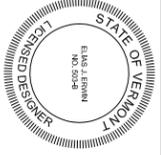


THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.

I hereby 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-related information included in this application for a permit reasonably complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.
Elias J. Erwin
Licensed Class B Designer #503
Date



Bedard Property
863 Guinea Road
Charlotte, Vermont
Site Plan
With Proposed Design Replacement
Wastewater Design Layout

DATE PROJECT 7/11/21
DRAWN BY TAMM
CHECKED BY TAMM
SCALE: 1" = 100'

CONSTRUCTION SPECIFICATIONS - MOUND

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 THE BASIC 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 TRENCHES OR FROM THE BED OR FROM THE PUMP CHAMBER TO ACCORDING TO STANDARD AND VERMONT TESTING TO DETERMINE THE MOUND SAND QUALITY. SUBMIT A COPY OF THE RESULTS TO THE DESIGNER PRIOR TO INITIATING CONSTRUCTION.

3. STAKE OUT THE MOUND ON THIS SITE SO THAT THE TRENCHES OR BED RUN PERPENDICULAR TO THE DIRECTION OF THE SLOPE. REFERENCE STAKES ARE RECOMMENDED IN CASE CORNER STAKES ARE DISTURBED. LINCOLN APPLIED GEOLOGY, INC. MUST STAKE OUT OR VERIFY THIS TASK.

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 CONNECTS TO THE DISTRIBUTION SYSTEM IN THE MOUND.

6. TRENCH AND LAY 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 INCHES OF COVER, THE FORCE MAIN SHALL BE ENCASED IN A 4" RIGID POLYETHYLENE PIPE. THE FORCE MAIN SHALL BE ENCASED IN A 4" RIGID POLYETHYLENE PIPE BENEATH THE GROUND SURFACE. BACKFILL AND COMPACT SOIL AROUND THE PIPE PREVIOUS TO ANY OTHER CONSTRUCTION. THIS STEP MUST BE DONE BEFORE FLOTTING 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' & 6" DEEP. IF IT IS TOO WET, SWEAKING AND COMPACTION WILL RESULT. THIS REDUCING THE NEUTRALIZATION CAPACITY OF THE SOIL 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 MOUNDGRADER TO CREATE 8"-10" DEEP TRACKS TO BE USED FOR THE SCOPE. PLANTINGS MUST BE PLANTED AT THE CORNER OF THE MOUND. PLANTINGS MUST BE PLANTED AT THE CORNER OF THE MOUND. PLANTINGS MUST NOT BE DONE ON HEAVY SOILS BUT CAN BE USED ON NON-STRUCTURAL SOILS SUCH AS SANDS. ALTERNATIVELY, PLANTING CAN BE DONE BY USING AN EXCAVATOR BUCKET TO PULL THE SOIL INTO TRACKS PROVIDED WITH THE GROUND CONTACTS. THE RESULTING AS OUTLINED ABOVE. IMMEDIATE CONSTRUCTION AFTER FLOWING IS NECESSARY. AVOID RUTTING 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 FLOWED AREA. KEEP THE FILL MATERIAL AT LEAST 12 INCHES ABOVE THE GROUND SURFACE. THE TOP OF 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 OF THE NATURAL SOIL.

13. PLACE THE FILL MATERIAL TO THE REQUIRED DEPTH, WHICH IS THE TOP OF THE TRENCHES OR BED. SHAPE SIDES TO THE DESIRED SLOPE. INSPECTION REQUIRED AT THIS POINT.

14. WITH THE BED OF THE TRACTOR FROM 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 4" TO 1 1/2" 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 TO Siphon CHAMBER FOR FLOW. INSPECT, LAID MOST LEVEL. REMOVE GROSS AND DISCHARGE RATE AND PRESSURE TESTING.

17. PLACE STRIPS ON ORIFICES AND PROPERLY CEMENT ALL COMPONENTS. PLACE 2" OF AGGREGATE OVER THE DISTRIBUTION PIPE.

18. PLACE A SYNTHETIC NONWOVEN FILTER FABRIC (MIRAFI 1400 OR EQUIVALENT) OVER THE ENTIRE STONE BED. OVERLAP JOINTS BY 2" MINIMUM. PLACE A 1/4" X 8" X 8" MAT OF RIBD INSULATION IN TWO LAYERS (1" EACH) AND STRAGGER THE JOINT PATTERN.

