

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT TECHNICAL PROCEDURE

POLICY NO.: Technical Procedure, TECH-101

EFFECTIVE DATE: January 25, 2006

POLICY: Determining Base Flood Elevations in Special Flood Hazard Area Zones AE and AH

PURPOSE: An internal procedure for ensuring consistent and uniform determination of the Base Flood Elevation (BFE) for the purpose of establishing a mandatory minimum Regulatory (Finished Floor) Elevation (RFE).

PROCEDURE:

The permit writer (PW), usually an area hydrologist, shall utilize the appropriate upstream and downstream cross-sections as identified in the Flood Insurance Study (FIS). The PW shall make copies of the relevant FIS information and create an image of the subject property from the RFCD MapGuide Site with the following information:

- 1) Relevant Cross-Sections, with Labels,
- 2) Aerial Photo coverage
- 3) Property boundary, if property is large sufficient boundaries to determine proposed use location
- 4) To-scale, with scale represented

Using this information, PW shall determine the BFE through the following method: (see Example A)

- A) Draw a perpendicular line from the downstream profile, through the most upstream portion of the proposed use, to the upstream profile.
- B) Draw a perpendicular line from the upstream profile, through the most upstream portion of the proposed use, to the downstream profile.
- C) Locate points on each profile that are equidistant to the two lines
- D) Using these points, create a new line through the most upstream portion of the proposed use. This is the "Line to Measure Profile"
- E) Using the profiles' water surface elevations, interpolate the BFE using the ratio of the distances for each of the lines drawn.
- F) Add one foot to create the RFE
- G) Should the watercourse have additional information, (e.g Upper Canada Del Oro Wash Special Study Area), the PW shall repeat steps A-E using the special study elevations.
- H) The more restrictive elevations determined by steps F and G shall be used for the RFE for permitting purposes, although the Elevation certificate must list the FEMA BFE.
- I) The final BFE shall be compared to the FIS profile in order to ensure that BFE, determined by the method above, is at least as restrictive as the profile elevation.

The final document is to be dated and initialed by the PW and placed into the file. The final document must be of professional quality (no sticky notes or unlabeled calculations).

Upon completion of this determination, the PW shall maintain this information in the file for review and concurrence by the permit reviewer (e.g Senior Civil Engineering Assistant (SCEA) or the Civil Engineer (CE) or Senior Hydrologist (SH)) prior to permit issuance.

