

CONSTRUCTION SPECIFICATIONS - MOUND

SEPTIC TANK

OPERATION & MAINTENANCE RECOMMENDATIONS

1. MOUND CONSTRUCTION PROCEDURES ARE JUST AS IMPORTANT AS THE MOUND DESIGN. GOOD DESIGN WITH POOR CONSTRUCTION WILL RESULT IN THE MOUND OPERATING POORLY. EXCAVATORS WORK BEST. WHEEL TYPE TRACTORS ARE TOO DIFFICULT TO MANEUVER IN THE FILL. THE FOLLOWING IS A STEP-BY-STEP PROCEDURE FOR MOUND CONSTRUCTION, WHICH HAS BEEN TRIED AND PROVEN. OTHER TECHNIQUES COULD BE USED AS LONG AS YOU BASE PRINCIPLES OF MOUND DESIGN, OPERATION AND CONSTRUCTION ARE NOT VIOLATED.
2. SUBMIT A REPRESENTATIVE SAMPLE ENOUGH TO FILL A 5 GALLON BUCKET OF MOUND SAND FROM THE INTERIOR SOLES FOR TESTING ACCORDING TO STANDARD METHOD V-1000. THE TESTING SHOULD BE DONE BY AN INDEPENDENT TESTING AGENCY. SUBMIT A COPY OF THE RESULTS TO THE DESIGNER PRIOR TO INITIATING CONSTRUCTION.
3. STAKE OUT THE MOUND ON THIS SITE SO THAT THE REFERENCES ON BED RIM PERPENDICULAR TO THE DIRECTION OF THE SLOPE, REFERENCE STAKES ARE RECOMMENDED IN CASE CORNER STAKES ARE DISTURBED. LINDCOU APPLIED GEOLOGY, INC., MUST STAKEOUT OR VERIFY THIS STAKE.
4. STAKE OUT CORNERS OF THE BED AND DETERMINE THE BOTTOM ELEVATION OF THE BED, DISTRIBUTION SYSTEM IN THE MOUND.
5. DETERMINE WHERE THE FORCE MAIN FROM THE PUMP CHAMBER TO THE MOUND, LAY THE PIPE BELOW THE GROUND SURFACE FOR FROST PROTECTION. WHERE THERE IS LESS THAN 12" OF COVER, THE FORCE MAIN SHALL BE ENCASED IN A 4" PVC SLEEVE. THE PIPE MUST BE PLACED IN TWO 1" LAYERS WITH STAGGERED JOINTS. CUT AND CAP THE PIPE BENEATH THE GROUND SURFACE. BACKFILL AND COMPACT SOIL AROUND PIPE TO PREVENT BACK SEEPAGE OF EFFLUENT ALONG PIPE. THIS STEP MUST BE DONE BEFORE FLOoding TO AVOID COMPACTING AND DISTURBANCE OF SURFACE.
7. INSTALL THE CURTAIN DRAIN (IF SHOWN ON PLANS).
8. CHECK THE MOISTURE CONTENT OF THE SOIL AT 1', 4', 8' DEEP. IF IT IS TOO WET, SWEARING AND COMPACTING WILL RESULT. THIS REDUCING THE INITIAL TREATMENT CAPACITY OF THE SOIL. IF IT ROLLS INTO A RIBBON, THE SITE IS TOO WET TO PREPARE. IF IT CRUMBLES, SOIL PREPARATION CAN PROCEED.
9. CUT TREES TO GROUND LEVEL, REMOVE EXCESS VEGETATION BY MOWING. DO NOT REMOVE STUMPS. PREPARE THE SITE BY USING A HOEDORADO FLOW TO CREATE 8-10" DEEP GROOVES TO BE USED IN LAYING THE SOIL. PLACING MUST BE PERFORMED IN ONE PASS. MUST NOT BE DONE ON HEAVY SOILS BUT CAN BE USED ON NON-STRUCTURAL SOIL SUCH AS SANDS. ALTERNATIVELY, FLOWING CAN BE DONE BY USING AN EXCAVATOR BUCKET TO PULL THE SOIL INTO GROOVES PARALLEL WITH THE GROUND CONTOUR. THE RESULTING AS OUTLINED ABOVE. IMMEDIATE CONSTRUCTION AFTER FLOWING IS NECESSARY. AVOID BULGING OF FLOWED AREA WITH VEHICULAR TRAFFIC. DESIGNER INSPECTION REQUIRED AT THIS POINT.
10. EXTEND THE EFFLUENT PIPE TO SEVERAL FEET ABOVE THE GROUND SURFACE.
11. PLACE THE APPROVED FILL MATERIAL AROUND THE EDGE OF THE PLOWED AREA, KEEP THE COMPACTED SOIL AT LEAST 6" INCHES OF SAND BENEATH TRUCKS TO PREVENT THE MOUND, WORK FROM THE END AND UPSLOPE SIDE.
12. MOVE THE FILL MATERIAL INTO PLACE USING A SMALL TRACK TYPE TRACTOR WITH A COMPACTOR ATTACHED TO THE REAR. PLACE THE TRACKS ON THE DOWNHILL SIDE OF THE MOUND, WORK FROM THE END AND UPSLOPE SIDE.
