



**LOT 2 WATER SYSTEM DEMAND (11.3)**  
 PROPOSED WELL TO SERVE NEW 5 BR HOME.  
 PROPOSED: 3 BRx140 GPD/BR = 420 GPD  
 2 BRx70 GPD/BR = 140  
 ADD TOTAL = 560 GPD  
**AVERAGE DAY DEMAND (11.3.0)**  
 MDD = 560 GPD/720 MIN. = 0.78 GPM  
**INSTANTANEOUS PEAK DEMAND (11.3.2)**  
 IPD: 1 UNIT @ 5 GPM/UNIT = 5 GPM  
 YIELD TO BE DETERMINED.  
 PRESSURE TANK, WATER SERVICE AND PUMP SIZE MUST BE CAPABLE OF DISCHARGING 5 GPM @ 50 PSI.

**LOT 3 WATER SYSTEM DEMAND (11.3)**  
 PROPOSED WELL TO SERVE NEW 3 BR HOME.  
 PROPOSED: 3 BRx140 GPD/BR = 420 GPD  
 ADD TOTAL = 420 GPD  
**AVERAGE DAY DEMAND (11.3.0)**  
 MDD = 420 GPD/720 MIN. = 0.58 GPM  
**INSTANTANEOUS PEAK DEMAND (11.3.2)**  
 IPD: 1 UNIT @ 5 GPM/UNIT = 5 GPM  
 YIELD TO BE DETERMINED.  
 PRESSURE TANK, WATER SERVICE AND PUMP SIZE MUST BE CAPABLE OF DISCHARGING 5 GPM @ 50 PSI.

**DRILLED WELL ISOLATION DISTANCES (CH. 21)**

CONTAMINATION SOURCES	MINIMUM
ROADWAY/PARKING LOT (EDGE OF SHOULDER)	25 FT
DRIVEWAY (LESS THAN 3 RESIDENCES)	15 FT
DISPOSAL FIELD/BASAL AREA OF MOUND	100-200 FT (1)
SUBSURFACE WASTEWATER PIPING/TANKS	50 FT
PROPERTY LINE	10 FT (2)
LIMIT OF HERBICIDE APPLICATION (UTILITY R.O.W.)	100 FT (3)
BUILDINGS	10 FT
CONCENTRATED LIVESTOCK HOLDING AREA AND MANURE STORAGE SYSTEMS	200 FT

1. AS DEPICTED BY WELLHEAD PROTECTION ZONE.  
 2. INCREASE TO 50 FT ADJACENT TO AGRICULTURAL CROPLAND.  
 3. APPLICATION IN LAST 12 MO. OR IN FUTURE.

\* WELLHEAD PROTECTION ZONE DEPICTED ON PLAN.  
 \*\* NO WELL PERMITTED WITHIN FLOODWAY.

**DRILLED WELL LOCATION NOTE**  
 PROPOSED WELL LOCATION(S) ARE GENERALLY BASED ON ISOLATION DISTANCES TO WASTEWATER DISPOSAL SYSTEM(S). NO HYDROGEOLOGIC INFORMATION WAS USED TO ESTABLISH THE LOCATION OR THAT THE LOCATION(S) WILL SUPPLY THE PROJECT WITH SUFFICIENT QUANTITY OR QUALITY.

**LOT 1 WASTEWATER SYSTEM BASIS OF DESIGN**  
 (EXAMPLE DESIGNATED REPLACEMENT)  
 PROJECT: EXISTING 4 BR HOME.  
 DESIGN FLOWS: 3 BRx140 GPD/BR = 420 GPD  
 1 BRx70 GPD/BR = 70  
 ADD TOTAL = 490 GPD  
 DESIGN PERCOLATION RATE: 14.4 MPL.  
 APPLICATION RATE:  $(0.8)(3+\sqrt{14.4}) = 0.63$  GDSF (USE 1.0 MAX. RATE)  
 490 GPD + 1.0 GDSF = 490.0 SF REQUIRED AREA.  
 DESIGN SCENARIO: 10.0'Wx56.0'L ABSORPTION BED = 560.0 SF.  
 BASAL AREA: 490 + 0.74 GDSF = 662.2 SF = 11.8'Wx56.0'L.  
 NOTE:  
 THE EXISTING WASTEWATER SYSTEM IS NOT CURRENTLY FAILED PER OWNER (NO EVIDENCE OF SURFACING OR REPORTED BACKUPS).  
 THIS DESIGN CONFIGURATION IS INTENDED TO PROVIDE AN EXAMPLE OF WHAT MAY BE CONSTRUCTED FOR A 4 BR HOME. AN APPLICATION AND FEE MUST BE SUBMITTED TO THE STATE OF VERMONT WHEN THE REPLACEMENT SYSTEM (WITHIN OFF-SITE EASEMENT) IS REQUIRED. THE APPLICATION SHALL INCLUDE ALL DESIGN DETAILS NECESSARY TO CONSTRUCT THE SYSTEM.

