



FEMA



Modeling and Mapping Non-Accredited Levees: Overtopping Procedure

The Federal Emergency Management Agency (FEMA) has developed a new set of procedures for analyzing and mapping flood hazard on the landward side of non-accredited levees on Flood Insurance Rate Maps (FIRMs). Non-accredited levee systems are those that do not meet all the requirements outlined in Title 44 of the Code of Federal Regulations (CFR), Section 65.10.

This fact sheet summarizes the **Overtopping** procedure. The **Overtopping** procedure can be used for levee systems, or portions of a levee system, where the crest of the levee is below the 1-percent-annual-chance flood elevation. In addition, information must be submitted that demonstrates that the levee would remain in place during the overtopping event. This procedure was developed to account for levees with crests below the Base Flood Elevation (BFE) that may still provide a measure of flood hazard reduction. The **Overtopping** procedure can be applied to one or more reaches in the levee system or the entire system.

When to Use the Overtopping Procedure

Figure 1 illustrates a levee reach with the top of the levee below the BFE. To use the **Overtopping** procedure, the levee reach should be structurally sound and able to withstand an overtopping event. Specifically, the design must be able to sustain the overtopping flows.

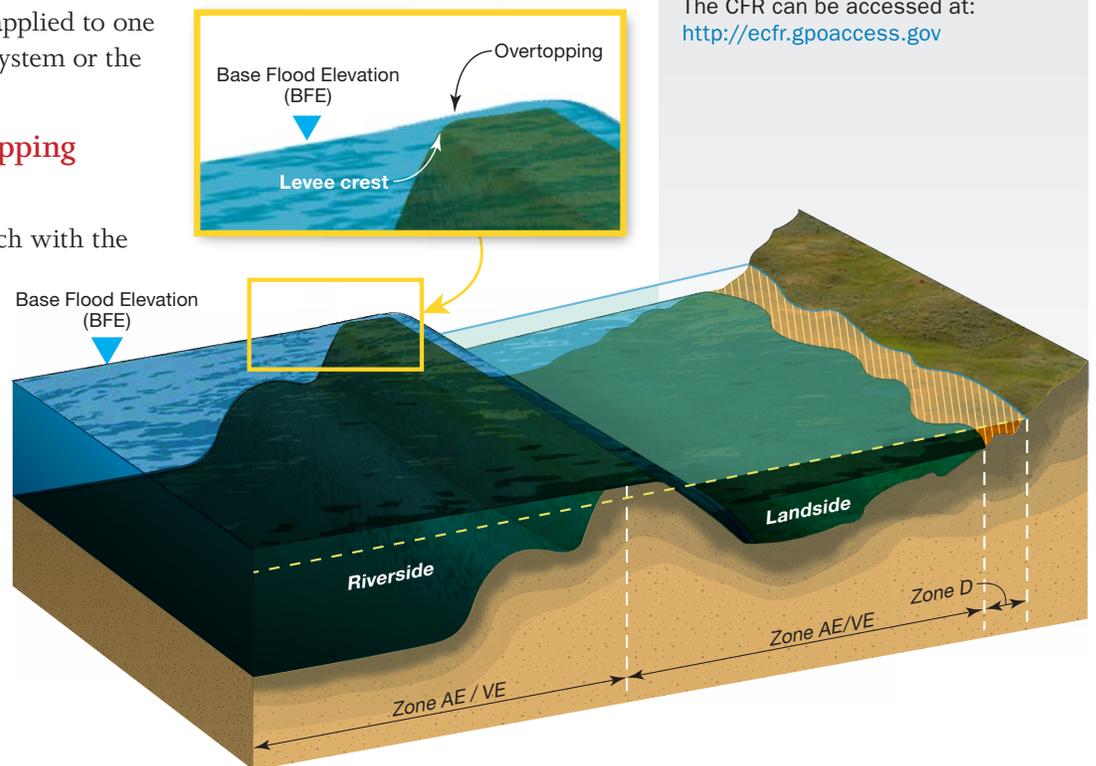


Figure 1: Cross-section view of a levee reach with a crest lower than the BFE

Updated Levee Analysis and Mapping Methodologies

FEMA has developed procedures for analyzing and mapping hazards associated with non-accredited levees shown on FIRMs. An overview is provided in Fact Sheets titled:

1. **Dividing Levee Systems into Multiple Reaches**
2. **Natural Valley Procedure**
3. **Sound Reach Procedure**
4. **Freeboard Deficient Procedure**
5. **Overtopping Procedure**
6. **Structural-Based Inundation Procedure**
7. **Understanding the Zone D Designation**

For more information, please visit: <http://www.fema.gov/final-levee-analysis-and-mapping-approach>

The CFR can be accessed at: <http://ecfr.gpoaccess.gov>

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