

Minimum Erosion Distances
From Leachpile

Water main	50 Feet
Water service line	25 Feet
Roadway Driveway	10 Feet (25 Feet Downslope)
Stream/Lake	25 Feet (75 Feet Downslope)
Foundation	25 Feet
Property Line	25 Feet

TEST PITS PERFORMED 8/15/12
EXCAVATOR: JEFF SMITH
PRESENT: BO DIKE, SPENCER HARRIS & JEFF KEENEY

TP1 0" V.F. SANDY LOAM
9-24" SILT LOAM
MOTTLES 9": NO WATER OR LEDGE TO DEPTH

TP2 0" V.F. SANDY LOAM, FRAGILE
8-28" V.F. SANDY LOAM, LIGHT BROWN, FRAGILE
24-36" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP3 0" V.F. SANDY LOAM
12-30" V.F. SANDY LOAM
MOTTLES 12": NO WATER OR LEDGE TO DEPTH

TP4 0" V.F. SANDY LOAM, FRAGILE
12-40" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 18": NO WATER OR LEDGE TO DEPTH

TP5 0" V.F. SANDY LOAM, FRAGILE
12-30" SHALE
MOTTLES 12"

TP6 0" V.F. SANDY LOAM, FRAGILE
12-54" V.F. SANDY LOAM WITH COBBLES AND BOULDERS, FRAGILE
MOTTLES 18": NO WATER OR LEDGE TO DEPTH

TP7 0" V.F. SANDY LOAM, FRAGILE
8-40" SILT LOAM, FRAGILE
40-60" V.F. SANDY LOAM, FRAGILE
MOTTLES 18": NO WATER OR LEDGE TO DEPTH

TP8 0" V.F. SANDY LOAM, FRAGILE
10-22" SILT LOAM, FRAGILE
22-35" V.F. SANDY LOAM WITH COBBLES, FRAGILE
MOTTLES 12": NO WATER OR LEDGE TO DEPTH

TP9 0" V.F. SANDY LOAM, FRAGILE
20-65" V.F. SANDY LOAM WITH COBBLES, FRAGILE
MOTTLES 5": ROADS TO 55" NO WATER OR LEDGE TO DEPTH

TP10 0" V.F. SANDY LOAM
11-53" V.F. SANDY LOAM WITH BOULDERS, FRAGILE
MOTTLES 20": LEDGE 35" NO WATER OR LEDGE TO DEPTH

TP11 0-12" TOPSOIL, DARK BROWN, FRAGILE
12-40" V.F. SANDY LOAM, LIGHT BROWN, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP12 0" V.F. SANDY LOAM, FRAGILE
10-30" V.F. SANDY LOAM, FRAGILE
30-64" V.F. SANDY LOAM, FRAGILE
MOTTLES 20": LEDGE 54"

TP13 0" V.F. SANDY LOAM, FRAGILE
19-27" V.F. SANDY LOAM, FRAGILE
27-40" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP14 0" V.F. SANDY LOAM, FRAGILE
20-65" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP15 0" V.F. SANDY LOAM, FRAGILE
30-67" V.F. SANDY LOAM, FRAGILE
MOTTLES 20": NO WATER OR LEDGE TO DEPTH

TP16 0" V.F. SANDY LOAM, FRAGILE
30-72" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP17 0" V.F. SANDY LOAM, FRAGILE
30-51" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP18 0" V.F. SANDY LOAM, FRAGILE
15-30" V.F. SANDY LOAM, FRAGILE
30-60" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP19 0" V.F. SANDY LOAM, FRAGILE
10-30" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP20 0" V.F. SANDY LOAM, FRAGILE
30-51" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP21 0" V.F. SANDY LOAM, FRAGILE
30-51" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP22 0" V.F. SANDY LOAM, FRAGILE
10-30" V.F. SANDY LOAM, FRAGILE
30-60" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP23 0" V.F. SANDY LOAM, FRAGILE
15-30" V.F. SANDY LOAM, FRAGILE
30-60" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP24 0" V.F. SANDY LOAM, FRAGILE
10-30" V.F. SANDY LOAM, FRAGILE
30-60" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP25 0" V.F. SANDY LOAM, FRAGILE
30-60" V.F. SANDY LOAM, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TEST PITS PERFORMED 10/4/13
EXCAVATOR: JEFF SMITH
PRESENT: JEFF KEENEY