**LOT 2 WASTEWATER SYSTEM BASIS OF DESIGN**  
 PROJECT: PROPOSED 5 BR HOME.  
 DESIGN FLOWS: 3 BRx140 GPD/BR = 420 GPD  
 2 BRx70 GPD/BR = 140  
 ADD TOTAL = 560 GPD  
 DESIGN PERCOLATION RATE: 22.6 MPL.  
 APPLICATION RATE:  $(0.8)(3+\sqrt{22.6}) = 0.50$  GDSF (USE 1.0 MAX. RATE)  
 560 GPD + 1.0 GDSF = 560.0 SF REQUIRED AREA.  
 CONSTRUCT A 10.0'Wx56.0'L ABSORPTION BED = 560.0 SF.  
 BASAL AREA: 560 + 0.74 GDSF = 756.8 SF = 13.5'Wx56.0'L.

**LOT 3 WASTEWATER SYSTEM BASIS OF DESIGN**  
 PROJECT: PROPOSED 3 BR HOME.  
 DESIGN FLOWS: 3 BRx140 GPD/BR = 420 GPD  
 ADD TOTAL = 420 GPD  
 DESIGN PERCOLATION RATE: 13.0 MPL.  
 APPLICATION RATE:  $(0.8)(3+\sqrt{13.0}) = 0.67$  GDSF (USE 1.0 MAX. RATE)  
 420 GPD + 1.0 GDSF = 420.0 SF REQUIRED AREA.  
 CONSTRUCT AN 8.0'Wx52.5'L ABSORPTION BED = 420.0 SF.  
 BASAL AREA: 420 + 0.74 GDSF = 567.6 SF = 10.8'Wx52.5'L.

**LOT 2 HEAD LOSS CALCULATIONS**  
 REQUIRED GPM: (28) 1/4" ORIFICES = 1.82 GPM/ORIF. @ 2.5" = 32.8 GPM  
 1/4" WEEP HOLE (±) = 1.5 = 34.3 GPM  
 TOTAL = 34.3 GPM  
 FRICTION LOSS:  
 BASED UPON 50 FT EQUIVALENT LENGTH OF 2" FM = ± 1.3 FT  
 ELEVATION LOSS = 822.7 (AT FIELD) - ± 819.0 (PUMP OFF) = ± 3.7  
 NETWORK LOSS = 1.31 X 2.5" = ± 3.3  
 TOTAL LOSS = ± 8.3 FT

**LOT 3 HEAD LOSS CALCULATIONS**  
 REQUIRED GPM: (20) 5/16" ORIFICES = 1.82 GPM/ORIF. @ 2.5" = 36.4 GPM  
 1/4" WEEP HOLE (±) = 1.5 = 38.7 GPM  
 TOTAL = 38.7 GPM  
 FRICTION LOSS:  
 BASED UPON 120 FT EQUIVALENT LENGTH OF 2" FM = ± 3.8 FT  
 ELEVATION LOSS = 864.7 (LATERAL) - ± 863 (PUMP OFF) = ± 1.7  
 NETWORK LOSS = 1.31 X 2.5" = ± 3.3  
 TOTAL LOSS = ± 8.8 FT

**TEST PIT LOG**  
 DATE: 7/21/16  
 METHOD: BACKHOE (J. BEDELL)  
 PRESENT: J. WILLIS, L.D.  
 J. WYMAN, VT DEC

101  
 0'-9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.  
 9'-13": 10YR 3/6 (DARK YELLOWISH-BROWN) LOAMY SAND, LOOSE.  
 13'-26": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FRIABLE.  
 26'-34": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.  
 34'-44": 2.5Y 4/2 (DARK GRAYISH-BROWN) SAND, LOOSE.  
 44'-84": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.  
 SEASONAL HIGH WATER TABLE (SHWT) NONE TO DEPTH.  
 BEDROCK NONE TO DEPTH.

