



## WHAT ARE YOUR OPTIONS IN MAP MODERNIZATION?

As a community, you have different study options in the floodplain mapping and the Map Modernization implementation. These choices should be based on your local community needs and wanted returns, your available leverage, and the Federal Emergency Management Agency's (FEMA's) provided funding. These options are as follows:

### DETAILED STUDY

This type of study involves conducting extensive ground surveying and precise hydrology and hydraulics analyses that meet the most stringent requirements established by FEMA in terms of base maps accuracy and survey requirements for streams and structures located on the studied streams (e.g., bridges, culverts, dams, roads and railroads crossing the streams) to provide for the parameters needed for the engineering analyses. A detailed study results in establishing Base Flood Elevations (BFEs) for the one-percent annual chance flood for identified flood prone streams. The BFEs will be included in the Flood Insurance Study (FIS) Report, and illustrated on the Digital Flood Insurance Rate Maps (DFIRMs).

Because BFEs will be established and the risk of flooding will be assessed where a detailed study is conducted, the possible advantages of choosing this study for your community are some of the following:

1. Reduced flood insurance premium rates.
2. Reduced community flood damages.
3. Enhanced community development planning.

This study method is most suitable for highly developed and urbanized watersheds.

### APPROXIMATE STUDY

To perform an approximate study, extensive ground surveying may not be required. Topography or orthophoto maps may be used to estimate the streams and structures parameters needed for the engineering analyses.

This type of study may be chosen for rural or relatively undeveloped areas or where flooding is predicted but is not known to have been occurred. No BFEs are to be established based on this study.

### LIMITED-DETAIL STUDY

This type of study was suggested by practice as the map modernization process started to advance. Local standards for obtaining streams and structures parameters are being developed and discussed with FEMA on individual bases to be suitable for this study. A combination of ground survey, and geometry obtained from topo/ortho maps, or from Light Detection and Ranging (LiDAR) surveying has been experienced in conducting this type of study. BFEs may be estimated and provided on Flood Profiles in association with the FIS reports, but may not be published on the final DFIRMs.

This may qualify the community, when the ordinances are adopted, for reduced flood insurance rates and provide better development planning and expectations.

## REDELINEATION:

This option is primarily a data update method. It involves no new analyses. The method uses effective information (previously established floodplain studies and maps; Flood Profiles and data tables from the FIS report, BFEs from the FIRMs, and supporting hydrologic and hydraulics analyses). This information is applied to new topographic maps that are more up-to-date and/or detailed than those used to produce the floodplain boundaries on the effective FIRMs.

Redelineation of the effective 100-year flood floodplain boundaries that were based on a detailed study is appropriate when:

- discharges and BFEs are determined to be appropriate,
- the floodplain boundary delineation is inadequate, and
- updated topographic data is available.

## DIGITIZATION

This method results in digitizing information available on the effective FIRMs. The new digital FIRMs will reflect previously determined information without conducting any new flood studies or redelineation of flood boundaries.

This method is the least preferred because it may result in transferring to digital format inaccurate flood information, if recent development or other conditions occurred in the watershed that may have changed what has been previously estimated.

### **For more information:**

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