

Peak Flow

During the review process a site plan is also examined for the sites ability to handle the potential “peak flow” of stormwater; meaning the greatest volume of water from a storm event at one time. The purpose of this is to keep new development from increasing flooding downstream. As land becomes more developed, the amount of stormwater that runs off into the streams is greater. By installing peak flow control devices such as a dry pond, the stormwater can be held on site and slowly released over time instead of all at once. All new development must meet Watershed Regulations and Neuse River Regulations if applicable to the project. The City Engineer or his/her designee will review all projects to determine compliance with all federal, state, and local stormwater regulations. In addition:

1. All new development shall evaluate the stormwater impacts, created by their project, to off-site existing stormwater systems that receive runoff from the new development. These offsite systems may be open ditches, streams, or pipes.
 - a. The limits of the analysis shall be 500 feet downstream and to a point where the proposed development is 10% of the total watershed. Analysis shall also be conducted upstream to insure the proposed development does not use up all the existing capacity of the off-site system.
 - b. If the existing stormwater system(s) cannot handle the runoff from the proposed development, the development shall either:
 - i. Install on site stormwater controls (BMP’s) to reduce the peak flow.
 - or ii. Upgrade the existing stormwater system to handle the increased flow.
 - c. All engineered stormwater solutions shall be evaluated by both the City Engineer and an outside consulting firm to determine whether the improvements meet the city’s requirements.
2. All culverts under city right-of-ways shall be designed using NCDOT design standards (minimum of 25 year design storm).
3. All stormwater control structures shall be designed to reduce the peak flow (predevelopment) by the following amounts:
 - 1 & 2 year storms – 20% reduction in peak flow
 - 10 & 25 year storms – 15% reduction in peak flow