19. PLACE SOIL ON TOP OF THE BED OR TRENCH TO A DEPTH OF 1" IN CENTER AND 8" 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 A MINIMUM OF 1.5' AND THE OUTSIDE EDGES OF BED OR TRENCHES 1'. INSPECTION REQUIRED AT THIS POINT.

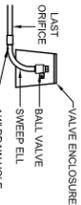
21. LANDSCAPE THE MOUND BY PLANTING GRASS. USING THE BEST VEGETATION ADAPTABLE TO THE AREA. A MIXTURE OF 50% BIRDSFOOT TREECLOVER AND 10% THROUGH GRASS IS RECOMMENDED. THE MOUND SHOULD BE MAINTAINED WITH AN ANNUAL FERTILIZATION OF 60% BIRDSFOOT TREECLOVER, 30% CREEPING RED FESCUE AND 10% ANNUAL FERTILIZATION. THE DESIRED VEGETATIVE COVER. STRIPS CAN BE PLANTED AROUND THE BASE AND UP THE SIDES/SLOPES. THEY SHOULD BE SOMEWHAT MOISTURE TOLERANT SINCE THE TOP OF THE MOUND AND STRIPS AWAY FROM THE TOP OF THE MOUND. AS ROOT SYSTEMS CAN DESTROY THE DISTRIBUTION NETWORK.

22. MOUND MAINTENANCE INVOLVES PLANTING THE SEPTIC TANK AND PUMP CHAMBERS EVERY 1 TO 3 YEARS TO AVOID COVERING 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 Siphon CHAMBER ON A REGULAR BASIS TO BE SURE THE LEVEL OF SOLIDS IS MAINTAINED AT 18" TWICE A YEAR.

23. UTILITIES INFORMATION SUCH AS THIS PLANS OBTAINED FROM AVAILABLE RECORDS AND FIELD SURVEY. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES. CONTRACTORS 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 RILL 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 LINCOLN APPLIED GEOLOGY, INC., LINCOLN, VERMONT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY 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.



FLUSHING VALVE DETAIL
NOT TO SCALE

NOT TO SCALE

OPERATION & MAINTENANCE RECOMMENDATIONS

1. THE SEPTIC TANK'S PURPOSE IS TO SETTLE OUT SOLIDS, CONTAIN THE SOLIDS AND PASS TREATED EFFLUENT. BACTERIA WITHIN THE SEPTIC TANK HELPS DECOMPOSE THE SOLIDS. SHOULD ANY SOLIDS PASS THROUGH THE SEPTIC TANK INTO THE SYSTEM PRELUDE TO CLOGGING OF THE PIPING, STONE OR WASTE SOLID BENEATH THE SYSTEM STREET TO BE CONSERVATIVE AND CLEANING AGENTS CANNOT ENTER THE SYSTEM, AS THEY KILL BACTERIA.

2. THE STATE FLOW FIGURES OF 140 GALLONS PER PERSON SHOULD BE BASED ON SHORT TERM PEAK USE PERIODS (I.E. DAILY EVENTS). ACTUAL FLOWS SHOULD AVERAGE 75-100 GALLONS PER DAY. PER BEDROOMS.

3. ONCE PER YEAR, THE DEPTH OF SCUM AND SLUDGE IN THE SEPTIC TANK SHOULD BE MEASURED AND THE TANK SHALL BE PUMPED IF:

A. THE SOLID LEVEL IS WITHIN 12 INCHES OF THE BOTTOM OF THE OUTLET.

B. THE SOLID LEVEL IS WITHIN 3 INCHES OF THE TOP OF THE OUTLET.

C. IF A OR B IS ANTICIPATED TO OCCUR PRIOR TO THE NEXT INSPECTION.

D. IN ANY CASE, THE TANK SHALL BE PUMPED AT A MAXIMUM 5 YEAR INTERVAL.

4. ONCE A YEAR, THE DISTRIBUTION BOX AND/OR PUMP STATION SHOULD BE INSPECTED AND ANY SETTLED SOLIDS REMOVED.

5. THE EFFLUENT FILTER SHOULD BE INSPECTED AND CLEANED ANNUALLY.

6. ASPECT ITEMS 1-5 ARE INTENDED TO PROLONG THE LIFE OF THE SYSTEM, NOT GUARANTEE IT.

SEWAGE DESIGN INFORMATION

1. THE SEWAGE DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE TOWN REGULATIONS AND THE VERMONT ENVIRONMENTAL PROTECTION RULES.