102  
 0'-4": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.  
 4'-14": 10YR 3/6 (DARK YELLOWISH-BROWN) FINE SANDY LOAM, VERY FRIABLE.  
 14'-23": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FRIABLE.  
 23'-39": MIXED SINGLE GRAIN VERY COARSE SAND, LOOSE.  
 39'-58": 2.5Y 4/2 (DARK GRAYISH-BROWN) SAND, LOOSE.  
 58'-75": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SHWT 58".  
 BEDROCK NONE TO DEPTH.

103  
 0'-9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.  
 9'-84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.  
 SHWT NONE TO DEPTH.  
 BEDROCK NONE TO DEPTH.

104  
 0'-9": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.  
 9'-21": 10YR 4/6 (DARK YELLOWISH-BROWN) FINE SAND, VERY FRIABLE.  
 21'-35": 10YR 3/6 (DARK YELLOWISH-BROWN) SAND, LOOSE.  
 35'-84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.  
 SHWT NONE TO DEPTH.  
 BEDROCK NONE TO DEPTH.

105  
 0'-6": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.  
 6'-14": 10YR 3/6 (DARK YELLOWISH-BROWN) FINE SANDY LOAM, FRIABLE.  
 14'-84": MIXED SINGLE GRAIN FINE GRAVELLY COARSE SAND, LOOSE.  
 WEST END OF PIT: 38'-48": 2.5Y 4/2 (DARK GRAYISH-BROWN) ALTERNATING LAYERS OF FINE SAND AND FINE SANDY LOAM, REDOX. FEATURES AT 38'-40".  
 SHWT NONE TO DEPTH.  
 BEDROCK NONE TO DEPTH.

106  
 0'-7": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, FRIABLE.  
 7'-21": 2.5Y 4/4 (OLIVE-BROWN) FINE SANDY LOAM, FRIABLE.  
 21'-36": 2.5Y 4/2 (DARK GRAYISH-BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SHWT 21".  
 BEDROCK NONE TO DEPTH.

107  
 0'-5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, FRIABLE.  
 5'-46": 10YR 4/6 (DARK YELLOWISH-BROWN) SANDY LOAM, VERY FRIABLE.  
 46'-56": 2.5Y 4/2 (DARK GRAYISH-BROWN) SAND, LOOSE.  
 56'-58": 2.5Y 4/2 (DARK GRAYISH-BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SHWT 56".  
 BEDROCK NONE TO DEPTH.

108  
 0'-8": 10YR 3/3 (DARK BROWN) SANDY LOAM, FRIABLE.  
 8'-15": 10YR 4/4 (DARK YELLOWISH-BROWN) GRAVELLY COARSE SAND, LOOSE.  
 15'-52": MIXED SINGLE GRAIN VERY GRAVELLY COARSE SAND, LOOSE.  
 52'-62": 2.5Y 5/2 (GRAYISH-BROWN) FINE SAND, VERY FRIABLE.  
 SHWT NONE TO DEPTH.  
 BEDROCK NONE TO DEPTH.

109  
 0'-5": 10YR 3/3 (DARK BROWN) SANDY LOAM, FRIABLE.  
 5'-24": 10YR 4/6 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, FRIABLE.  
 24'-28" (NORTH)/34" (SOUTH): 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM (BROKEN HORIZONTAL).  
 28'-74"-48": MIXED SINGLE GRAIN VERY GRAVELLY VERY COARSE SAND, LOOSE. IRON STAINS AT 32" AT NORTH END.  
 SHWT 32".  
 BEDROCK NONE TO DEPTH.

110  
 0'-10": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 10'-26": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 26'-42": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, VERY FIRM, FEW STONES, REDOX. FEATURES.  
 SHWT 26".  
 BEDROCK NONE TO DEPTH.

