



1. DISPERSAL MEDIA SIZING: Project ID: v 05.13.14

- A. Design Flow: GPD C. % Land Slope: %
- B. Soil Loading Rate: GPD/ft² D. Contour Loading Rate: GPD/ft
- E. Absorption Bed Width = Contour Loading Rate (1.D) ÷ Soil Loading Rate (1.B) Cannot exceed 15 feet
 GPD/ft² ÷ GPD/ft = ft
- F. Absorption Bed Length = Design Flow (1.A) ÷ Contour Loading Rate (1.D)
 GPD ÷ GPD/ft = ft
- G. Required Absorption Bed Area = Design Flow (1.A) ÷ Soil Loading Rate (1.B)
 gpd ÷ GPD/ft² = ft²
- H. Type of Distribution Media:

2. BERM SIZING:

- A. Determine System Height = media height + 12" cover, divide by 12 inches per foot to convert to feet
 ft + (in ÷ 12 in/ft) = ft

Slope Multiplier Table - 4:1

Land Slope %	0	1	2	3	4	5	6	7	8	9	10	11	12
Upslope Ratio	4.00	3.85	3.70	3.57	3.45	3.33	3.23	3.12	3.03	2.94	2.86	2.78	2.70
Downslope Ratio	4.00	4.17	4.35	4.54	4.76	5.00	5.26	5.56	5.88	6.25	6.67	7.14	7.69

B. Determine Upslope Berm Width

- Upslope Multiplier based on percent slope (see Slope Multiplier Table)
- On Slopes >1% Upslope Width = Upslope Multiplier (2.B) X System Height (2.A)
 X ft = ft
- On Slopes <1%, Upslope Width = (0.5 X Absorption Bed Width (1.E)) + 5 ft
 (0.5 X ft) + 5 ft = ft
- Choose B.2 or B.3 depending on slope ft

C. Determine Downslope Berm Width

- Downslope Multiplier based on percent slope (see Table):
- Downslope Width = Downslope Multiplier X System Height
 X ft = ft
- Absorption Bed Width + 5 feet =
 ft + 5 = ft

