

TABLE B-4

Roughness Coefficients (Manning’s “n”) for Overland Flow

Surface Description -----	n		
Dense Growth	0.4	-	0.5
Pasture	0.3	-	0.4
Lawns	0.2	-	0.3
Bluegrass Sod	0.2	-	0.5
Short Grass Prairie	0.1	-	0.2
Sparse Vegetation	0.05	-	0.1
Bare Clay-Loam Soil (eroded)	0.01	-	0.0
Concrete/Asphalt	-	very shallow depths (less than ¼ inch)	0.10 - 0.1
	-	small depths (1/4 inch to several inches)	0.05 - 0.1

Roughness Coefficients (Manning’s “n”) for Channel and Pipe Flow

Reach Description -----	n
Natural stream, clean, straight, no rifts or pools	0.03
Natural stream, clean, winding, some pools or shoals	0.04
Natural stream, winding, pools, shoals, stoney with some weeds	0.05
Natural stream, sluggish deep pools and weeds	0.07
Natural stream or swale, very weedy or with timber underbrush	0.10
Concrete pipe, culvert or channel	0.013
Corrugated metal pipe	0.012 – 0.024*
Spiral rib metal pipe	0.012
Corrugated polyethylene pipe	0.020
Smooth-lined corrugated polyethylene pipe	0.012

* Based on pipe diameter and manufacturer’s design specifications.