13. PLACE THE FILL MATERIAL TO THE REQUIRED DEPTH, WHICH IS THE TOP OF THE TRENCHES ON BED, SHAPE SIDES TO THE DESIRED SLOPE. INSPECTION REQUIRED AT THIS POINT.
14. WITH THE BLADE OF THE TRACTOR FORM THE BED OR TRENCHES, HAND LEVEL THE BOTTOM OF THE BED, MAKE SURE BOTTOM AT THE SAME ELEVATION AND LEVEL.
15. PLACE THE COARSE AGGREGATE IN THE TRENCHES OR BED. IT SHOULD BE ¾ TO 1 ½" WASHED DUAL GRADE AGGREGATE (I.E. NOT LIMESTONE OR MARBLE). LEVEL AGGREGATE TO THE DESIGN DEPTH.
16. PLACE THE DISTRIBUTION SYSTEM ON THE AGGREGATE. CONNECT THE MANHOLE TO THE FORCE MAIN FROM THE PUMP CHAMBER OR SIPHON CHAMBER. SLOPE MANHOLE AND DISTRIBUTION SYSTEM IN THE MOUND AS REQUIRED AT THIS POINT (1:0 SLOPE).
17. PLACE SIERUS ON ORIFICES AND PROPERLY CEMENT ALL COMPONENTS. PLACE 2" OF AGGREGATE OVER THE SIERUS ON PIPE.
18. PLACE A SYNTHETIC NONWOVEN FILTER FABRIC (MIRAFIL 140N OR EQUIVALENT) OVER THE ENTIRE STONE BED. OVERLAP JOINTS BY MINIMUM 18" PLACE MANHOLE & 8" MANHOLE INSULATION IN TWO LAYERS (1" EACH) AND STAGGER THE JOINT PATTERN.
19. PLACE SOIL ON TOP OF THE BED OR TRENCH TO A DEPTH OF 1" IN CENTER AND 6" AT OUTER EDGE OF BED OR TRENCHES. THIS MAY BE A SUBSOIL OR TOPSOIL.
20. PLACE 6" OF GOOD QUALITY TOPSOIL OVER THE ENTIRE MOUND SURFACE. THIS WILL RAISE THE ELEVATION AT THE CENTER OF THE MOUND TO 10" ABOVE.
21. LANDSCAPE THE MOUND BY PLANTING GRASS. USING THE BEST VEGETATION ADAPTABLE TO THE AREA. A MIXTURE OF 50% BIRDSFOOT TREFOIL AND 50% TALL FESCUE MAY BE USED. BIRDSFOOT TREFOIL SHOULD BE PLANTED AT 10% ANNUAL RATE GRASS MAY BE THE DESIRED VEGETATIVE COVER. SIERUS CAN BE PLANTED AROUND THE BASE AND UP THE SIDESLOPES. THEY SHOULD BE SOMEWHAT MOISTURE TOLERANT SINCE THE TOP OF THE MOUND AND SIERUS AWAY FROM THE TOP OF THE MOUND, AS ROOT SYSTEMS CAN DESTROY THE DISTRIBUTION NETWORK.
22. MOUND MAINTENANCE INVOLVES PLANNING THE SEPTIC TANK AND PUMP CHAMBER EVERY 11 TO 3 YEARS TO AVOID CARRYOVER OF SOLIDS INTO THE MOUND. A GOOD WATER CONSERVATION PLAN WITHIN THE HOUSE ASSURES THAT THE MOUND WILL NOT BE OVERLOADED. AVOID EXCESS TRAFFIC ON THE MOUND AREA. WINTER TRAFFIC ON MOUND SHOULD BE AVOIDED TO MINIMIZE FROST PENETRATION. INSPECT PUMP CHAMBER AND SPECIAL SOILS ON AN ON/OFF BASIS TO DETERMINE THE LEVEL OF SOLIDS ACCUMULATION. MOW TWICE A YEAR.
23. UTILITIES INFORMATION SHOULD BE OBTAINED FROM AVAILABLE SOURCES PRIOR TO MOUND CONSTRUCTION. ALL UTILITIES SHOULD BE MARKED AND LOCATORS SHALL VERIFY EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY. PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN ON THIS PLAN.
24. ALL FILL AROUND THE STRUCTURES SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.
25. THIS DESIGN MUST BE INSPECTED BY LINDCOU APPLIED GEOLOGY, INC., LINDCOU, VERMONT, BEFORE CONSTRUCTION. LINDCOU APPLIED GEOLOGY, INC., LINDCOU, VERMONT, WIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT ARISE FROM FAILURE TO FOLLOW SPECIFICATIONS, AND THE DESIGN INTENT THAT THE PLANS CONVEY, AND FROM FAILURE TO HAVE BEEN NOTIFIED BY THE CONTRACTOR FOR INSPECTIONS.