111  
 0'-8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 8'-26": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 26'-50": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.  
 SHWT 26".  
 BEDROCK NONE TO DEPTH.

112  
 0'-8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 8'-30": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 30'-48": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.  
 SHWT 30".  
 BEDROCK NONE TO DEPTH.

113  
 0'-5": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 5'-27": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 27'-36": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.  
 36'-52": 2.5Y 4/2 (DARK GRAYISH-BROWN) LOAMY FINE SAND AND GRAVEL. FIRM IN PLACE, LOOSE IN HAND, REDOX. FEATURES.  
 SHWT 27".  
 BEDROCK NONE TO DEPTH.

114  
 0'-6": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 6'-30": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 30'-48": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.  
 SHWT 30".  
 BEDROCK NONE TO DEPTH.

115  
 0'-5": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 5'-28": 10YR 3/4 (DARK YELLOWISH-BROWN) VERY FINE SANDY LOAM, VERY FRIABLE.  
 28'-42": 2.5Y 4/3 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, FEW STONES, REDOX. FEATURES.  
 SHWT 28".  
 BEDROCK NONE TO DEPTH.

**TEST PIT LOG**  
 DATE: 6/15/18  
 METHOD: BACKHOE (J. BEDELL)  
 PRESENT: J. WILLIS, L.D.

201  
 0'-6": 10YR 3/3 (DARK BROWN) SANDY LOAM, LOOSE.  
 6'-20" (WEST)/24" (EAST): 10YR 3/6 (DARK YELLOWISH-BROWN) LOAMY FINE SAND, LOOSE.  
 20'-24"-36": 2.5Y 4/4 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SEASONAL HIGH WATER TABLE (SHWT) 20"-24".  
 BEDROCK NONE TO DEPTH.

202  
 0'-5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.  
 5'-19": 7.5YR 4/6 (STRONG BROWN) LOAMY VERY FINE SAND, FRIABLE.  
 19'-25": 10YR 3/4 (YELLOWISH-BROWN) LOAMY VERY FINE SAND, FRIABLE.  
 25'-29": 10YR 3/4 (YELLOWISH-BROWN) SAND, LOOSE.  
 29'-32": MIXED SINGLE GRAIN COARSE SAND, LOOSE.  
 32'-54": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, POCKETS OF SAND, REDOX. FEATURES.  
 SHWT 32".  
 BEDROCK NONE TO DEPTH.

203  
 0'-6": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.  
 6'-22": 10YR 4/4 (DARK YELLOWISH-BROWN) LOAMY FINE SAND, VERY FRIABLE.  
 22'-27": 2.5Y 4/4 (OLIVE-BROWN) FINE SANDY LOAM, FIRM.  
 27'-37": 10YR 3/4 (DARK YELLOWISH-BROWN) SAND, LOOSE.  
 37'-48": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SHWT 37".  
 BEDROCK NONE TO DEPTH.

204  
 0'-5": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.  
 5'-15": 10YR 4/4 (DARK YELLOWISH-BROWN) LOAMY FINE SAND, VERY FRIABLE.  
 15'-26": 10YR 3/6 (DARK YELLOWISH-BROWN) SAND, LOOSE.  
 26'-40": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SHWT 26".  
 BEDROCK NONE TO DEPTH.

205  
 0'-8": 10YR 3/3 (DARK BROWN) FINE SANDY LOAM, VERY FRIABLE.  
 4"-20": 10YR 4/4 (DARK YELLOWISH-BROWN) LOAMY FINE SAND, VERY FRIABLE.  
 20'-24": 10YR 3/6 (DARK YELLOWISH-BROWN) SAND, LOOSE.  
 24'-40": 2.5Y 4/3 (OLIVE-BROWN) FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SHWT 24".  
 BEDROCK NONE TO DEPTH.

**TEST PIT LOG**  
 DATE: 6/21/18  
 METHOD: BACKHOE (J. BEDELL)  
 PRESENT: J. WILLIS, L.D.

301  
 0'-8": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, LOOSE.  
 8'-29": 10YR 3/6 (DARK YELLOWISH-BROWN) FINE SANDY LOAM, VERY FRIABLE.  
 29'-38": 2.5Y 4/4 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SEASONAL HIGH WATER TABLE (SHWT) 29".  
 BEDROCK NONE TO DEPTH.

