

# *Map* MODERNIZATION

Federal Emergency Management Agency



**FEMA's Flood Hazard Mapping Program**

## **Guidelines and Specifications for Flood Hazard Mapping Partners**

*Appendix M: Guidance for Preparing and  
Maintaining Technical and Administrative  
Support Data*



**FEDERAL EMERGENCY MANAGEMENT AGENCY**

[www.fema.gov/mit/tsd/dl\\_cgs.htm](http://www.fema.gov/mit/tsd/dl_cgs.htm)

**FINAL**  
February 2002

## **Appendix M**

### **Guidance for Preparing and Maintaining Technical and Administrative Support Data**

This Appendix describes the requirements that the Federal Emergency Management Agency (FEMA) and its Flood Hazard Mapping Partners must meet for preparing, submitting, and maintaining the technical and administrative support data generated for the Flood Hazard Mapping Program. Specifically, this Appendix covers the requirements for the Technical Support Data Notebook (TSDN), which contains all of the support data for a community for which FEMA published a flood hazard map and all revisions to that flood hazard map. The requirements in this Appendix apply to data produced by FEMA Flood Hazard Mapping Partners and submitted to FEMA.

[February 2002]

#### **M.1 Background**

In May 1989, FEMA issued the first version of its *Guide for Preparing Technical Support Data Notebook*. A revised version of the Guide was published in January 1990. The Guide, when originally published, applied to FEMA-contracted studies and restudies and established procedures for the development and maintenance of the TSDN for each flood study prepared by FEMA's Study Contractors and Technical Evaluation Contractors.

Since that time, FEMA has expanded the requirement to include map revisions submitted by community officials under Part 65 of the National Flood Insurance Program (NFIP) regulations and to mapping activities completed by communities, regional agencies, and State agencies participating in the Cooperating Technical Partners (CTP) initiative. (Interested parties may obtain more information about the CTP initiative from the FEMA Flood Hazard Mapping Website at [http://www.fema.gov/mit/tsd/ctp\\_main](http://www.fema.gov/mit/tsd/ctp_main).)

This Appendix, which supersedes the January 1990 Guide, details the requirements that Mapping Partners must follow in preparing and submitting technical and administrative support data to FEMA in the TSDN format. This Appendix also details the requirements that FEMA and the Mapping Partners that are processing and managing the data—presently the Flood Map Production Coordination Contractors—shall meet in processing and managing the data in the TSDN format.

## *Guidelines and Specifications for Flood Hazard Mapping Partners*

For special circumstances where guidance for a particular mapping activity is not provided by these Guidelines, the Mapping Partner that is preparing and submitting the data and the Mapping Partner that is processing and maintaining the data for FEMA shall resolve issues through consultation with the FEMA Lead for the Flood Map Project. The FEMA Lead for the Flood Map Project usually will be the FEMA Regional Project Officer (RPO) or the Project Officer (PO) at FEMA Headquarters.

[February 2002]

## **M.2 Preparation and Submittal Requirements**

### **M.2.1 FEMA-Contracted Flood Map Projects**

For FEMA-contracted Flood Map Projects (i.e., Flood Insurance Studies, Flood Insurance Restudies, Limited Map Maintenance Program project revisions, CTP-initiated map updates), the Mapping Partner that is preparing and submitting data (hereinafter referred to as the submitting Mapping Partner) shall organize deliverable materials in the TSDN format. The submitting Mapping Partner shall submit the deliverable materials to the Mapping Partner that processes and maintains the data (hereinafter referred to as the receiving Mapping Partner).

The TSDN must be divided into five major sections, each encompassing a separate category of information typically generated by the submitting Mapping Partner during the course of a Flood Map Project. These major sections are:

1. General Documentation (e.g., Special Problem Reports, telephone conversation records, meeting minutes/reports, and general correspondence);
2. Engineering Analyses;
3. Draft Flood Insurance Study (FIS) Report;
4. Mapping Information; and
5. Miscellaneous Reference Materials.

The requirements for the five sections of the TSDN are outlined in Subsections M.2.1.1 through M.2.1.5, respectively. The figures discussed in each subsection are presented at the end of this Appendix.

Materials that cannot be physically included in the TSDN because of size or volume must be bound and clearly labeled and identified as exhibits to the TSDN.

