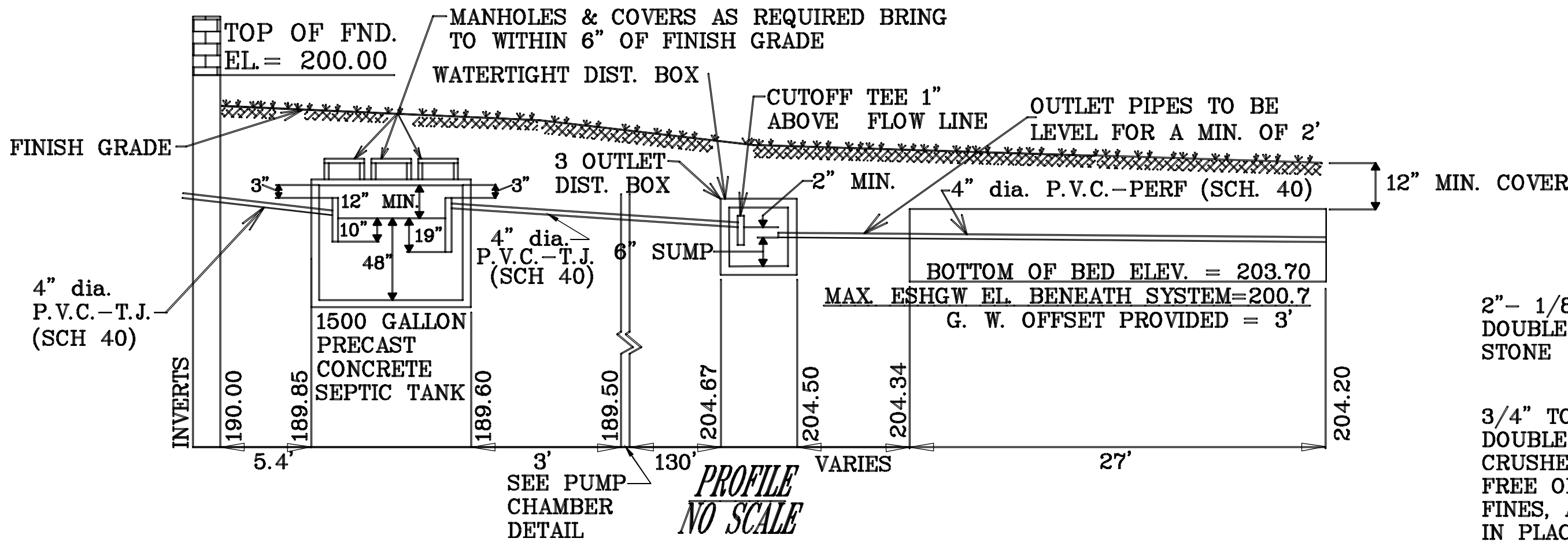
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INTERPOLATED ELASIONAL FROM GROUND WATER : N.C.