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1. THE SEPTIC TANKS PURPOSE IS TO SETTLE OUT SOLIDS CONTAINING SOLIDS AND PASS THROUGH THE SOLIDS INTO THE SEPTIC TANK. THE SOLIDS SHOULD BE SETTLED TO THE BOTTOM OF THE TANK AND PASS THROUGH THE SOLIDS INTO THE SEPTIC TANK. THE SOLIDS SHOULD BE SETTLED TO THE BOTTOM OF THE TANK AND PASS THROUGH THE SOLIDS INTO THE SEPTIC TANK. THE SOLIDS SHOULD BE SETTLED TO THE BOTTOM OF THE TANK AND PASS THROUGH THE SOLIDS INTO THE SEPTIC TANK.
2. THE SEPTIC TANK SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND THE DESIGNER'S RECOMMENDATIONS.
3. THE SEPTIC TANK SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND THE DESIGNER'S RECOMMENDATIONS.
4. THE SEPTIC TANK SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND THE DESIGNER'S RECOMMENDATIONS.
5. THE SEPTIC TANK SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND THE DESIGNER'S RECOMMENDATIONS.

SEWAGE DESIGN INFORMATION

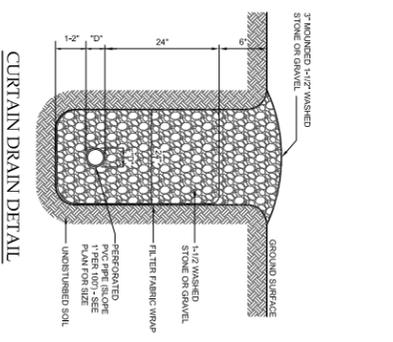
1. THE SEWAGE DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND THE DESIGNER'S RECOMMENDATIONS.
2. THE FOLLOWING MINIMUM ISOLATION DISTANCES SHALL BE MAINTAINED FROM THE DISPOSAL AREA TO:
 - A. PROPERTY LINE: 25 FEET
 - B. BUILDING WITH FLOORING DRAIN, UPLOPE OR WINDSLOPE: 25 FEET
 - C. DRIVEWAYS & PARKING LOTS: 10 FEET
 - D. TREES: 10 FEET
3. BASIS OF DESIGN:
 - A. 100 GPD PER PERSON
 - B. 100 GPD PER PERSON
 - C. 100 GPD PER PERSON
 - D. 100 GPD PER PERSON
4. SEPTIC TANK:
 - A. A 1000 GALLON PRECAST CONCRETE SEPTIC TANK, CAMP PRECAST OR APPROVED EQUIVALENT SHALL BE USED. THE TANK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND THE DESIGNER'S RECOMMENDATIONS.
 - B. THE TANK SHALL HAVE AN EFFLUENT FILTER & A TWO (2) FOOT DIAMETER RISER TO GRADE WITH STEEL COVER.
 - C. THE USE OF GARAGE DISPOSALS IS NOT RECOMMENDED.
 - D. IF A WATER TREATMENT SYSTEM IS GOING TO BE USED, THE BACKWASH WATER MAY NOT BE DISCHARGED INTO THE DISPOSAL SYSTEM.
 - E. MISC:

STATE OF VERMONT MOUND SAND SPECIFICATIONS

Fill material: The fill material from the natural soil placed under the top of the trench or bed shall be sand with less than 5% clay and less than 10% silt.