When submitting data, the submitting Mapping Partner shall prepare a transmittal letter to accompany the TSDN. The transmittal letter must identify the communities that are affected by the Flood Map Project and provide an inventory of all materials submitted.

The submitting Mapping Partner shall retain copies of pertinent data for use in responding to the following: (1) questions from FEMA or a Mapping Partner that is reviewing the results of a Flood Map Project, (2) protests and appeals submitted to FEMA during the 90-day appeal period; and (3) other concerns and issues that may develop during the processing of the study or restudy. The submitting Mapping Partner also shall ensure that a clearly labeled cover appears on each TSDN volume submitted. (See Figure M-1 for a sample.)

For each section of the TSDN, the submitting Mapping Partner shall ensure all information is neatly recorded on the required index sheet and annotated to indicate whether the product is one of several others and whether it pertains only to the appropriate community. The submitting Mapping Partner also shall ensure the materials submitted are complete and of original quality. If the submitting Mapping Partner submits hard copies of the index sheets, the sheets must be completed in pen or dark pencil.

[February 2002]

### **M.2.1.1 General Documentation**

In the General Documentation section, the submitting Mapping Partner shall include all written documentation, filed in reverse chronological order, that pertains to the general processing of a Flood Map Project. This section shall provide a comprehensive chronology of all Special Problem Reports (SPRs), telephone conversation reports, meeting minutes/reports, and general correspondence developed during the performance of the Flood Map Project. Additional information about each type of material is provided below.

[February 2002]

#### **Special Problem Reports**

An SPR identifies any special problems/issues encountered by the submitting Mapping Partner during the performance of the flood hazard analyses. The SPR must include written documentation generated or received by the submitting Mapping Partner that pertains to specific problem identification and/or special processing requirements. The submitting Mapping Partner shall provide a summary of the SPR as shown in Figure M-2 and an index sheet that includes the date, title, and exhibit number for the SPR as shown in Figure M-3.

[February 2002]

#### **Telephone Conversation Records**

Telephone conversation records include all written records or verbal communication documented by the submitting Mapping Partner. The submitting Mapping Partner shall provide an index sheet (see Figure M-4) containing the date, the name of the individual contacted, and the name of the government agency or firm the contact represents.

[February 2002]

#### **Meeting Minutes/Reports**

Meeting minutes/reports include written summaries of discussions in meetings between the submitting Mapping Partner and other parties, including all agencies and firms. They typically include minutes of standard meetings, including the Project Scoping meeting and the initial and final Consultation Coordination Officer meetings held by FEMA.

The submitting Mapping Partner shall provide an index sheet (see Figure M-5) containing the date of the minutes/report, meeting date, and meeting type.

[February 2002]

### **General Correspondence**

General correspondence is the written correspondence generated or received by the submitting Mapping Partner and may include letters; transmittals; memorandums; general status reports and queries; and internal communications, routing slips, and notes.

[February 2002]

### **M.2.1.2 Engineering Analyses**

This section of the TSDN is to include all coastal, riverine or other flood hazard engineering support data that were developed during the performance of a flood hazard analysis. Such support data as cross-section and/or transect information, basin characteristics, hydrologic and hydraulic calculations, graphs, nomographs, profile and cross-section plots, and any other engineering support data would be included.

The submitting Mapping Partner shall ensure the following categories of data are included in this section of the TSDN as appropriate to each Flood Map Project:

- Riverine hydrologic and hydraulic analyses;
- Coastal flooding analyses;
- Ice-jam flooding analyses;
- Alluvial fan flooding analyses;
- Key to Cross-Section Labeling; and
- Key to Transect Labeling.

The requirements for each category are provided below.

[February 2002]

### **Hydrologic and Hydraulic Analyses**

The purpose of this subsection of the TSDN is to provide FEMA with comprehensive documentation and supporting data for the hydrologic and hydraulic (H&H) analyses performed by the submitting Mapping Partner.

The submitting Mapping Partner shall ensure that the indexes and accompanying supporting data for the H&H analyses are included in this section of the TSDN and meet the following requirements:

- Data are arranged in alphabetical order according to the flooding source/stream name.

## *Guidelines and Specifications for Flood Hazard Mapping Partners*

- Data are properly labeled to identify the submitting Mapping Partner and the name(s) of community(ies) and State.
- Information on the type of model used, date of analysis, and exhibit number(s) assigned to those analyses that cannot be physically included in the TSDN because of size or volume are included.

