THE VARIABILITY OF FLOODWAY ENCROACHMENT DETERMINATION

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Introduction

Designated floodways may be determined by any of several methods. This paper will treat the designated floodways as they can be determined from Corps of Engineers computer program HEC-2, Water Surface Profiles. This program is very powerful, well documented, and supported, which exemplifies why it is probably the most widely used backwater program in the world. Other commonly used computer methods are deemed to be similar to at least one of the several encroachment algorithms programmed into HEC-2.

The purpose of this paper is to elucidate the variability of designated floodways that might be determined by different investigators. The aspects of the nonuniqueness of designated floodways must be critically addressed since property values, land use, and municipal building permits are affected by the exact delineation of the left and right encroachment stations, which define the designated floodway.

Methods of Floodway Determination

The Hydrologic Engineering Center (HEC) has developed six different methods for establishing floodway encroachment stations using HEC-2. These may be briefly summaried below as:

METHOD ONE: An encroachment procedure which allows the program user to specify directly the desired encroachment stations (left and right). With this method, HEC-2 will determine the water surface elevation and other hydraulic data with the given fixed encroachment stations.