Minimum Isolation Distances
From Leachfield

Water main	50 Feet
Water service line	25 Feet
Roadway/Driveway	10 Feet (25 Feet Downslope)
Streams/Lakes	50 Feet
Foundations	35 Feet (75 Feet Downslope)
Property Line	25 Feet

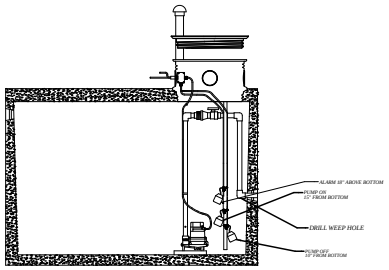
Basis of Design
4- Bedroom House = 490 GPD
Total Flow = 490 GPD
Application Rate -1.0 Gal/ Sq ft per day
Disposal Area: 490 gal/ 1.0 gal/sq. ft.
Required Area = 490 sq. ft.
Area Provided -500 sq. ft.
Use 2- Trenches 4' x 62.5' long
Basal Area = 500.74= 675.7 sqft. =62.5' long x 10.8' deep

SOIL BORINGS PERFORMED BY
JEFFREY KEENEY 6/28/17
USING A DUTCH AUGER

SB1
0 -8" TOPSOIL LOAMY SAND
8 - 26" FINE SANDY LOAM, LIGHT BROWN, FRIABLE
26" FAINT MOTTLES, NO WATER OR LEDGE TO DEPTH

SB2
0 -8" TOPSOIL LOAMY SAND
8 - 26" FINE SANDY LOAM, LIGHT BROWN, FRIABLE
26" FAINT MOTTLES, NO WATER OR LEDGE TO DEPTH

PERCOLATION TEST
P1- 8 min/ inch

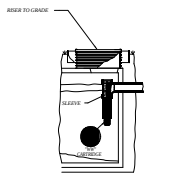


DOSING CALCULATIONS LOT 1: SYSTEM MUST BE DOSED A MINIMUM OF 4 TIMES PER DAY
DOSE VOLUME = 70 GALS/ DOSE
TOTAL DOSES PER DAY 490 GPD/70 GALS/DOSE = 7 DOSES/ DAY
TOTAL VOLUME BELOW HIGH ALARM = 280 GALLONS
VOLUME ABOVE ALARM FLOAT = 620 GALLONS

RESERVE CAPACITY ABOVE ALARM TO BE ADEQUATE FOR 1 DAY OF STORAGE.
ALARM TO BE INSTALLED IN BASEMENT AND CONNECTED TO A SEPARATE CIRCUIT BREAKER
ALL WORK TO BE DONE IN ACCORDANCE WITH ALL ELECTRICAL AND SAFETY CODES
REQUIRED BY STATE, LOCAL AND OTHER GOVERNMENT AGENCIES. WORK SHALL COMPLY
WITH ALL REQUIREMENTS OF PUMP AND OTHER COMPONENTS MANUFACTURERS.
PUMP MUST BE CABLE OF DELIVERING 22 GPM AGAINST 10 FEET OF HEAD

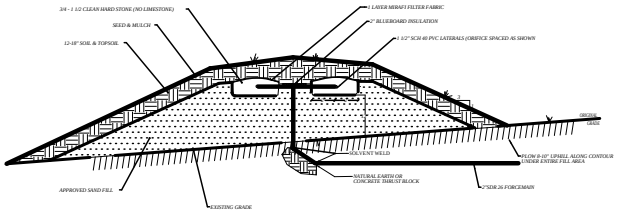
PUMP STATION DETAIL

N.T.S.



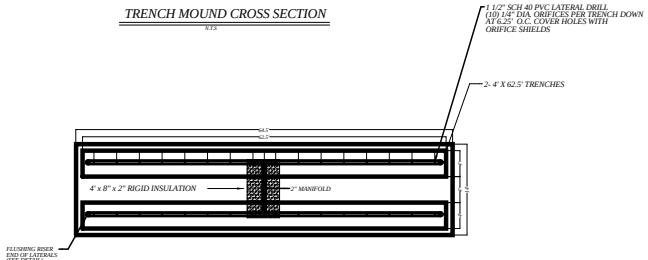
EFFLUENT FILTER

NO SCALE



TRENCH MOUND CROSS SECTION

N.T.S.