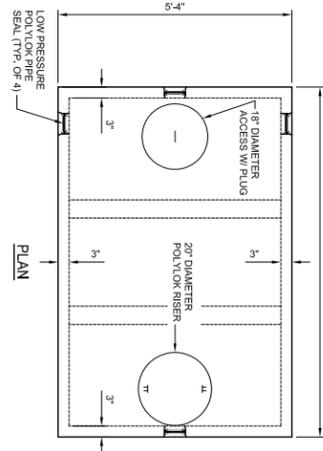
Sieve Number	Quantity (mm)	Percent Passing by Weight
1	8500	85 - 100
2	4250	85 - 100
3	2500	85 - 100
4	1500	85 - 100
5	850	85 - 100
6	425	85 - 100
7	250	85 - 100
8	150	85 - 100
9	75	85 - 100
10	42.5	85 - 100
11	25	85 - 100
12	15	85 - 100
13	7.5	85 - 100
14	4.75	85 - 100
15	2.5	85 - 100
16	1.5	85 - 100
17	750	85 - 100
18	425	85 - 100
19	250	85 - 100
20	150	85 - 100
21	75	85 - 100
22	42.5	85 - 100
23	25	85 - 100
24	15	85 - 100
25	7.5	85 - 100
26	4.75	85 - 100
27	2.5	85 - 100
28	1.5	85 - 100
29	750	85 - 100
30	425	85 - 100
31	250	85 - 100
32	150	85 - 100
33	75	85 - 100
34	42.5	85 - 100
35	25	85 - 100
36	15	85 - 100
37	7.5	85 - 100
38	4.75	85 - 100
39	2.5	85 - 100
40	1.5	85 - 100
41	750	85 - 100
42	425	85 - 100
43	250	85 - 100
44	150	85 - 100
45	75	85 - 100
46	42.5	85 - 100
47	25	85 - 100
48	15	85 - 100
49	7.5	85 - 100
50	4.75	85 - 100
51	2.5	85 - 100
52	1.5	85 - 100
53	750	85 - 100
54	425	85 - 100
55	250	85 - 100
56	150	85 - 100
57	75	85 - 100
58	42.5	85 - 100
59	25	85 - 100
60	15	85 - 100
61	7.5	85 - 100
62	4.75	85 - 100
63	2.5	85 - 100
64	1.5	85 - 100
65	750	85 - 100
66	425	85 - 100
67	250	85 - 100
68	150	85 - 100
69	75	85 - 100
70	42.5	85 - 100
71	25	85 - 100
72	15	85 - 100
73	7.5	85 - 100
74	4.75	85 - 100
75	2.5	85 - 100
76	1.5	85 - 100
77	750	85 - 100
78	425	85 - 100
79	250	85 - 100
80	150	85 - 100
81	75	85 - 100
82	42.5	85 - 100
83	25	85 - 100
84	15	85 - 100
85	7.5	85 - 100
86	4.75	85 - 100
87	2.5	85 - 100
88	1.5	85 - 100
89	750	85 - 100
90	425	85 - 100
91	250	85 - 100
92	150	85 - 100
93	75	85 - 100
94	42.5	85 - 100
95	25	85 - 100
96	15	85 - 100
97	7.5	85 - 100
98	4.75	85 - 100
99	2.5	85 - 100
100	1.5	85 - 100

The material must meet specifications 1, 2 or 3. Introduction of analysis is not permitted. Fill material must be tested every 500 cubic yards of aggregate.

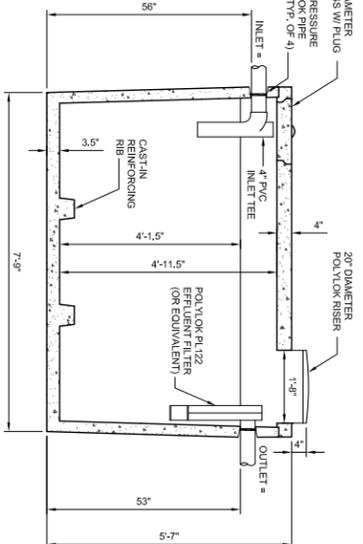


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1. ONLY 1 1/2" WASHED STONE OR GRAVEL SHOULD BE USED.
2. THE 2" x 2" DRAIN SHALL BE COMPLETELY FILLED WITH 1 1/2" STONE OR GRAVEL.
3. THE STONE OR GRAVEL SHALL BE WASHED WITH FILTER FABRIC TO 4" DIMENSION OF EQUALS PIPE DIAMETER.