2. THE FOLLOWING MINIMUM ISOLATION DISTANCES SHALL BE MAINTAINED FROM THE DISPOSAL AREA TO:

PROPERTY LINE	25 FEET
BUILDING WITH FOOTING DRAIN UPSLOPE OR SLOPSLOPE	35 FEET
BUILDING WITH FOOTING DRAIN DOWNSLOPE	75 FEET
DRIVEWAYS & PARKING LOTS	10 FEET
TREES	10 FEET
3. BASIS OF DESIGN	3-BEDRM SEPTIC & 1-BEDRM APT.
NO. OF BEDROOMS	420 + 160 = 580 GPD
DESIGN FLOW	1.0 GAL/SQ. YD. (1" STONE)
DESIGN RATE (TRENCHES)	1.0 GAL/SQ. YD. (1" STONE)

4. SEPTIC TANK
A. A 1,000 GALLON PRECAST CONCRETE SEPTIC TANK, CAMP PRECAST OR APPROVED EQUAL SHALL BE USED, WITH THREE ACCESS COVERS. 4,000 PSI CONCRETE WATERPROOF JOINTS AND SET ON THOROUGHLY COMPACTED SUBGRADE. THE OUTLET MUST BE ENCASED IN A 4" RIGID POLYETHYLENE PIPE WITH A 1/2" DIA. (1" DIA. STONE) DIAMETER FILTER WITH STEEL COVER.
B. THE USE OF GARBAGE DISPOSALS IS NOT RECOMMENDED.

5. MISC.:
A. IF A WATER TREATMENT SYSTEM IS GOING TO BE USED, THE BACKWASH WATER MAY NOT BE DISCHARGED INTO THE DISPOSAL SYSTEM.

STATE OF VERMONT MOUND SAND SPECIFICATIONS

Fill Material: The fill material from the natural soil placed surfaces to the top of the trench or bed shall be sand texture with one of the following sieve analyses:

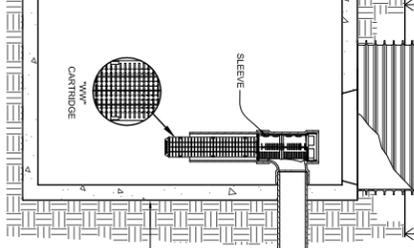
Sieve Number	Openings (mm)	Percent Passing, by Weight
3/8	9.500	85 - 100
40	0.420	25 - 75
60	0.250	0 - 30
100	0.150	0 - 10
200	0.075	0 - 5

Sieve Number	Openings (mm)	Percent Passing, by Weight
4	4.750	95 - 100
6	2.380	80 - 100
10	1.900	75 - 80
30	0.590	25 - 60
50	0.297	10 - 30
100	0.149	2 - 10

Sieve Number	Openings (mm)	Percent Passing, by Weight
3/8	9.500	85 - 100
40	0.420	30 - 50
200	0.075	0 - 10

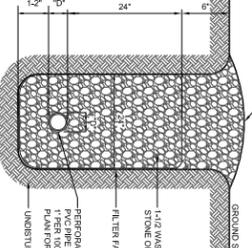
The material must meet specifications 1, 2 or 3. Interpretation of analyses is not permitted. Fill material 2 is ASTM specification C-33 and is intended for manufacturer's material.

SEPTIC TANK



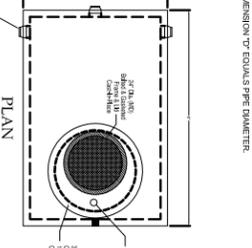
SEPTIC TANK
NOT TO SCALE

RETRO-FIT FILTER DETAIL



RETRO-FIT FILTER DETAIL
NOT TO SCALE

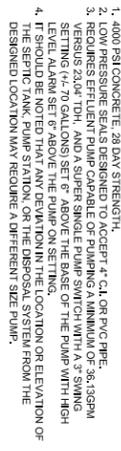
CURTAIN DRAIN DETAIL



CURTAIN DRAIN DETAIL
NOT TO SCALE

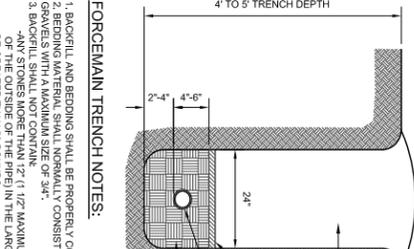
1000 GALLON PRECAST CONCRETE PUMP STATION

DESIGN NOTES:
1. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
2. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
3. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
4. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
5. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
6. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
7. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
8. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
9. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
10. 4,000 PSI CONCRETE, 28 DAY STRENGTH.