4. On slopes >1%, Downslope Berm Width equals greater of C.2 and C.3 = ft

5. On slopes <1%, Downslope Berm Width equals 0.5 X Absorption Bed Width + 5 feet
(0.5 X ft + 5 ft = ft

6. Choose C.4 or C.5 depending on slope: ft

H. *Endslope Multiplier* (usually 4.0)

I. *Endslope Width* = *Endslope Multiplier* (2.H) X *System Height* (2.A) (Minimum of 6 feet)

X ft = ft

J. *System Width* = The sum of the *Upslope Width* (2.C) + *Downslope Width* (2.G)

ft + ft = ft

K. *System Length* = Sum of the *Endslope Width* (2.I) + *Absorption Bed Length* (1.F) + *Endslope Width* (2.I)

ft + ft + ft = ft

L. If using a registered product, enter the *Component Length*: ft

M. If using a registered product, enter the *Component Width*: ft

N. *Number of Components per Row* = *Bed Length* (1.F) divided by *Component Length* (2.L) (Round up)

ft ÷ ft = components/row

O. *Number of Rows* = *Bed Width* (1.E) divided by *Component Width* (2.M) (Round up)

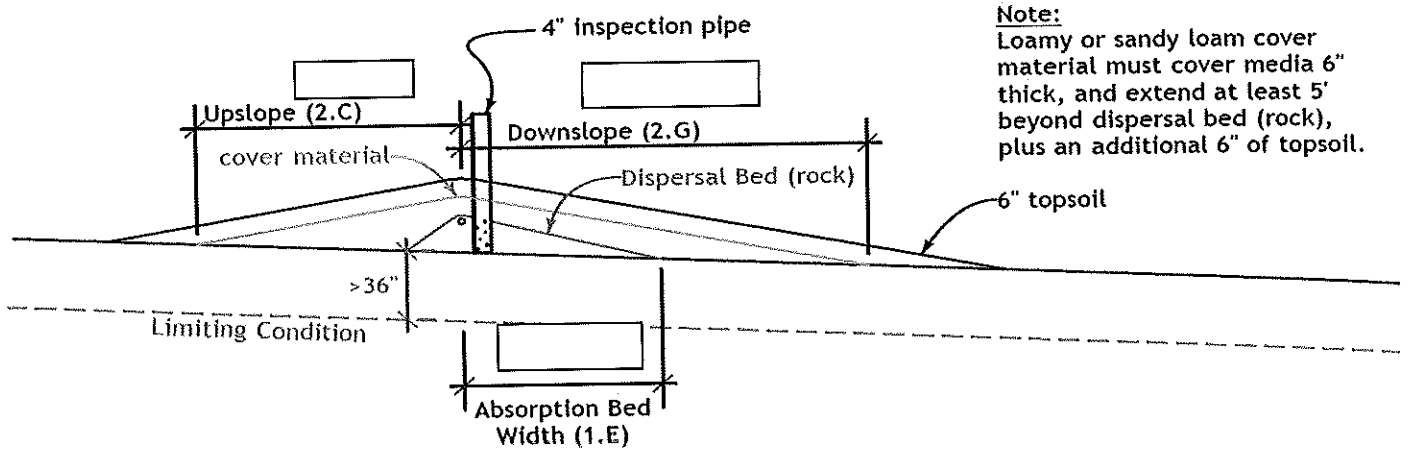
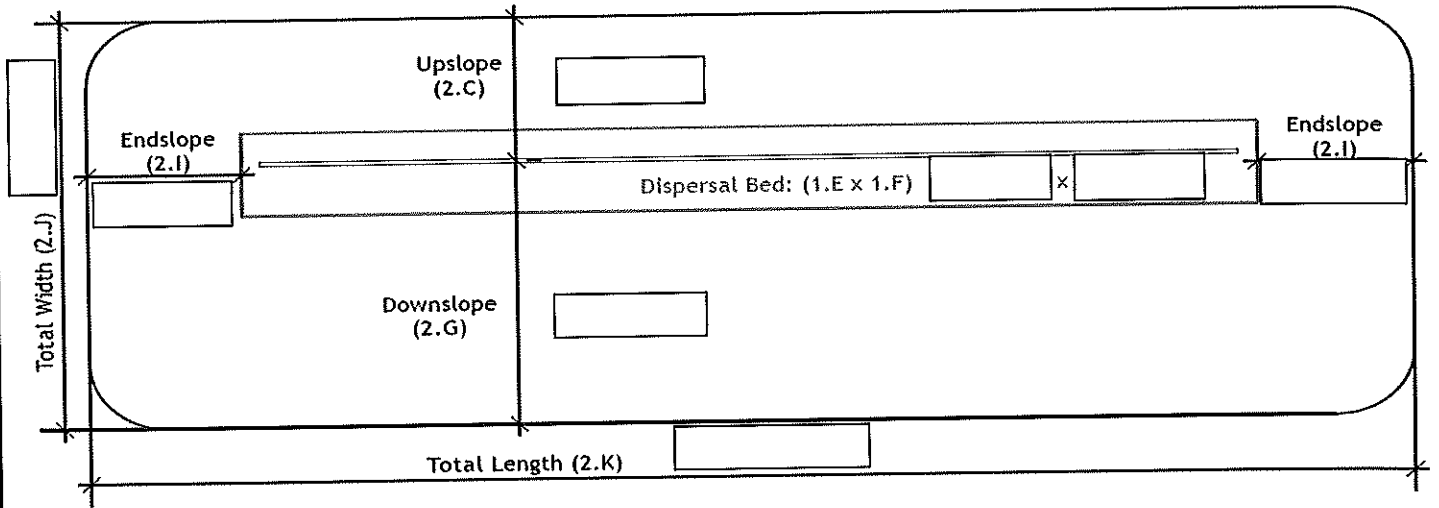
Adjust Contour Loading Rate on Design Summary page until this number is a whole number

ft ÷ ft = rows

P. *Total Number of Components* = *Number of Components per Row* X *Number of Rows*

X = components

3. AT-GRADE DIMENSIONS:



Note:
Loamy or sandy loam cover material must cover media 6" thick, and extend at least 5' beyond dispersal bed (rock), plus an additional 6" of topsoil.

Note:
For 0 to 1% slopes, *Absorption Width* is measured from the *Pipe* and divided equally in both directions.
For slopes >1%, *Absorption Width* is measured downhill from the *Pipe*.

4. APPROXIMATE VOLUME CALCULATIONS:

If rock is used as the distribution media:

A. Rock Area = Absorption Bed Length (1.F) X (Additional rock upslope of lateral + Absorption Bed Width (1.E)

$$\boxed{} \text{ ft X } (\boxed{} \text{ ft X } \boxed{} \text{ ft}) = \boxed{} \text{ ft}^2$$

B. Rock Volume in Cubic Feet = Rock Area (4.A) by Depth of Media (Rock) (1 foot) and divide by 2.

$$\boxed{} \text{ ft}^2 \text{ X } 1 \text{ ft } \div 2 = \boxed{} \text{ ft}^3$$

C. Rock Volume in Cubic Yards = Volume in Cubic Feet (4.B) divided by 27

$$\boxed{} \text{ ft}^3 \div 27 = \boxed{} \text{ yd}^3$$

D. Add 20% for constructability:

$$\boxed{} \text{ yd}^3 \times 1.2 = \boxed{} \text{ yd}^3$$

E. Loamy or Sandy Loam Cover Material Volume:

Volume in Cubic Feet = System Width (2.J) X System Length (2.K) X 1.5 ÷ 2, minus rock volume (4.B)

$$\boxed{} \text{ ft X } \boxed{} \text{ ft X } 1.5 \div 2 - \boxed{} \text{ ft}^3 = \boxed{}$$

F. Loamy or Sandy Loam Cover Volume in Cubic Yards = Volume in Cubic Feet (4.E) divided by 27

$$\boxed{} \text{ ft}^3 \div 27 = \boxed{} \text{ yd}^3$$

G. Add 20% for constructability:

$$\boxed{} \text{ yd}^3 \times 1.2 = \boxed{} \text{ yd}^3$$

H. Topsoil Volume in Cubic Feet = System width (2.J) X System Length (2.K) x 0.5

$$\boxed{} \text{ ft X } \boxed{} \text{ ft X } 0.5 = \boxed{} \text{ ft}^3$$

I. Topsoil Volume in Cubic Yards = Volume in Cubic Feet (4.H) divided by 27

$$\boxed{} \text{ ft}^3 \div 27 = \boxed{} \text{ yd}^3$$

J. Add 20% for constructability:

$$\boxed{} \text{ yd}^3 \times 1.2 = \boxed{} \text{ yd}^3$$

5. Comments: