

Army Corps of Engineers, U.S. Geological Survey, Natural Resources Conservation Service, State and local water resource departments, or technical data prepared and certified by a registered professional engineer. If base flood elevations have not previously been established, we may also request hydrologic and hydraulic calculations.

(7) A revision of floodplain delineations based on fill must demonstrate that any such fill does not result in a floodway encroachment.

(b) *New topographic data.* A community may also follow the procedures described in paragraphs (a)(1) through (6) of this section to request a map revision when no physical changes have occurred in the area of special flood hazard, when no fill has been placed, and when the natural ground elevations are at or above the elevations of the base flood, where new topographic maps are more detailed or more accurate than the current map.

(c) *Certification requirements.* A registered professional engineer or licensed land surveyor must certify the items required in paragraphs (a)(3) and (6) and (b) of this section. Such certifications are subject to the provisions under § 65.2.

(d) *Submission procedures.* Submit all requests to the appropriate address serving the community's geographic area or to the FEMA Headquarters Office in Washington, DC.

[66 FR 22442, May 4, 2001]

**§ 65.6 Revision of base flood elevation determinations.**

(a) *General conditions and data requirements.* (1) The supporting data must include all the information FEMA needs to review and evaluate the request. This may involve the requestor's performing new hydrologic and hydraulic analysis and delineation of new flood plain boundaries and floodways, as necessary.

(2) To avoid discontinuities between the revised and unrevised flood data, the necessary hydrologic and hydraulic analyses submitted by the map revision requestor must be extensive enough to ensure that a logical transition can be shown between the revised flood elevations, flood plain bound-

aries, and floodways and those developed previously for areas not affected by the revision. Unless it is demonstrated that it would not be appropriate, the revised and unrevised base flood elevations must match within one-half foot where such transitions occur.

(3) Revisions cannot be made based on the effects of proposed projects or future conditions. Section 65.8 of this subchapter contains provisions for obtaining conditional approval of proposed projects that may effect map changes when they are completed.

(4) The datum and date of releveling of benchmarks, if any, to which the elevations are referenced must be indicated.

(5) Maps will not be revised when discharges change as a result of the use of an alternative methodology or data for computing flood discharges unless the change is statistically significant as measured by a confidence limits analysis of the new discharge estimates.

(6) Any computer program used to perform hydrologic or hydraulic analyses in support of a flood insurance map revision must meet all of the following criteria:

(i) It must have been reviewed and accepted by a governmental agency responsible for the implementation of programs for flood control and/or the regulation of flood plain lands. For computer programs adopted by non-Federal agencies, certification by a responsible agency official must be provided which states that the program has been reviewed, tested, and accepted by that agency for purposes of design of flood control structures or flood plain land use regulation.

(ii) It must be well-documented including source codes and user's manuals.

(iii) It must be available to FEMA and all present and future parties impacted by flood insurance mapping developed or amended through the use of the program. For programs not generally available from a Federal agency, the source code and user's manuals must be sent to FEMA free of charge, with fully-documented permission from the owner that FEMA may release the code and user's manuals to such impacted parties.

(7) A revised hydrologic analysis for flooding sources with established base flood elevations must include evaluation of the same recurrence interval(s) studied in the effective FIS, such as the 10-, 50-, 100-, and 500-year flood discharges.

(8) A revised hydraulic analysis for a flooding source with established base flood elevations must include evaluation of the same recurrence interval(s) studied in the effective FIS, such as the 10-, 50-, 100-, and 500-year flood elevations, and of the floodway. Unless the basis of the request is the use of an alternative hydraulic methodology or the requestor can demonstrate that the data of the original hydraulic computer model is unavailable or its use is inappropriate, the analysis shall be made using the same hydraulic computer model used to develop the base flood elevations shown on the effective Flood Insurance Rate Map and updated to show present conditions in the flood plain. Copies of the input and output data from the original and revised hydraulic analyses shall be submitted.

(9) A hydrologic or hydraulic analysis for a flooding source without established base flood elevations may be performed for only the 100-year flood.