ABSORPTION TRENCH DETAIL

Locus Map

MOUND CONSTRUCTION

****PRIOR TO CONSTRUCTION ALL MATERIALS SHALL BE APPROVED BY THE DESIGNER.

THE FOLLOWING IS THE PROCEDURE FOR MOUND CONSTRUCTION
ANY VARIATIONS SHOULD BE DISCUSSED WITH THE DESIGNER BEFORE ANY MOUND CONSTRUCTION STARTS. . MOUND FAILURE MAY RESULT FROM IMPROPER CONSTRUCTION TECHNIQUES AND PROCEDURES. PROPER EQUIPMENT IS ESSENTIAL. SMALL TRACK TYPE DOZERS OR EXCAVATORS WORK BEST. WHEEL TYPE TRACTORS MAY COMPACT THE SUBSOIL.

CONSTRUCTION ON WET SOIL CAUSES SOIL SMEARING AND COMPACTION AND POSSIBLE FUTURE FAILURES. CONSTRUCTION SHOULD ONLY BE DURING DRY WEATHER FROM JUNE - NOVEMBER CONDITIONS PERMITTING AND DURING NO CONSTRUCTION DURING FREEZING TEMPERATURES.

1. REMOVE EXISTING TOPSOIL ON TOP OF THE MOUND STOCKPILE FOR FUTURE USE.

2. REMOVE STONE AND CONTAMINATED SAND ON MOUND.

3. PLOW NEW AREA TO BE COVERED BY MOUND FILL. PLOW ALONG THE CONTOUR OF THE SLOPE TO A DEPTH OF 8", THROWING THE SOIL UP-SLOPE. PLACEMENT OF THE FILL ON PLOWED AREA IMMEDIATELY AFTER PLOWING IS REQUIRED. DON'T LET PLOWED AREA TO RAINED ON. KEEP ALL TRAFFIC OFF PLOWED AREA DOWNSLOPE SIDE OF PLOWED AREA.

4. PLACE APPROVED SAND FILL AROUND THE UPHILL AND SIDE EDGES OF THE PLOWED AREA. KEEP WHEEL OF TRUCKS OFF PLOWED AREA. NO TRAFFIC DOWNSLOPE SIDE OF PLOWED AREAS. WORK FROM ENDS AND UPSLOPE SIDE ONLY.

5. MOVE THE SAND FILL INTO PLACE USING A SMALL TRACK-TYPE DOZER. ALWAYS KEEP AT LEAST 8" OF SAND BENEATH TRACKS TO PREVENT COMPACTION OF THE PLOWED AREA. PLACE SAND FILL TO THE REQUIRED DEPTH, WHICH IS THE SAME ELEVATION AS THE TOP ELEVATION OF THE STONE IN THE BED OR TRENCHES. SHAPE SIDES TO THE DESIRED SLOPE.

6. WITH EXCAVATOR BUCKET, FORM THE TRENCHES IN THE SAND FILL TO A DEPTH OF 12". HAND LEVEL THE BOTTOM OF THE TRENCHES TO MAKE SURE THEY ARE ALL LEVEL AND AT EQUAL ELEVATION ALONG THE ENTIRE LENGTH. RAKE TRENCHES BOTTOM AND SIDEWALLS PRIOR TO PLACEMENT OF STONE.

7. PLACE CLEAN WASHED, GRADED OR CRUSHED STONE (3/4". 1 1/2") IN TRENCHES TO A DEPTH OF 12". FORM 3" DEEP CHANNELS IN THE STONE IN WHICH TO LAY THE PIPING NETWORK. DO NOT USE LIMESTONE.

