

Storm Sewer Design Criteria

The design of storm sewers or stormwater drainage systems is a very complex process. The designer will have many factors to consider insuring that there is timely removal of excess stormwater. Two of the most critical issues are the required flow capacity and the installed condition of the stormwater conveyance. Many decisions and evaluations will be made by the designer to arrive at the most feasible approach to the design of the system. Anyone desiring further reference material may want to review or request a free copy of [The Corrugated Polyethylene Pipe Design Manual and Installation Guide](#) published by the [Plastic Pipe Institute](#).

Required Flow Capacity

- Determining the required flow capacity will require the use of the following factors.

Basin Recharge	Rainfall intensity
Direct Runoff	Run-off coefficient
Storm frequency	Roughness coefficient of conveyance

- The designer will also have the choice of several methods to calculate the required flow rate.

Rational method
SCS Technical Release 55 (TR-55)
Hydraulic Engineering Center model (HEC)

Installation Factors in Storm Sewers

- The installation of the storm water system is critical to the timely removal of the excess water. The following factors will be considered to properly install a storm sewer system.

Pipe Deflection	Live Traffic Load
Dead (Static) Loads	Backfill Quality
Depth of Cover	Hydrostatic loads
Compaction Methods	Trench Widths
Trench conditions	