(10) A revision of flood plain delineations based on topographic changes must demonstrate that any topographic changes have not resulted in a floodway encroachment.

(11) Delineations of flood plain boundaries for a flooding source with established base flood elevations must provide both the 100- and 500-year flood plain boundaries. For flooding sources without established base flood elevations, only 100-year flood plain boundaries need be submitted. These boundaries should be shown on a topographic map of suitable scale and contour interval.

(12) If a community or other party seeks recognition from FEMA, on its FHBM or FIRM, that an altered or relocated portion of a watercourse provides protection from, or mitigates potential hazards of, the base flood, the Administrator may request specific documentation from the community certifying that, and describing how, the provisions of §60.3(b)(7) of this subchapter will be met for the particular

watercourse involved. This documentation, which may be in the form of a written statement from the Community Chief Executive Officer, an ordinance, or other legislative action, shall describe the nature of the maintenance activities to be performed, the frequency with which they will be performed, and the title of the local community official who will be responsible for assuring that the maintenance activities are accomplished.

(13) Notwithstanding any other provisions of §65.6, a community may submit, in lieu of the documentation specified in §65.6(a)(12), certification by a registered professional engineer that the project has been designed to retain its flood carrying capacity without periodic maintenance.

(14) The participating community must provide written assurance that they have complied with the appropriate minimum floodplain management requirements under §60.3 of this chapter. This includes the requirements that:

(i) Existing residential structures built in the SFHA have their lowest floor elevated to or above the base flood;

(ii) The participating community has determined that the land and any existing or proposed structures to be removed from the SFHA are "reasonably safe from flooding," and that they have on file, available upon request by FEMA, all supporting analyses and documentation used to make that determination;

(iii) The participating community has issued permits for all existing and proposed construction or other development; and

(iv) All necessary permits have been received from those governmental agencies where approval is required by Federal, State, or local law.

(15) If the community cannot assure that it has complied with the appropriate minimum floodplain management requirements under §60.3, of this chapter the map revision request will be deferred until the community remedies all violations to the maximum extent possible through coordination with FEMA. Once the remedies are in place, and the community assures that

the land and structures are “reasonably safe from flooding,” we will process a revision to the SFHA using the criteria set forth under §65.6. The community must maintain on file, and make available upon request by FEMA, all supporting analyses and documentation used in determining that the land or structures are “reasonably safe from flooding.”

(b) *Data requirements for correcting map errors.* To correct errors in the original flood analysis, technical data submissions shall include the following:

(1) Data identifying mathematical errors.

(2) Data identifying measurement errors and providing correct measurements.

(c) *Data requirements for changed physical conditions.* Revisions based on the effects of physical changes that have occurred in the flood plain shall include:

(1) *Changes affecting hydrologic conditions.* The following data must be submitted:

(i) General description of the changes (e.g., dam, diversion channel, or detention basin).

(ii) Construction plans for as-built conditions, if applicable.

(iii) New hydrologic analysis accounting for the effects of the changes.

(iv) New hydraulic analysis and profiles using the new flood discharge values resulting from the hydrologic analysis.

(v) Revised delineations of the flood plain boundaries and floodway.

(2) *Changes affecting hydraulic conditions.* The following data shall be submitted:

(i) General description of the changes (e.g., channelization or new bridge, culvert, or levee).

(ii) Construction plans for as-built conditions.

(iii) New hydraulic analysis and flood elevation profiles accounting for the effects of the changes and using the original flood discharge values upon which the original map is based.

(iv) Revised delineations of the flood plain boundaries and floodway.

(3) *Changes involving topographic conditions.* The following data shall be submitted:

(i) General description of the changes (e.g., grading or filling).

(ii) New topographic information, such as spot elevations, cross sections, grading plans, or contour maps.

(iii) Revised delineations of the flood plain boundaries and, if necessary, floodway.

(d) *Data requirements for incorporating improved data.* Requests for revisions based on the use of improved hydrologic, hydraulic, or topographic data shall include the following data:

(1) Data that are believed to be better than those used in the original analysis (such as additional years of stream gage data).

(2) Documentation of the source of the data.

