

Is it necessary to provide on-site detention for development which discharges directly into a 100-yr floodplain?

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Abstract

The analysis will look at the hydrologic effects on the a section of the Stahl Rd Tributary near Barnhart, Missouri and the hydrologic effects on Bear Creek near House Springs, Missouri. Both watersheds have already been partially developed and it is anticipated that they will be fully developed in the next twenty years. In many municipalities, across the country, when projects are developed which discharge directly into floodplain detention can be waived for these sites due to local regulation. A condition of waiving detention requirements is to show through hydrograph timing that the onsite peak flows will occur before the offsite peak, and that the reduction of the time of concentration for the onsite flows will result in a lower combined peak at the onsite discharge point. Our analysis looks at the current conditions in these two watersheds, and than extrapolates what the effects will be when the watersheds are fully developed. We will compare two conditions. Scenario 1 where detention being required for all future projects, and Scenario 2 where detention is required except for those sites which directly discharge into 100-year floodplain per the FIRM maps.

This type of an analysis will allow us to determine if hydrograph timing should be allowed as a legitimate reason for waiving detention requirements.

Aspects of the presentation would include an overview of the concepts of hydrograph timing using the SCS methodology, and then a summary of the methodology and results of our analysis. Handouts will be provided highlighting the presentation and our results.