302  
 0'-7": 10YR 3/3 (DARK BROWN) VERY FINE SANDY LOAM, LOOSE.  
 7'-24": 10YR 3/6 (DARK YELLOWISH-BROWN) FINE SANDY LOAM, VERY FRIABLE.  
 24'-36": 2.5Y 4/4 (OLIVE-BROWN) VERY FINE SANDY LOAM, FIRM, REDOX. FEATURES.  
 SHWT 29".  
 BEDROCK NONE TO DEPTH.

**PERCOLATION TEST RESULTS**  
 CONDUCTED 10/26/18.

NUMBER	DEPTH	DROP	RUNS	RATE (EXTRAPOLATED)
P1	16"	0.5"	7	22.6 MPH*
P2	16"	0.5"	7	14.4 MPH*
P3	16"	0.5"	7	13.0 MPH*

\*DESIGN RATE.

**MOUND CONSTRUCTION SPECIFICATIONS**

- CONTACT THE DESIGNER PRIOR TO ANY CONSTRUCTION FOR AN ONSITE MEETING WITH THE CONTRACTOR TO STAKE-OUT THE MOUND SYSTEM AND TO DISCUSS CONSTRUCTION REQUIREMENTS. ALL ELEVATIONS OF FEATURES SUCH AS FLOOR, SEPTIC TANK AND PUMP STATION TO BE FIELD VERIFIED. CONTACT DESIGNER TO VERIFY PUMP SIZE IF ELEVATIONS DEVIATE FROM THOSE NOTED ON THE PLAN. REPORT ANY PROPOSED CHANGES IN THE LOCATIONS OF THE HOUSE, SUB-GRADE TANKS, DRIVEWAY, ETC.
- THE CONTRACTOR SHALL SUBMIT A RECENT SIEVE ANALYSIS (<6 MONTHS) OF THE SAND FILL. GRAIN SIZE DISTRIBUTION SHALL COMPLY WITH EITHER SPECIFICATION (1, 2 OR 3) NOTED ON PLAN.
- ABOVE GROUND VEGETATION SHALL BE CLOSELY CUT AND REMOVED FROM THE MOUND AREA AND 10 FEET FROM EDGE OF THE SYSTEM AS MEASURED FROM THE TOE(S). PRIOR TO PLOWING, THE PUMP DISCHARGE LINE FROM THE PUMP STATION TO THE DISTRIBUTION PIPING HEADER SHALL BE INSTALLED.
- THE FORCE MAIN SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH ENVIRONMENTAL PROTECTION RULES, SECTION A-04. THE MINIMUM TEST PRESSURE SHALL BE 50 PSI AT THE HIGHEST POINT IN THE LINE. CONTRACTOR TO FURNISH WATER AND EQUIPMENT TO PERFORM TEST AND NOTIFY DESIGNER 48 HOURS PRIOR TO TEST.
- PLOW THE MOUND AREA TO A DEPTH OF 7" TO 8" PARALLEL TO THE LAND CONTOUR WITH THE PLOW THROWING THE SOIL UPSLOPE TO PROVIDE A PROPER INTERFACE BETWEEN THE FILL AND NATURAL SOIL. TREE STUMPS SHOULD NOT BE PULLED. PLOW WITH A MOLD-BOARD PLOW OR A CHISEL POINT ADAPTED TO A BACKHOE BUCKET (USED IN WOODED AREAS ONLY).