PROGRESS PRINT

TBM EL. = 196.97, CUT
SPIKE FND IN UP #4 5/18

EXISTING WELLS
TO BE ABANDONED

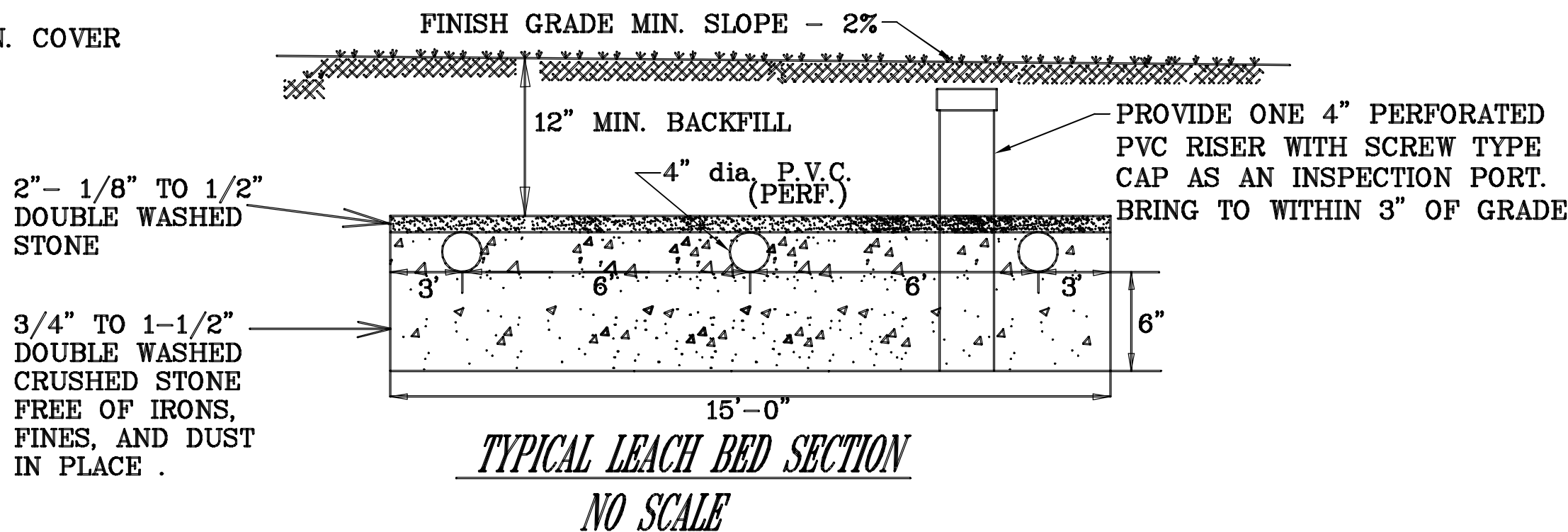
APPROX
LOCATION OF
EXISTING LEACH
AREA



NOTE: OUTLET GAS Baffle & EFFLUENT TEE
FILTER TO BE A POLYLOCK PL-122.

NOTE: PROVIDE A 6" STONE BASE BENEATH THE
SEPTIC TANK AND THE DIST. BOX.

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



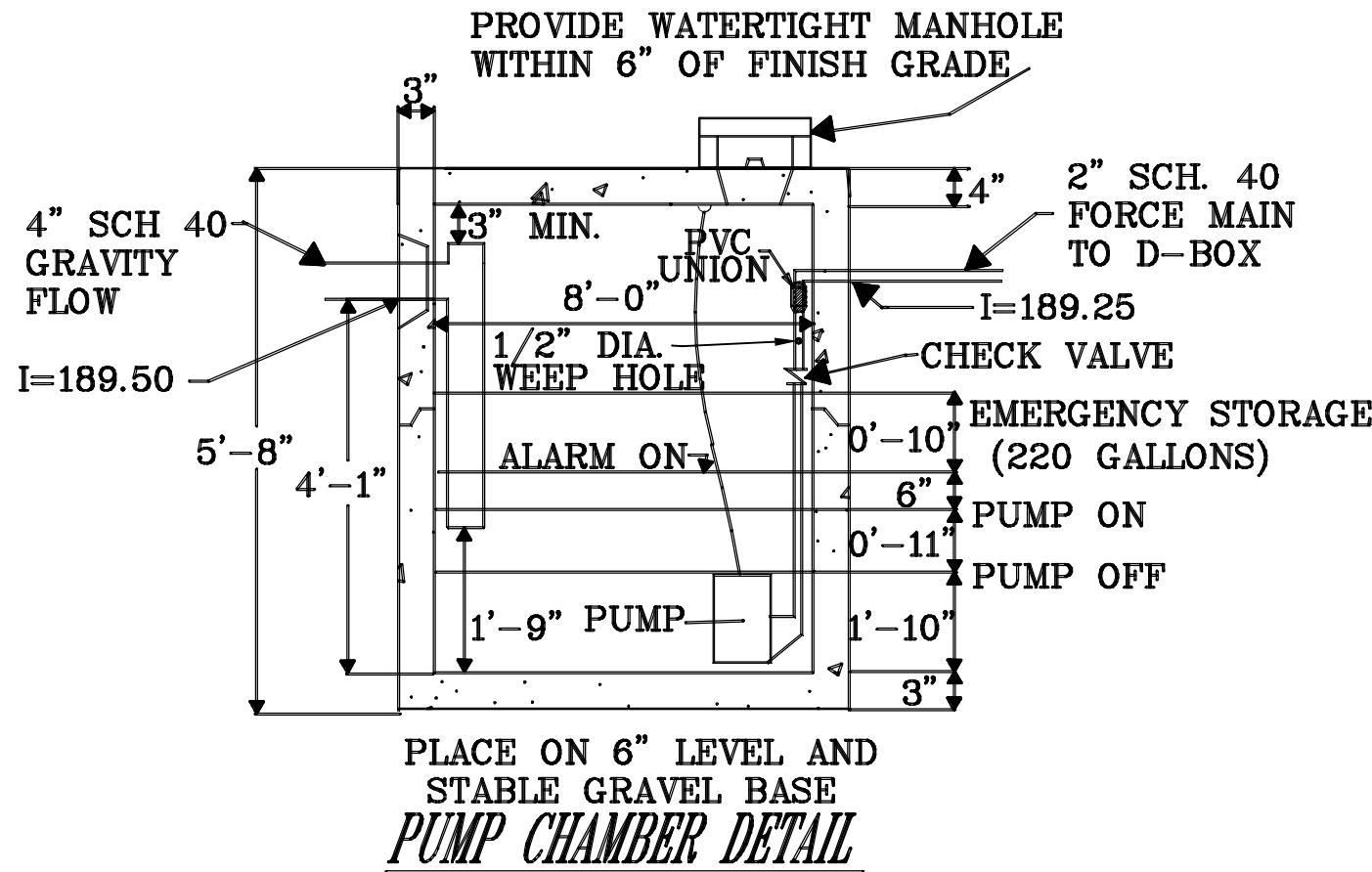
NOTE A: ALL TOPSOIL, SUBSOIL, AND DELETERIOUS MATERIAL, IF ANY, MUST
BE EXCAVATED AND REMOVED BELOW THE LEACHING AREA AND TO
A DISTANCE OF 5 FEET FROM ALL SIDES OF THE LEACHING AREA.
EXCAVATE DOWN TO 3 INCHES BELOW THE SURFACE OF THE
NATURAL PERMEABLE SOIL. BACKFILL AS REQUIRED WITH A CLEAN
GRAVEL OR SAND FILL MATERIAL, FREE FROM FINES, CLAY,
ORGANIC MATERIAL, AND LARGE BOULDERS, HAVING A PERCOLATION
RATE IN ITS ORIGINAL LOCATION AND AFTER PLACEMENT OF TWO
MINUTES PER INCH OR FASTER. CONSTRUCT LEACHING BED IN THIS
MATERIAL. SEE 310 CMR 15.255(3) FOR MATERIAL SPECIFICATION.

