

**Appendix 6E-3 Rational Method Runoff Coefficients with 25 yr
C_f factor Applied**

C _{Cf} Values for 50 Year Storm Frequency (C _f =1.1)					
Land Use		Average Watershed Slope			Average % Impervious
		Flat <2%	Rolling 2% - 6%	Steep >6%	
Business, Commercial & Industrial		0.88	0.94	0.99	90%
Apartments and Townhomes		0.72	0.77	0.83	75%
Schools		0.55	0.61	0.66	50%
Residential	lots 10,000 sq. ft	0.44	0.50	0.55	35%
	lots 12,000 sq. ft.	0.44	0.47	0.50	30%
	lots 17,000 sq. ft.	0.39	0.44	0.50	25%
	lots ½ acre or more	0.33	0.39	0.44	20%
Parks, Cemeteries and Unimproved Areas		0.22	0.30	0.39	15%
Paved and Roof Areas		0.99			100%
Cultivated Areas		0.55	0.66	0.77	Varies
Pasture		0.39	0.44	0.50	Varies
Lawns		0.28	0.33	0.39	Varies
Forest		0.22	0.28	0.33	Varies
Railroad Yard Areas		0.22	0.33	0.44	
Roadway Slopes (2:1) w/ Little or No Vegetated Cover		0.77			
Roadway Shoulder & Ditch Areas w/ Little or No Vegetated Cover		0.55			
Roadway Slopes (2:1) w/ Established Vegetated Cover		0.44			
Roadway Shoulder & Ditch Areas w/ Established Vegetated Cover		0.39			

Rational Formula (Revised) – $Q = C_{Cf} A i^{\ddagger}$

[‡] Source: VDOT