



# OSTP Trench Design Worksheet

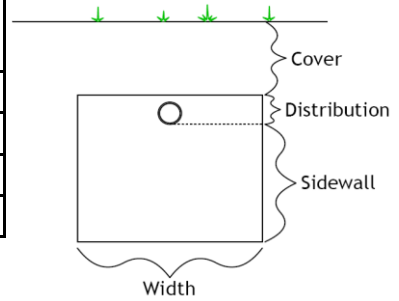


1. SYSTEM SIZING: Project ID: \_\_\_\_\_ v 05.13.14

- A. Design Flow: \_\_\_\_\_ GPD
- B. Code Maximum Depth: \_\_\_\_\_ inches      Designers Maximum Depth: \_\_\_\_\_ inches
- C. Soil Loading Rate: \_\_\_\_\_ GPD/ft<sup>2</sup>      Contour Loading Rate: \_\_\_\_\_ gal/ft
- D. Required Bottom Area: Design Flow (1.A) ÷ Loading Rate (1.C) = Initial Required Bottom Area  
 \_\_\_\_\_ GPD ÷ \_\_\_\_\_ GPD/ft<sup>2</sup> = \_\_\_\_\_ ft<sup>2</sup>
- E. Select Dispersal Media:     Rock  
 (selection required)         Registered Product
- F. Select Distribution Method:     Pressure       Gravity-Drop  
                                                   Gravity-Other    \_\_\_\_\_
- G. If distribution media is installed in contact with sandy or loamy sand or with a percolation rate of 0.1 to 5 mpi indicate distribution or treatment method: \_\_\_\_\_

2. TRENCH CONFIGURATION: ROCK

A. Initial required trench bottom area (ft <sup>2</sup> ): (from 1.D)	Sidewall Absorption (inches)	Bottom Area Reduction	Bottom Area Multiplier	Design trench bottom area
	6 to 11		1	
	12 to 17	20%	0.8	
	18 to 23	34%	0.66	
	24	40%	0.6	



- B. Select Sidewall Height: \_\_\_\_\_ inches = \_\_\_\_\_ ft
- C. Design Bottom Area (2.A): \_\_\_\_\_ ft<sup>2</sup>
- D. Select Trench Width: \_\_\_\_\_ ft
- E. Total Designed Trench Length: Bottom Area ÷ Trench Width = Total Required Trench Length  
 \_\_\_\_\_ ft<sup>2</sup> ÷ \_\_\_\_\_ ft = \_\_\_\_\_ ft
- I. Calculate Minimum system length based on Contour Loading Rate: Design Flow ÷ Contour Loading Rate =  
 \_\_\_\_\_ gpd ÷ \_\_\_\_\_ gal/ft = \_\_\_\_\_ ft
- F. Select No. of Trenches: \_\_\_\_\_ trenches
- G. Select Trench Spacing : \_\_\_\_\_ ft (typically 5 - 12 ft from center to center)
- H. Calculate Lawn Area: Trench Length (2.E) X Trench Spacing (2.G) = square feet of lawn area  
 \_\_\_\_\_ ft X \_\_\_\_\_ ft = \_\_\_\_\_ ft<sup>2</sup> lawn area
- J. Select Depth Required to Cover Distribution Pipe:  
 \_\_\_\_\_ ft (0.33 ft for pressure, 0.5 ft for gravity)
- K. Calculate Rock Volume: (Sidewall Height (2.B) + Depth to Cover Pipe (2.J)) X Bottom Area (2.C) = cubic feet  
 ( \_\_\_\_\_ ft + \_\_\_\_\_ ft ) X \_\_\_\_\_ ft<sup>2</sup> = \_\_\_\_\_ ft<sup>3</sup>  
 Divide ft<sup>3</sup> by 27 ft<sup>3</sup>/yd<sup>3</sup> to calculate cubic yards:  
 \_\_\_\_\_ ft<sup>3</sup> ÷ 27 = \_\_\_\_\_ yd<sup>3</sup>

**3. TRENCH CONFIGURATION: REGISTERED PRODUCTS - CHAMBERS AND EZFLOW**

A.	Initial required trench bottom area (ft <sup>2</sup> ): (from 1.D)	Sidewall Absorption (inches)	Bottom Area Reduction	Bottom Area Multiplier	Design trench bottom area
		6 to 11		1	
		12 to 17	20%	0.8	
		18 to 23	34%	0.66	
		24	40%	0.6	

B. Registered Product:

C. Select Sidewall Height:  inches =  ft

D. Design Bottom Area (3.A):  ft<sup>2</sup>

E. Registered Width:  ft

F. Minimum Designed Trench Length = Bottom Area (3.C) ÷ Trench Width (3.D)  
 ft<sup>2</sup> ÷  ft =  ft

G. Enter the Registered Product Component Length:  ft

H. Number of Components = Minimum Total Length Required divided by Component Length (Round up)  
 ft ÷  ft =  components

I. Actual Total Trench Length = Number of Components X Component Length:  
 components X  ft =  ft

J. Calculate Minimum length per trench based on Contour Loading Rate: Design Flow ÷ CLR =  
 gpd ÷  gal/ft =  ft

K. Select No. of Trenches:  trenches

L. Length per trench = Actual Trench Length ÷ Number of Trenches. *Recommended* to not exceed 3.J.  
 ft ÷  gal/ft =  ft

M. Select Trench Spacing :  ft (typically 5 - 12 ft from center to center)

N. Calculate Lawn Area: Trench Length X Trench Spacing = square feet of lawn area  
 ft X  ft =  ft<sup>2</sup> lawn area

**Comments:**