- THE MOUND PERIMETER SHALL BE GRADED TO ENSURE DIVERSION OF SURFACE WATER RUN-OFF (OVERSPREAD DITCH OR SWALE AS SHOWN).
- ONCE PLOWING IS COMPLETE, CONTACT THE DESIGNER FOR AN INSPECTION OF THE SITE PRIOR TO PLACEMENT OF FILL.
- DUMP THE APPROVED SAND FILL AROUND THE EDGE OF THE PLOWED AREA WHILE KEEPING THE TRUCK WHEELS OFF THE PLOWED AREA. WHEEL TRACKS IN THE PLOWED AREA WILL LEAD TO COMPACTION AND RUTS, ADVERSELY AFFECTING THE OPERATION OF THE SYSTEM.
- MOVE THE SAND AROUND INTO PLACE WHILE MAINTAINING AT LEAST 12" OF SAND UNDER THE DISTRIBUTION SYSTEM TO MINIMIZE COMPACTION OF PLOWED LAYER. SHAPE THE SIDES TO THE REQUIRED SLOPES.
- FORM THE TRENCH/BED BY MOVING ALONG ITS LENGTH. BOTTOM OF TRENCH/BED MUST BE LEVEL. HAND WORK WILL BE NECESSARY.
- DUMP THE STONE IN THE TRENCH/BED BY MOVING UP THE SIDE SLOPE. LEVEL THE STONE TO REQUIRED ELEVATION.
- CHANNEL STONE FOR LATERALS. LAY PIPE LEVEL WITH ORIFICES POINTING UPWARDS (WITHOUT ORIFICE SHIELDS INSTALLED UNTIL PRESSURE TESTING IS COMPLETE).
- CONTACT THE DESIGNER PRIOR TO BACKFILLING THE LATERALS TO TEST FOR COMPLETE AND EQUAL DISTRIBUTION. DISCHARGE RATES SHOULD NOT EXCEED 10% BETWEEN ORIFICES IN A SINGLE TRENCH/BED (OR PER SQUARE FOOT LOADING RATE IF STEPPED TRENCHES). TANKS AND FORCE MAIN SHALL NOT BE BACKFILLED UNTIL INSPECTED AS WELL.
- FILL REMAINING 2" OF STONE OVER LATERALS AFTER TEST IS COMPLETE.
- COVER ENTIRE TRENCH/BED WITH "MIRAFI 140-N" GEO-TEXTILE FILTER FABRIC (OR EQUAL).
- PLACE A MINIMUM OF 4" OF TOPSOIL OVER 8" OF NATIVE SOIL OVER THE ENTIRE MOUND. CROWN 18" TOTAL IN CENTER AND SHAPE SURFACE AS SHOWN.
- LANDSCAPE THE MOUND BY PLANTING GRASSES ON THE SURFACE. SHRUBS PLACED AT THE FOOT AND UP THE SLOPE ON THE SIDES AND ENDS ARE OPTIONAL. SHRUBS PLACED ON TOP OF THE MOUND MAY INTERFERE WITH THE DISTRIBUTION SYSTEM. UPON COMPLETION OF CONSTRUCTION, CONTACT THE DESIGNER.