TP26 0" V.F. SANDY LOAM
12-30" V.F. SANDY LOAM
MOTTLES 12": NO WATER OR LEDGE TO DEPTH

TP27 0" V.F. SANDY LOAM, FRAGILE
18-30" V.F. SANDY LOAM, FRAGILE
30-42" V.F. SANDY LOAM, FRAGILE
MOTTLES 12": NO WATER OR LEDGE TO DEPTH

TP28 0" V.F. SANDY LOAM
6-24" FINE SAND WITH COBBLES & BOULDERS, ORANGE BROWN, FRAGILE
24-36" FINE SAND WITH COBBLES & BOULDERS, LIGHT BROWN, FRAGILE
NO HSMT, NO WATER OR LEDGE TO DEPTH

TP29 0" SILT LOAM, FIRM
30-42" FINE SANDY LOAM, WITH COBBLES, FRAGILE
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

TP30 0" V.F. SANDY LOAM, FRAGILE
8-48" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 20": NO WATER OR LEDGE TO DEPTH

TP31 0" V.F. SANDY LOAM, FRAGILE
8-42" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 25": NO WATER OR LEDGE TO DEPTH

TP32 0" V.F. SANDY LOAM, FRAGILE
9-52" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 25": NO WATER OR LEDGE TO DEPTH

TP33 0" V.F. SANDY LOAM, FRAGILE
8-48" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 25": NO WATER OR LEDGE TO DEPTH

TP34 0" V.F. SANDY LOAM, FRAGILE
8-52" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
57" BROKEN SHALE
MOTTLES 25": NO WATER OR LEDGE TO DEPTH

TP35 0" V.F. SANDY LOAM, FRAGILE
8-42" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 25": NO WATER OR LEDGE TO DEPTH

TP36 0" V.F. SANDY LOAM, FRAGILE
8-30" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 30": NO WATER OR LEDGE TO DEPTH

TP37 0" V.F. SANDY LOAM, FRAGILE
8-42" V.F. SANDY LOAM, ORANGE BROWN, FRAGILE
MOTTLES 20": NO WATER OR LEDGE TO DEPTH

TP38 0" V.F. SANDY LOAM, FRAGILE
14-30" SILT LOAM, DARK BROWN, FIRM
MOTTLES 14": NO WATER OR LEDGE TO DEPTH

TP39 0" V.F. SANDY LOAM, FRAGILE
11-42" SILT LOAM, DARK BROWN, FIRM
MOTTLES 17": NO WATER OR LEDGE TO DEPTH

TP40 0" V.F. SANDY LOAM, FRAGILE
14-30" SILT LOAM, DARK BROWN, FIRM
MOTTLES 14": NO WATER OR LEDGE TO DEPTH

TP41 0" V.F. SANDY LOAM, FRAGILE
6-30" SILT LOAM, DARK BROWN, FIRM
MOTTLES 9": NO WATER OR LEDGE TO DEPTH

TP42 0" V.F. SANDY LOAM, FRAGILE
12-30" V.F. SANDY LOAM, FRAGILE
MOTTLES 12": NO WATER OR LEDGE TO DEPTH

TP43 0" V.F. SANDY LOAM, FRAGILE
15-40" SILT LOAM, DARK BROWN, FIRM
MOTTLES 15": NO WATER OR LEDGE TO DEPTH

PERCOLATION TEST
P-1 = 2.3 Min/inch
P-2 = 2.3 Min/inch
P-3 = 2.3 Min/inch
P-4 = 2.3 Min/inch
P-5 = 2.3 Min/inch
P-6 = 2.3 Min/inch
P-7 = 7.0 Min/inch
P-8 = 6.2 Min/inch
P-9 = 6.3 Min/inch

Basis of Design: Replacement Area Lot 1
2 Bedrooms = 40 GPD
Application Rate = Use 3 min inch per acre
Disposal Area = 490 gal/10 gal/sq ft
Required Area = 490 sq ft
Area Provided 630 sq ft
Use 1 trench 3' wide x 20' long
Basal Area = 490 GPD/0.74 GPD/SF = 662 SF = 210' W X 312'