I CERTIFY THAT ON JUNE 1995 I HAVE PASSED THE
SOIL EVALUATOR EXAMINATION APPROVED BY THE DEPARTMENT
OF ENVIRONMENTAL PROTECTION AND THAT THE ABOVE ANALYSIS
WAS PERFORMED BY ME CONSISTENT WITH THE REQUIRED TRAINING,
EXPERTISE AND EXPERIENCE DESCRIBED IN 310 CMR 15.017.

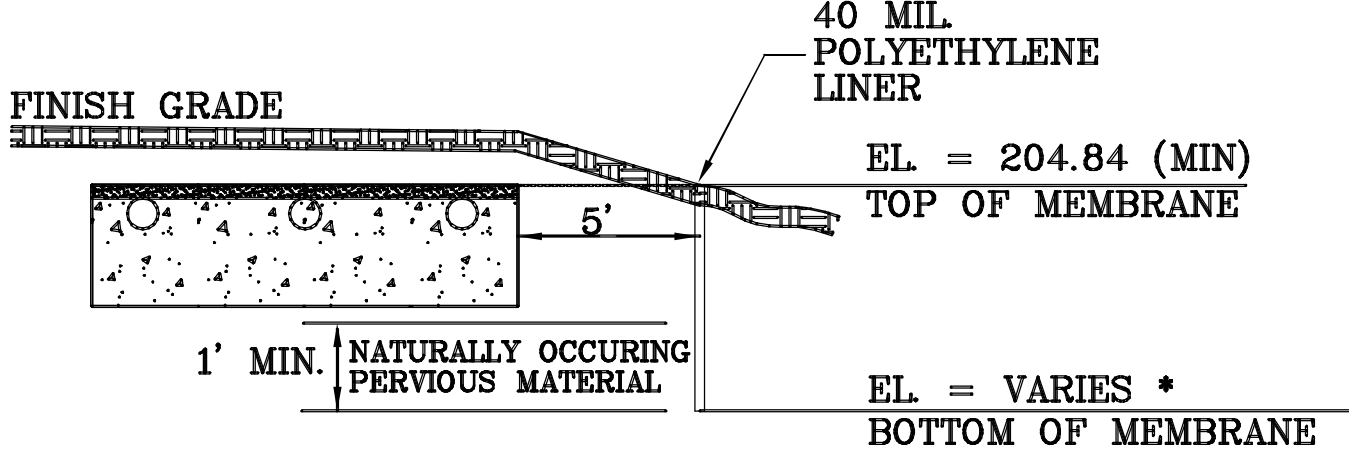
SIGNATURE _____ DATE _____

PUMP SYSTEM NOTES

- 1.) SPECIFICATION FOR SIMPLEX INJECTOR PUMP:
GOULD SUBMERSIBLE PUMP MODEL 3887, SERIES NO. WSO512BF, 230
VOLT, 6.5 AMPS, SINGLE PHASE, 1/2 HP OR APPROVED EQUAL.
- 2.) FOUR (4) FEET OF MINIMUM COVER MUST BE MAINTAINED OVER THE
ENTIRE LENGTH OF THE 2" FORCE MAIN. THE FORCE MAIN WILL BE
INSULATED TO PREVENT FREEZING IN AREAS WHERE THE COVER
REQUIREMENT CANNOT BE MET.
- 3.) THE ALARM SHALL BE ON A SEPARATE CIRCUIT AND BE IN A
"NOTICABLE AREA" AS AGREED UPON WITH THE BOARD OF HEALTH.
ALARM SHALL BE BOTH AUDIBLE AND VISUAL. APPLICABLE CODES.
- 4.) PUMP AND CONTROL FLOATS SHALL BE READILY VISIBLE AND
REMOVABLE. CONTROLS SHALL BE SELF CONTAINED, MERCURY SWITCH
FLOATS. NO SPLICES ON ANY WIRES SHALL BE ALLOWED WITHIN THE
PUMP CHAMBER. ALL ELECTRICAL WORK SHALL CONFORM WITH
- 5.) CONTRACTOR SHALL ASCERTAIN POWER IS AVAILABLE PRIOR TO
ORDERING PUMP AND ACCESSORIES. THE CONTRACTOR WILL OBTAIN AN
ELECTRICAL PERMIT FROM THE TOWN OF HOLDEN CODE DEPARTMENT.



PUMP CHAMBER: CHASE PRECAST PRODUCT NO.
ST1000A (INSIDE DIM. 8' X 4.5') OR APPROVED
EQUAL BY DESIGN ENGINEER



*MEMBRANE MUST EXTEND AT LEAST ONE FOOT INTO THE
NATURALLY OCCURRING PERVIOUS MATERIAL, IT ALSO MUST
BE EQUAL TO OR BELOW THE ELEVATION OF THE GROUND
SURFACE TEN FEET ADJACENT TO THE BARRIER.