**OPERATION AND MAINTENANCE NOTES**

- THE DISPOSAL SYSTEM MAY REQUIRE ADJUSTMENTS OR MODIFICATIONS DURING STARTUP AS WELL AS DURING THE LIFE OF THE SYSTEM. THESE ADJUSTMENTS INCLUDE RE-LEVELING SUBSURFACE TANKS OR DISTRIBUTION BOXES DUE TO FROST ACTION OR SETTLEMENT. FILL MAY BE ADDED TO REPAIR EROSION OR LEVEL SETTLED AREAS.
- IN GENERAL, SEPTIC TANKS MUST BE PUMPED EVERY 2 TO 3 YEARS (OR MORE FREQUENTLY DEPENDING UPON USAGE), AT LEAST ONCE A YEAR, THE DEPTH OF SLUDGE AND SCUM IN THE SEPTIC TANK BE MEASURED. THE TANK SHOULD BE PUMPED IF:
  - THE SLUDGE IS CLOSER THAN TWELVE INCHES TO THE OUTLET BAFFLE.
  - THE SCUM LAYER IS CLOSER THAN THREE INCHES TO THE SEPTIC TANK BAFFLE.
  - FOLLOWING SEPTIC TANK CLEANING IN UNITS OVER 5,000 GALLONS, SURFACES OF THE TANK SHOULD BE INSPECTED FOR LEAKS AND CRACKS.
- AT LEAST ONCE A YEAR, DOSING TANKS AND DISTRIBUTION BOXES SHOULD BE OPENED AND SETTLED SOLIDS REMOVED AS NECESSARY AND THE DOSING TANK OR DISTRIBUTION BOX CHECKED FOR LEVELNESS.
- PLUMBING AND ELECTRICAL COMPONENTS ASSOCIATED WITH PUMP STATIONS OR ADVANCED TREATMENT UNITS MUST BE CHECKED REGULARLY FOR OPERATION AND LEAKS.
- TOXIC OR HAZARDOUS SUBSTANCES SHOULD IN GENERAL NOT BE DISPOSED OF IN SEPTIC SYSTEMS. THESE SUBSTANCES MAY PASS THROUGH THE SYSTEM IN AN UNALTERED STATE AND CONTAMINATE GROUNDWATER OR REMAIN IN THE SEPTICAGE AND SUBSEQUENTLY CONTAMINATE THE SOIL OR CROPS AT THE SITE OF ULTIMATE DISPOSAL.
- FLOW ADJUSTMENT DIALS WITHIN DISTRIBUTION BOXES SHOULD BE CHECKED AND ADJUSTED AS NECESSARY TO ENSURE EQUAL FLOW TO EACH LATERAL. ADJUSTMENT MUST BE PERFORMED WITHIN ONE YEAR OF INSTALLATION AND WHENEVER THE SEPTIC TANK IS PUMPED. FAILURE TO DO SO MAY OVERLOAD AND CAUSE THE PREMATURE FAILURE OF AN ABSORPTION TRENCH OR BED SYSTEM.
- THE EFFLUENT FILTER IN THE SEPTIC TANK OUTLET BAFFLE SHOULD BE CLEANED (HOSED-OFF) EVERY 3-6 MONTHS OR MORE FREQUENTLY DEPENDING ON USAGE. THE EFFLUENT FILTER MUST BE CLEANED IF SEWAGE BEGINS TO DRAIN SLOWLY FROM THE HOUSE. THE SEPTIC TANK MAY REQUIRE PUMPING IF THE FILTER BECOMES PLUGGED.
- IMPROPER MAINTENANCE OF THE PRETREATMENT UNIT (SEPTIC TANK) AND RELATED COMPONENTS MAY RESULT IN PLUGGING WITHIN THE DISTRIBUTION NETWORK. THE LIFE OF THE DISPOSAL SYSTEM CANNOT BE ESTIMATED DUE TO A VARIETY OF OPERATIONAL AND ENVIRONMENTAL FACTORS. INTRODUCTION OF MATERIAL OTHER THAN HUMAN WASTES (E.G. USE OF NON-BIODEGRADABLE DETERGENTS, CHEMICALS AND USE OF A GARBAGE DISPOSAL), EXCESSIVE SEWAGE FLOWS OR RAINFALL WILL ADVERSELY AFFECT THE OPERATION OF THE DISPOSAL SYSTEM. SOIL SETTLEMENT, FREEZING OF COMPONENTS AND CLOGGING DUE TO ORGANIC SOLIDS ACCUMULATION WILL REQUIRE REPAIRS.
- USE OF A GARBAGE DISPOSAL IS NOT PERMITTED WITHOUT INCREASING SEPTIC TANK CAPACITY.
- IMPROPERLY OPERATING WATER SOFTENERS CAN ADVERSELY AFFECT THE OPERATION OF THE SYSTEM. DEMAND-DOSED SYSTEMS ARE RECOMMENDED VERSUS TIME-DOSED. CONNECTION TO A WASTEWATER DISPOSAL SYSTEM SHOULD BE AVOIDED IF POSSIBLE.
- THE OWNER ASSUMES FULL RESPONSIBILITY FOR THE CONTINUED PROPER USE AND MAINTENANCE OF THE SYSTEM.



NO.	DATE	REVISION	BY

**WILLIS DESIGN ASSOC., INC.**  
 P.O. BOX 1001, JERICHO, VERMONT 05465 (802) 858-9228

DRAWN:	SCALE:
JTW	NOTED
DESIGN:	
JTW	
DATE:	
2/26/19	
PROJECT:	
16-027	
DRAWING:	
16027-1	

**DETAILS**  
**3 LOT SUBDIVISION**  
**PETER M. BINGHAM**  
 59 LOWER ENGLISH SETTLEMENT ROAD  
 UNDERHILL - VERMONT