

### 3-C.3.1 Runoff Coefficient, C

The runoff coefficient, C, in the Rational Equation represents the fraction of rainfall on a given area which may be expected to become runoff.

Table 3-C.3-1 from Sewer Design and Construction - ASCE Manual No. 37, provides general guidelines for the selection of runoff coefficient factors.

**Table 3-C.3-1 Runoff Coefficients**

DESCRIPTION OF AREA	RUNOFF COEFFICIENTS
Business: Downtown areas Neighborhood areas	0.70 to 0.95 0.50 to 0.70
Residential: Single-family areas Multi-units, detached Multi-units, attached	0.30 to 0.50 0.40 to 0.60 0.60 to 0.75
Residential (suburban)	0.25 to 0.40
Apartment dwelling areas	0.50 to 0.70
Industrial: Light areas Heavy areas	0.50 to 0.80 0.60 to 0.90
Parks, cemeteries	0.10 to 0.25
Playgrounds	0.20 to 0.35
Railroad yard areas	0.20 to 0.40
Unimproved areas	0.10 to 0.30

### 3-C.3.2 Time of Concentration

Time of concentration (TC) is defined as the flow time from the most remote point in the drainage area to the point under consideration. Usually it is considered to be composed of time of concentration for drainage inlets plus time of flow in pipes. Figure 3-C.3-1 (adapted from Elwyn E. Seelye, "Databook for Civil Engineers", Volume 1 – Design, Second Edition, New York: John Wiley and sons inc., 1951) is provided to assist in estimating the overland flow time, which will be considered the time of concentration for drainage inlets.