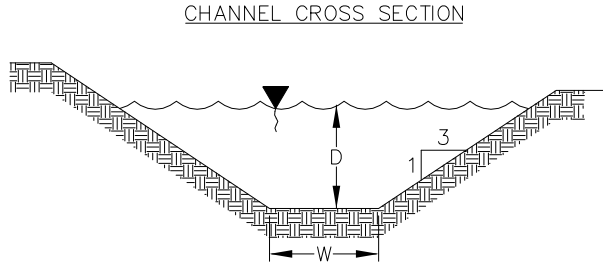


W.D.O.T. FACILITIES DEVELOPMENT MANUAL EROSION MAT DESIGN

Description:

Swale West.

Given:



Width (W) = 0.5 feet
Depth (D) = 0.16 feet
Slope (s) = 0.223 ft/ft

Calculate maximum shear stress in the swale, τ_m :

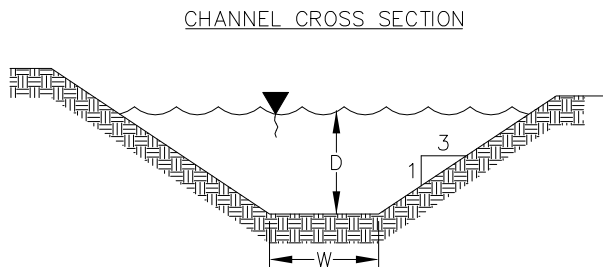
$$\tau_m = \gamma ds = (62.4 \text{ lb/ft}^2)(0.16 \text{ ft})(0.223 \text{ ft/ft}) = 2.23 \text{ lb/ft}^2$$

Use WDOT Class I Type B Erosion Mat over Class III Type C reinforcement. ($3.5 > 2.23 \text{ lb/ft}^2$)
(Per FDM 10-5 Attachment 35.1 Channel Erosion Matrix)

Description:

Swale East .

Given:



Width (W) = 0.5 feet
Depth (D) = 0.17 feet
Slope (s) = 0.161 ft/ft

Calculate maximum shear stress in the swale, τ_m :

$$\tau_m = \gamma ds = (62.4 \text{ lb/ft}^2)(0.17 \text{ ft})(0.161 \text{ ft/ft}) = 1.69 \text{ lb/ft}^2$$

Use WDOT Class II Type B Erosion Mat. ($2.0 > 1.69 \text{ lb/ft}^2$)
(Per FDM 10-5 Attachment 35.1 Channel Erosion Matrix)