GENERAL NOTES

- 1.) NO PROPERTY LINE SURVEY WAS PERFORMED AT THIS TIME.
WE RELY ON EXISTING PLANS AND DEEDS OF RECORD.
- 2.) ALL CONSTRUCTION TO CONFORM TO TITLE 5 OF THE
MASSACHUSETTS STATE ENVIRONMENTAL CODE AND
THE BOARD OF HEALTH REQUIREMENTS FOR THE TOWN
OF OAKHAM, MASSACHUSETTS.
- 3.) TIGHT JOINT PIPING TO CONSIST OF POLYVINYL
CHLORIDE PIPE (P.V.C.) , SCHEDULE 40 , UNLESS
OTHERWISE NOTED.
- 4.) HEAVY MACHINERY NOT PERMITTED TO PASS OVER
PIPE LEACHING AREA.
- 5.) UNDERGROUND UTILITY INFORMATION IS PLOTTED
FROM VISIBLE FIELD LOCATIONS AND AVAILABLE RECORDS.
THE LOCATIONS ARE APPROXIMATE ONLY AND VERIFICATION
MUST BE MADE IN THE FIELD.
- 6.) NO GARBAGE DISPOSAL IS ALLOWED WITH THIS
DESIGN.
- 7.) THERE ARE NO STREAMS OR WETLANDS LOCATED
WITHIN 100 FEET OF THIS SYSTEM. THERE ARE NO CATCH
BASINS LOCATED WITHIN 50 FEET OF THIS SYSTEM.
- 8.) NO FOOTING DRAINS OR DRY WELLS ARE TO BE
LOCATED WITHIN 20 FEET OF THE LEACHING SYSTEM
OR THE EXPANSION AREA OR WITHIN 10 FEET OF THE
SEPTIC TANK.
- 9.) THIS PLAN IS FOR THE DESIGN AND CONSTRUCTION OF
THE SUBSURFACE SEWAGE DISPOSAL SYSTEM ONLY .
- 10.) NO CHANGE SHALL BE MADE TO THIS PLAN WITHOUT
THE APPROVAL OF THE DESIGN ENGINEER AND THE
BOARD OF HEALTH.
- 11.) A COPY OF THIS PLAN MUST BE FURNISHED TO THE
CONTRACTOR CONSTRUCTING THE SYSTEM AND A
COPY MUST BE KEPT ONSITE DURING CONSTRUCTION .
- 12.) ELEVATION DATUM IS ASSUMED .
- 13.) FOR PROPER PERFORMANCE SEPTIC TANK SHOULD BE
INSPECTED AT LEAST ONCE A YEAR AND WHEN THE
TOTAL DEPTH OF SCUM AND SOLIDS EXCEEDS 1/3 THE
LIQUID DEPTH OF THE TANK THE TANK SHOULD BE
PUMPED (USUALLY TWO YEARS).
- 14.) MAGNETIC TAPE SHALL BE INSTALLED ON ALL SYSTEM
COMPONENTS.
- 15.) THERE ARE NO KNOWN PRIVATE WATER SUPPLY WELLS
WITHIN 150 FEET OF THE PROPOSED SUBSURFACE SEWAGE
DISPOSAL SYSTEM. THERE ARE NO KNOWN SURFACE WATER
SUPPLIES OR GRAVEL PACKED PUBLIC WATER SUPPLY WELLS
WITHIN 400 FEET OF THE PROPOSED SUBSURFACE SEWAGE
DISPOSAL SYSTEM. THERE ARE NO KNOWN TUBULAR PUBLIC
WATER SUPPLY WELLS WITHIN 250 FEET OF THE PROPOSED
SUBSURFACE SEWAGE SYSTEM.
- 16.) THE WETLANDS WERE FLAGGED BY ECOTEC INC.

LEGEND

- 100 — INDICATES EXISTING CONTOUR
- 100 INDICATES PROPOSED CONTOUR
- T.P. 1 INDICATES TEST PIT LOCATION AND NUMBER
- P-1 INDICATES PERC TEST LOCATION & NUMBER

PERCOLATION TEST DATA

PERC: 1
DEPTH: 28"
RATE: 13 M.P.I.
DATE: 07/18/2018
TEST PERFORMED BY : JOHN E. FINLAY II, P.E.
TEST WITNESSED BY: MS. JULIE VANARSDALEN, T/O LEICESTER B.O.H.
SOIL EVALUATION BY: JOHN E. FINLAY II, P.E.

DESIGN DATA

- 1.) ESTIMATED HYDRAULIC LOADING :
2 BEDROOMS AT 110 GALLONS/DAY/BEDROOM = 220 GALS./DAY
- 2.) SEPTIC TANK SIZE: 1500 GALLONS
- 3.) LEACHING AREA BASED ON A PERCOLATION RATE OF 15 M.P.I.

TOTAL SIDEWALL AREA: 0 S.F. AT 0.56 GALS./S.F. = 0 G.P.D.
TOTAL BOTTOM AREA: 405 S.F. AT 0.56 GALS./S.F. = 226 G.P.D.
MAXIMUM ALLOWABLE LOADING UNDER TITLE 5 = 226 G.P.D.
ACTUAL HYDRAULIC LOADING = 220 GALS/DAY

REPLACEMENT

DATE	ISSUE	REVISION	DESCRIPTION	APP.
PROPOSED SUBSURFACE SEWAGE DISPOSAL SYSTEM				
PREPARED FOR				
TERRY & MARY O'COIN				
6 LAKE SHORE DRIVE				
LEICESTER, MASSACHUSETTS				
FINLAY ENGINEERING SERVICES			DES. JEF [DWN. ST]CHK. JEF	
625 CHANDLER STREET			SCALE 1"=20'DATE:08/10/18	
WORCESTER, MASSACHUSETTS			PLAN NUMBER	SHEET
			180018	1 OF 1