8. CUT EXISTING, LATERAL PIPE AND ADD PIPE WITH CLEANOUTS ON BOTH LATERALS. DRILL HOLES TO SIZE AND DISTANCE AS NOTED ON DETAILS. DO NOT GLUE CONNECTION UNTIL AFTER PRESSURE TEST HAS BEEN PERFORMED.

9. TURN PIPE OVER AND PLACE ORIFICE SHIELD OVER THE HOLES. TURN PIPE SO HOLES ARE FACING DOWNWARDS. WIPE DRY ALL PIPING CONNECTIONS AND SOLVENT CEMENT PIPING SECURELY IN PLACE. PLACE ORIFICE SHIELDS OVER ALL OF THE HOLES.

10. PLACE 1- 2" STONE OVER LATERAL PIPES. PLACE 1 LAYER OF FILTER FABRIC OVER ALL OF THE STONE.

11. PLACE 9" OF SUBSOIL OR TOPSOIL (SOIL LESS PERMEABLE THAN SAND FILL) OVER ALL SAND. (INCREASE DEPTH TO 15" OVER TOP CENTER OF MOUND) PLACE 3" OF GOOD QUALITY TOPSOIL OVER ENTIRE MOUND SURFACE. THIS SOIL MAY BE TAKEN FROM ELSEWHERE ON SITE,

13. SEED AND MULCH ENTIRE MOUND SURFACE IMMEDIATELY TO PREVENT EROSION.

INSPECTION

1. THE SYSTEM MUST BE INSPECTED BY HIGH KNOB DESIGN ASSOCIATES LLC TO ENSURE COMPLIANCE WITH THE DESIGN. HIGH KNOB DESIGN ASSOCIATES LLC ASSUMES NO RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT ARISE FROM FAILURE TO FOLLOW THE PLANS AND SPECIFICATION AND FAILURE TO HAVE BEEN NOTIFIED BY THE CONTRACTOR FOR THE REQUIRED INSPECTIONS DURING CONSTRUCTION.

2. THE CONTRACTOR SHALL NOTIFY HIGH KNOB DESIGN ASSOCIATES LLC A MINIMUM OF "2 HOURS IN ADVANCE FOR THE FOLLOWING INSPECTIONS:
A) THE PLOWED EXISTING GROUND PRIOR TO PLACEMENT OF SAND FILL
B) THE FORCE MAIN PRESSURE TEST
C) THE SEPTIC TANK AND PUMP STATION PRIOR TO BACKFILLING
D) THE PRESSURE DISTRIBUTION SYSTEM TEST
E) FINAL GRADING AND SEEDING

SAND FILL SPECIFICATIONS

(1)

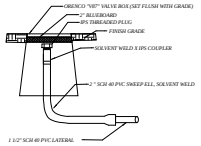
SIEVE NO.	OPENING (MM)	PERCENT PASSING BY WEIGHT
10	2.000	85-100
40	0.420	25-70
60	0.240	0-30
100	0.149	0-10
200	0.174	0-5

(2)

SIEVE NO.	OPENING (MM)	PERCENT PASSING BY WEIGHT
4	4.750	95-100
10	2.380	80-100
16	1.190	50-85
30	0.590	25-60
50	0.297	10-30
100	0.149	2-10

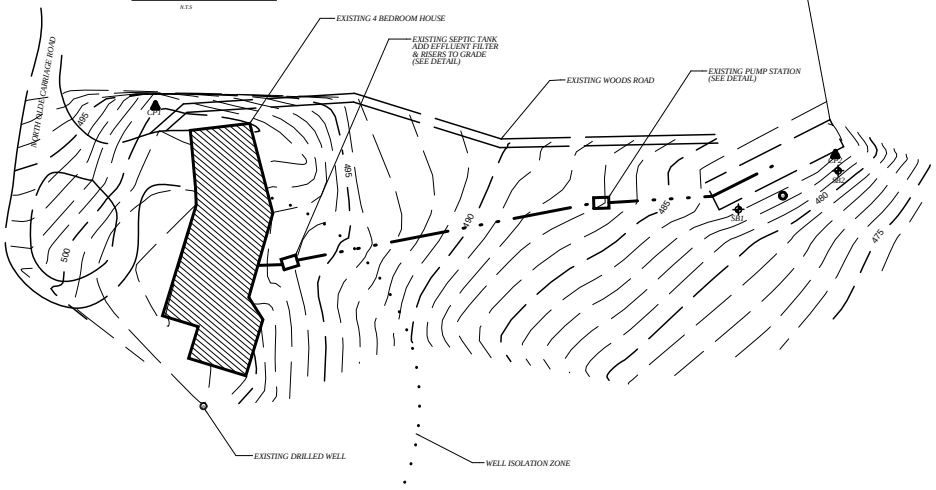
(3)