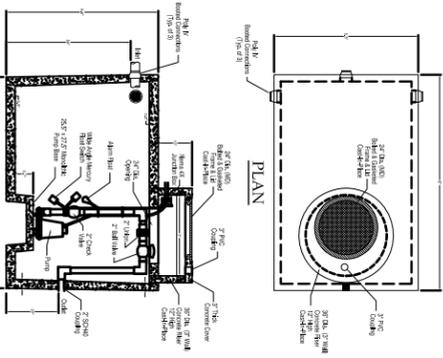
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1000 GALLON PRECAST CONCRETE SEPTIC TANK

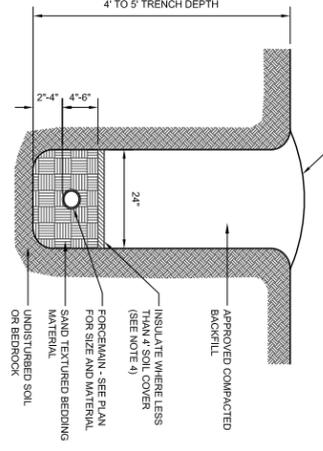
1. INLET, OUTLET SEAL, AND CASTING HOLES TO BE SEALED WITH HYDRAULIC CEMENT AND/OR BUTYLENE CASHEL.
2. TANK TO BE SET LEVEL.
3. DIMENSIONS MAY VARY AMONG DIFFERENT MANUFACTURERS.



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1000 GALLON PRECAST CONCRETE PUMP STATION

1. 4000 PSI CONCRETE, 28 DAY STRENGTH.
2. LOW PRESSURE SEALS DESIGNED TO ACCEPT 4" CL OR PVC PIPE.
3. REQUIRES EFFLUENT PUMP CAPABLE OF PUMPING A MINIMUM OF 23.16 GPM AT 10' HEAD.
4. LEVEL ALARM SET 6" ABOVE THE PUMP ON SETTINGS.
5. THE SEPTIC TANK, PUMP STATION, OR THE DISPOSAL SYSTEM FROM THE DESIGNED LOCATION MAY REQUIRE A DIFFERENT SIZE PUMP.