1000 GALLON PRECAST CONCRETE PUMP STATION
NOT TO SCALE

FORCEMAIN TRENCH DETAIL



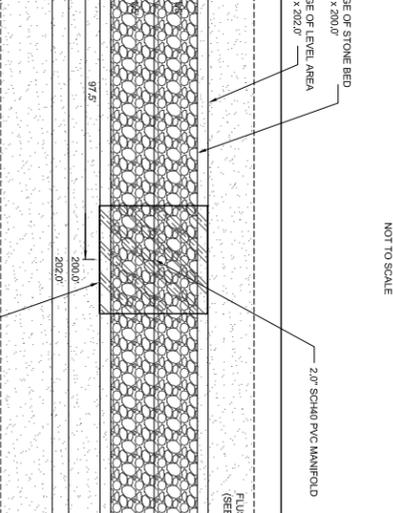
FORCEMAIN TRENCH DETAIL
NOT TO SCALE

FORCEMAIN TRENCH DETAIL



FORCEMAIN TRENCH DETAIL
NOT TO SCALE

MOUND TYPE DISPOSAL SYSTEM - SECTION VIEW



MOUND TYPE DISPOSAL SYSTEM - SECTION VIEW
NOT TO SCALE

MOUND TYPE DISPOSAL SYSTEM - PLAN VIEW



MOUND TYPE DISPOSAL SYSTEM - PLAN VIEW
NOT TO SCALE

ITEM	LEACHFIELD	SEPTIC TANK	SEWER
DILLED WELL	(0)	50	50
GRAVEL PUCK WELL, SHALLOW WELL OR SPRING	(0)	75	75
LAKES, PONDS AND IMPOUNDMENTS	50	25	25
RIVER STRREAM	50	25	10
DRAINAGE SWALES, ROADWAY DITCHES	25	--	--
MAIN OR MUNICIPAL WATER LINES	50	50	(4)
SEWER SERVICE LINES	25	25	(4)
ROADWAYS, DRIVEWAYS, PARKING LOTS	10	5	(6)
TOP OF EMBANKMENT OR SLOPE > 30%	25	10	--
PROPERTY LINE	10	10	10
TREES	10	10	10
OTHER DISPOSAL FIELD OR REPLACEMENT AREA	10 ²	--	--
FOUNDATION, FOOTING DRAINS, CURTAIN DRAINS	35 ³	(0)	--
PUBLIC COMMUNITY WATER SUPPLY (4)	(0)	(0)	(0)
SUCTION WATER LINE	100	50	50

THESE DISTANCES MAY BE REDUCED WHEN EVIDENT THAT THE DISTANCE IS UNNECESSARY TO PROTECT ANY ITEM OR INCREASED IF NECESSARY TO PROVIDE ADEQUATE PROTECTION.

(a) ISOLATION DISTANCES APPLY REGARDLESS OF PROPERTY LINE AND OWNERSHIP.

(b) SEPARATION BETWEEN POTABLE WATER SUPPLY LINES AND LEACH FIELDS SHALL BE DETERMINED BY METHODS IN THE VERMONT WATER AND SUPPLY RULE, APPENDIX 21-A, PART 1.

(c) SEWERS UNDER ROADS, DRIVEWAYS OR PARKING LOTS MAY REQUIRE PROTECTIVE CONDUITS OR SLEEVES.

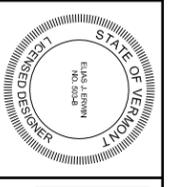
(d) SEPARATION OF PRESSURE WATER LINES CONSIDERED AS SERVICE CONNECTIONS AND WATER LINES CONSIDERED TO BE PART OF A PUBLIC WATER SYSTEM AS DEFINED BY THE VERMONT WATER SUPPLY RULE, AND SEWER LINES SHALL ADHERE TO THE REQUIREMENTS OF THE VERMONT WATER SUPPLY RULE.

(e) CONTRACT DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S WATER SUPPLY DIVISION, 100 SOUTH MAIN STREET, WATERBURY, VERMONT FOR ISOLATION DISTANCES RELATIVE TO PUBLIC COMMUNITY WATER SUPPLY.

WASTEWATER SYSTEM ISOLATION DISTANCES

Thoroughly verify 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 design included in this application for a permit reasonably complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

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