SIEVE NO.	OPENING (MM)	PERCENT PASSING BY WEIGHT
10	2.000	85-100
40	0.420	30-50
200	0.174	0-10



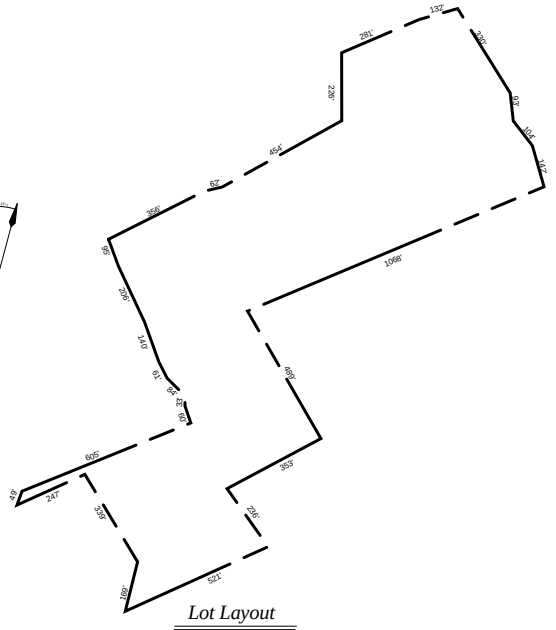
FLUSHING RISER DETAIL

N.T.S



SCALE 1" = 30'

0 15 30 60 120



Lot Layout

NTS

BENCH MARK ELEVATIONS

CP 1- NAIL IN THE GROUND	= 500.00
CP 2- NAIL IN THE GROUND	= 483.15
TOP OF PUMP STATION	= 487.13

SURVEY NOTE

BOUNDARIES ARE DEPICTED PER TOWN OF CHARLOTTE PARCEL MAPS AND EVIDENCE FOUND IN THE FIELD. THIS PLAN DOES NOT REPRESENT A LEGAL BOUNDARY SURVEY. CONTACT A LICENSED LAND SURVEYOR AS NECESSARY TO VERIFY BOUNDARIES.

LEGEND

- TREE
- SEPTIC TANK
- DRILLED WELL
- SOIL BORING
- CONTROL POINT
- PERCOLATION TEST
- CURB STOP
- UTILITY POLE
- IRON PIPE FOUND
- EXISTING CONTOURS
- APPROX BOUNDARY
- 500 PROPOSED CONTOURS

THIS DESIGN IS PROPOSED TO SATISFY CRITERIA AND MEET THE INTENT OF THE VERMONT ENVIRONMENTAL PROTECTION RULES CHAPTER 1 WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES EFFECTIVE SEPTEMBER 29, 2007

STATE OF VERMONT — JEFFREY KEENEY NO. 371-6 — LICENSED DESIGNER

WASTEWATER PLAN

WELL'S
93 N. OLDE CARRIAGE RD.
CHARLOTTE, VERMONT

HIGH KNOB DESIGN ASSOCIATES LLC

WATER & WASTEWATER DESIGNS
TOPOGRAPHIC SITE PLANS & MAPPING
STATE & LOCAL PERMITTING

981 BIG HOLLOW ROAD
STARKSBORO, VERMONT 05487
453-5071

Drawn:	JMK
Date:	6/29/17
Scale:	AS NOTED
Project:	2017017
Sheet:	1 OF 1