

CHAPTER 2

HYDROLOGY

2.1 Hydrologic Methods

Many hydrologic methods are available. The following methods are recommended and the circumstances for their use are listed in Table 2.1-1 below. If other methods are used they must first be calibrated to local conditions and tested for accuracy and reliability. In addition complete source documentation must be submitted to the City of Lawrenceville for approval.

The following methods have been selected for use in the City of Lawrenceville based on several considerations, including the following:

- Verification of their accuracy in duplicating local hydrologic estimates of a range of design storms.
- Availability of equations, nomographs, and computer programs.
- Use and familiarity with the methods by local municipalities and consulting engineers.

**Table 2.1-1
Recommended Hydrologic Methods**

<u>Method</u>	<u>Size Limitations¹</u>	<u>Comments</u>
Rational	0-25 Acres	Method can be used for estimating peak flows and the design of small sub-division type storm sewer systems. Method shall not be used for storage design or peak flow rate associated with the water quality
SCS	0-2000 Acres	Method can be used for estimating peak flows and TP-149 Hydrographs. Method can be used for the design of all drainage structures including storage facilities except water quality BMPs.
USGS	25 Acres to 25 Sq. Miles	Method can be used for estimating peak flows for all design applications.
USGS	128 Acres to 24 Sq. Miles	Method can be used for estimating hydrographs for all design applications.

NOTE: there are many readily available programs (such as HEC-1) that utilize these methodologies.

¹Size limitation refers to the drainage basin for the stormwater management facility (i.e., culvert, inlet).

END OF SECTION 2.1