Form 4.2-4 HCOC Assessment for Time of Concentration (DA   )

Compute time of concentration for pre and post developed conditions for each DA *(For projects using the Hydrology Manual complete the form below)*

Variables	Pre-developed DA1				Post-developed DA1			
	DMA E	DMA F	DMA G	DMA H	DMA E	DMA F	DMA G	DMA H
1 Length of flowpath (ft) *Use Form 3-2 Item 5 for pre-developed condition*								
2 Change in elevation (ft)								
3 Slope (ft/ft), S_o = *Item 2 / Item 1*								
4 Land cover								
5 Initial DMA Time of Concentration (min) *Appendix C-1 of the TGD for WQMP*								
6 Length of conveyance from DMA outlet to project site outlet (ft) *May be zero if DMA outlet is at project site outlet*								
7 Cross-sectional area of channel (ft^2)								
8 Wetted perimeter of channel (ft)								
9 Manning's roughness of channel (n)								
10 Channel flow velocity (ft/sec) $V_{fps} = (1.49 \, / \, Item \, 9) * (Item \, 7/Item \, 8)^{0.67} * (Item \, 3)^{0.5}$								
11 Travel time to outlet (min) $T_t = Item \, 6 \, / \, (Item \, 10 * 60)$								
12 Total time of concentration (min) $T_c = Item \, 5 + Item \, 11$								

13 Pre-developed time of concentration (min):   *Minimum of Item 12 pre-developed DMA*

14 Post-developed time of concentration (min):   *Minimum of Item 12 post-developed DMA*

15 Additional time of concentration needed to meet HCOC requirement (min): $T_{C\text{-}HCOC} = (Item \, 14 * 0.95) - Item \, 13$