(3) Explanation as to why the use of the new data will improve the results of the original analysis.

(4) Revised hydrologic analysis where hydrologic data are being incorporated.

(5) Revised hydraulic analysis and flood elevation profiles where new hydrologic or hydraulic data are being incorporated.

(6) Revised delineations of the flood plain boundaries and floodway where new hydrologic, hydraulic, or topographic data are being incorporated.

(e) *Data requirements for incorporating improved methods.* Requests for revisions based on the use of improved hydrologic or hydraulic methodology shall include the following data:

(1) New hydrologic analysis when an alternative hydrologic methodology is being proposed.

(2) New hydraulic analysis and flood elevation profiles when an alternative hydrologic or hydraulic methodology is being proposed.

(3) Explanation as to why the alternative methodologies are superior to the original methodologies.

(4) Revised delineations of the flood plain boundaries and floodway based on the new analysis(es).

(f) *Certification requirements.* All analysis and data submitted by the requester shall be certified by a registered professional engineer or licensed land surveyor, as appropriate, subject to the definition of “certification” given at §65.2 of this subchapter.

(g) *Submission procedures.* All requests shall be submitted to the FEMA Regional Office servicing the community's geographic area or to the FEMA Headquarters Office in Washington, DC, and shall be accompanied by the appropriate payment, in accordance with 44 CFR part 72.

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#### § 65.7 Floodway revisions.

(a) *General.* Floodway data is developed as part of FEMA Flood Insurance Studies and is utilized by communities to select and adopt floodways as part of the flood plain management program required by § 60.3 of this subchapter. When it has been determined by a community that no practicable alternatives exist to revising the boundaries of its previously adopted floodway, the procedures below shall be followed.

(b) *Data requirements when base flood elevation changes are requested.* When a floodway revision is requested in association with a change to base flood elevations, the data requirements of § 65.6 shall also be applicable. In addition, the following documentation shall be submitted:

(1) Copy of a public notice distributed by the community stating the community's intent to revise the floodway or a statement by the community that it has notified all affected property owners and affected adjacent jurisdictions.

(2) Copy of a letter notifying the appropriate State agency of the floodway revision when the State has jurisdiction over the floodway or its adoption by communities participating in the NFIP.

(3) Documentation of the approval of the revised floodway by the appropriate State agency (for communities where the State has jurisdiction over the floodway or its adoption by communities participating in the NFIP).

(4) Engineering analysis for the revised floodway, as described below:

(i) The floodway analysis must be performed using the hydraulic computer model used to determine the proposed base flood elevations.

(ii) The floodway limits must be set so that neither the effective base flood

elevations nor the proposed base flood elevations if less than the effective base flood elevations, are increased by more than the amount specified under § 60.3 (d)(2). Copies of the input and output data from the original and modified computer models must be submitted.

(5) Delineation of the revised floodway on the same topographic map used for the delineation of the revised flood boundaries.

(c) *Data requirements for changes not associated with base flood elevation changes.* The following data shall be submitted:

(1) Items described in paragraphs (b) (1) through (3) of this section must be submitted.

(2) Engineering analysis for the revised floodway, as described below:

(i) The original hydraulic computer model used to develop the established base flood elevations must be modified to include all encroachments that have occurred in the flood plain since the existing floodway was developed. If the original hydraulic computer model is not available, an alternate hydraulic computer model may be used provided the alternate model has been calibrated so as to reproduce the original water surface profile of the original hydraulic computer model. The alternate model must be then modified to include all encroachments that have occurred since the existing floodway was developed.

(ii) The floodway analysis must be performed with the modified computer model using the desired floodway limits.

(iii) The floodway limits must be set so that combined effects of the past encroachments and the new floodway limits do not increase the effective base flood elevations by more than the amount specified in § 60.3(d)(2). Copies of the input and output data from the original and modified computer models must be submitted.

(3) Delineation of the revised floodway on a copy of the effective NFIP map and a suitable topographic map.

(d) *Certification requirements.* All analyses submitted shall be certified by a registered professional engineer. All topographic data shall be certified by a