



# Simplified Method – Profile Extrapolation

For areas of interest (AOI) that are in A zones very near the upstream end of an AE zone, the BFE may be determined by extrapolating the data from the AE zone profile.

There are several applicability limitations that need to be evaluated prior to using this method. This method should not be used where detailed methods are necessary. This can be done in a GIS application or with paper maps.

## Data Required:

- GIS Application (if not using paper products) – ArcGIS, QGIS
- 100-yr profile computed by detailed methods (i.e., FIS report)
- GIS reference shapefiles (if not using paper products) – streamline, area of interest (AOI) if not visible in imagery

## Method Procedure:

1. Evaluate method applicability. Verify that:
  - a. AOI is within 500 feet of the upstream limit of detailed study
  - b. There are similar channel and floodplain characteristics
  - c. There are no backwater effects
  - d. There are no slope breaks near the end of the study
2. Measure the distance upstream of Limit of Detailed Study to the upstream side of the AOI
3. Using the profile, extend the 1%-annual-chance (100-year) profile with a constant slope
4. Add the distance to the station of Limit of Detailed Study to locate the AOI on the profile
5. Determine the BFE by reading the elevation from the extended profile line at the location of the AOI.
6. Check the vertical datum on the y-axis
  - a. If NGVD29, convert to NAVD88 using an [online converter](#) based on the GIS coordinates.