Primary Area
Performance Based Linear Loading Rate
From Table 4.1, Linear Loading Rate Factors
Based on Soil Texture & Natural Ground Slope
Provided by the State of Vermont Wastewater Management Division

Soil Infiltration @ 1.7% = (9.4) 9' to mottles @ 7.4% = 6.12
LLR = (25) (9.4) = 235
GPD/GPD = (2.5) Gal (Lp, FT)
Required Linear Foot = 290
Provided Linear Foot = 210

Basis of Design: Primary & Replacement Area Lot 2
5 Bedrooms = 50 GPD
Application Rate = Use 3 min inch per acre = 1.63 Use 1.5
Disposal Area = 500 gal/2.5 gal/sq ft
Required Area = 200 sq ft
Area Provided 630 sq ft
Use 3 trenches 4' wide x 50' long

Basis of Design: Primary Area Lot 3
5 Bedrooms = 50 GPD
Performance Based Linear Loading Rate, Part 8
Area based on Tables from Enviro-Septic Wastewater Treatment Systems Design and Installation Manual Vermont State Attachment
Table A: Minimum Linear Footage for 5 bedrooms = 250
Table B: Soil Basal Area = 270 sq ft
Table C: Length & Width of Line 50' long
Soil Area provided = 611 sq ft

WATER SUPPLY LOTS 2 & 3
AVERAGE DAY DEMAND = 1 BEDROOMS @ 2 OCCUPANTS + 2 BEDROOMS @ 1 OCCUPANT
TOTAL = 6 OCCUPANTS @ 70 GPD = 560 GPD AVERAGE DAY DEMAND
MAXIMUM DAY DEMAND = 560 GPD @ 120% = 672 GPD
INSTANTANEOUS PEAK DEMAND = 5 GPM UNIT X 1 UNIT = 5 GPM

APPROXIMATE AREA EXISTING SEPTIC SYSTEM

LOT 1
5.56 ACRES

7.39 ACRES
BOUNDARY ADJUSTMENT

EXISTING HOUSE

REPLACEMENT AREA LOT 1

CONSTRUCTION EASEMENT

ROW BOTH SIDES OF ROAD

SHARED DRIVE (SEE DETAILS)

CENTER LINE (SEE PROFILE)

EMERGENCY VEHICLE TURN AROUND

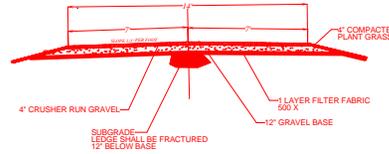
LOT 2
10.10 ACRES

LOT 3
7.38 ACRES

LOT 4
7.38 ACRES

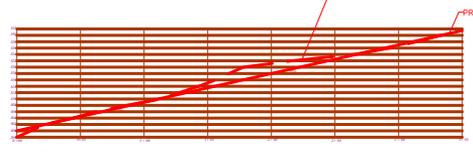


Locus Map



ROAD CROSS SECTION

N.T.S.
NOTE: CROSS SECTION FOR TOWN OF CHARLOTTE SHARED DRIVEWAY STANDARDS



DRIVEWAY PROFILE
SCALE 1" = 10'

SITE PLAN



SCALE 1" = 100'

LEGEND	
	TREE
	SEPTIC TANK
	DRILLED WELL
	TEST PITS
	CONTROL POINT
	PERCOLATION TEST
	UTILITY POLE
	SLOPE > 15%
	EXISTING CONTOURS
	APPROX BOUNDARY
	PROPOSED CONTOURS

3/1/14	REVISE DESIGN CALCULATIONS	JK
4/2/14	REVISE DESIGN CALCULATIONS	JK

THIS DESIGN IS PROPOSED TO SATISFY CRITERIA AND MEET THE INTENT OF THE VERMONT ENVIRONMENTAL PROTECTION RULES CHAPTER 108:00 WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES EFFECTIVE SEPTEMBER 26, 2007.



SITE PLAN

DIKE PROPERTY
GUINEA ROAD
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

DATE	4/2/14
BY	JK
AS NOTED	
PROJECT NO.	2014-005
SHEET NO.	1 OF 3