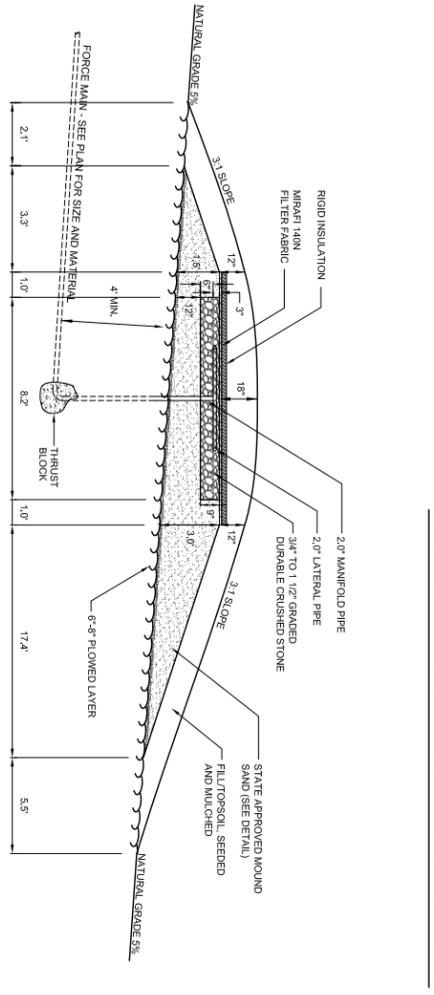


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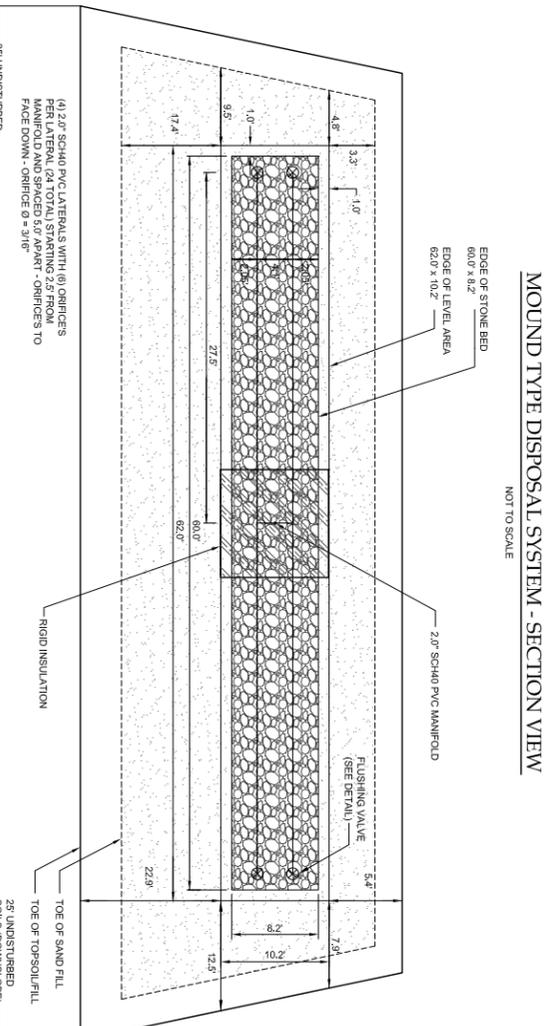
1. BACKFILL AND BEDDING SHALL BE PROPERLY COMPACTED.
2. BEDDING MATERIAL SHALL NORMALLY CONSIST OF WELL-GRADED SANDS AND GRAVELS WITH A MAXIMUM SIZE OF 3/4".
3. BACKFILL SHALL NOT CONTAIN:
 - (a) LARGER THAN 1 1/2" MAXIMUM DIAMETER WITHIN 2' OF THE OUTSIDE OF THE PIPE IN THE LARGEST DIMENSION.
 - (b) GREATER THAN 50 POUNDS.
 - (c) CONTAIN ANY FROZEN WET OR ORGANIC MATERIAL.
 - (d) USES UNDER ROADS, DRIVEWAYS OR PARKING LOTS MAY REQUIRE PROTECTIVE CONDUITS OR SLEEVES.
 - (e) SEPARATION OF PRESSURE WATER LINES CONSIDERED AS SERVICE CONNECTIONS AND WATER LINES CONSIDERED TO BE PART OF A PUBLIC WATER SYSTEM AS DEFINED BY THE VERMONT WATER SUPPLY RULE. THE REQUIREMENTS OF THE VERMONT WATER SUPPLY RULE AND SERVICE LINES SHALL APPLY TO THE VERMONT WATER SUPPLY RULE.
 - (f) CONTACT DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S WATER SUPPLY DIVISION, 100 SOUTH MAIN STREET, WATERBURY, VERMONT FOR ISOLATION DISTANCES RELATIVE TO PUBLIC COMMUNITY WATER SUPPLY.

FORCE MAIN TRENCH DETAIL

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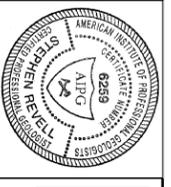
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MOUND TYPE DISPOSAL SYSTEM - PLAN VIEW

- (1) 27" SCH40 PVC LATERALS WITH (6) ORIFICES PER LATERAL (24 TOTAL) STARTING 2.5' FROM MANHOLE AND SPACED 5.0' APART - ORIFICES TO FACE DOWN - SPACING 6" - 8" @ 10'
- (2) 27" SCH40 PVC LATERALS WITH (6) ORIFICES PER LATERAL (24 TOTAL) STARTING 2.5' FROM MANHOLE AND SPACED 5.0' APART - ORIFICES TO FACE DOWN - SPACING 6" - 8" @ 10'
- (3) 27" SCH40 PVC LATERALS WITH (6) ORIFICES PER LATERAL (24 TOTAL) STARTING 2.5' FROM MANHOLE AND SPACED 5.0' APART - ORIFICES TO FACE DOWN - SPACING 6" - 8" @ 10'
- (4) 27" SCH40 PVC LATERALS WITH (6) ORIFICES PER LATERAL (24 TOTAL) STARTING 2.5' FROM MANHOLE AND SPACED 5.0' APART - ORIFICES TO FACE DOWN - SPACING 6" - 8" @ 10'

Therapy certify that the design related information submitted with this application is true and correct, and that in the exercise of my reasonable professional judgment, the design complies with the Vermont Wastewater System and Portable Water Supply Rules and the Vermont Water Supply Rules.

Steve Revell, CPG
Licensed Class B Designer #178



Servin Property
66 Ash Road
Charlotte, Vermont

Wastewater Details Sheet

DATE PROJECT: 11/05/25
DRAWN BY: JACOB DAVIS
CHECKED BY: GREGORY TAMM
SCALE: AS SHOWN
SHEET NO.: 2