Blank sample copies of the Hydrologic Analyses Index and Hydraulic Analyses Index sheets are provided at the end of this Appendix as Figures M-6 and M-7.

The submitting Mapping Partner shall ensure that the following general requirements are met:

- Hydrologic support data developed for the Flood Map Project must be provided. Such data may include basin characteristics, normal depth calculations, log-Pearson Type III calculations, regional regression equation calculations, frequency-discharge curves, and other relevant data.
- Hydraulic support data and calculations for riverine and coastal flooding sources that were developed for the Flood Map Project must be provided. Such data may include cross-section information (i.e., area, velocity, elevation calculations); floodway analyses; transect and surge data; wave height information; cross-section plots; computer models, calculations, and execution runs; and any other relevant data.
- The input files and results of the H&H analyses must be delivered in both hard copy (paper) and soft copy (electronic) format.
- If paper copies of the computer models used or generated for the Flood Map Project are too large to include in the TSDN, those copies must be individually bound and labeled according to the community and flooding source to which they apply, properly identified by exhibit number, and listed on the index sheet.
- Copies of computer models on diskette or CD-ROM must be packaged in computer envelopes or binders, labeled properly, identified by exhibit number, and listed on the index sheet.

The submitting Mapping Partner shall ensure that photographic or mapping information that may have been used in the development of the models are **not** included in this section. Such information shall be included in the “Mapping Information” section of the TSDN, which is discussed in Subsection M.2.1.4.

[February 2002]

### **Key to Cross-Section Labeling and Key to Transect Labeling**

The purpose of this subsection of the TSDN is to provide FEMA with comprehensive cross-referencing between field survey notes, draft report and map materials, riverine hydraulic analyses, coastal flooding analyses, and (if readily available) U.S. Environmental Protection Agency (EPA) Reach File Numbers. For each flooding source where a hydraulic analysis was

performed, the submitting Mapping Partner shall complete and maintain Key to Cross-Section Labeling or Key to Transect Labeling forms as applicable. In each Key, the Mapping Partner shall identify the cross-section and transect information developed.

Sample blank copies of the Key to Cross-Section Labeling and Key to Transect Labeling forms are presented in Figures M-8 and M-9, respectively, at the end of this Appendix.

[February 2002]

### **M.2.1.3 Draft Flood Insurance Study Report**

The submitting Mapping Partner shall ensure that the “Draft Flood Insurance Study Report” section of the TSDN contains all relevant components for FEMA’s technical review, processing, and publication of the FIS report, including the following:

- FIS report text;
- Summary of Flood Discharges, Summary of Stillwater Elevations, Transect Locations, Surge Elevations, and Floodway Data Tables as required;
- Flood Profiles;
- Certification statement of work accomplished; and
- Other relevant support data.

[February 2002]

### **M.2.1.4 Mapping Information**

The submitting Mapping Partner shall ensure that all mapping and related information generated for the Flood Map Project is provided to FEMA in the “Mapping Information” section of the TSDN, including the following:

- Topographic maps;
- Work maps;
- Base maps;
- Aerial photographs;
- Soil and vegetation maps;
- U.S. Geological Survey topographic quadrangle maps;
- Flood Hazard Boundary Maps;



## *Guidelines and Specifications for Flood Hazard Mapping Partners*

- Community maps; and
- All other maps (manual and digital).

In preparing the TSDN for submittal to FEMA, the submitting Mapping Partner shall:

- Ensure that all information is properly labeled with the correct Mapping Partner name, submittal date, and community name. This information must include the type of map, the date of the map, the number of map sheets, and the exhibit numbers assigned to those maps that cannot be included in the TSDN because of size limitations.
- List all supplemental materials, such as topographic maps and aerial photographs, with a concise explanation of how the final work maps were delineated.
- Ensure mapping information is included within the notebook or bound and labeled separately and identified by exhibit number.
- Ensure that all digital data submitted meet the requirements outlined in Appendix L for data format, structure, delivery media, and documentation.
- Prepare and complete the Mapping Information Index. (Figure M-10.) The Mapping Information Index sheet(s) will assist data users in identifying the mapping data and information generated during the Flood Map Project. These index sheets also will be used to reference the map data that, due to format, size, or other limitations, cannot be physically located within the TSDN itself.
- Identify and label as an exhibit all map data that, due to format, size, or other limitations, cannot be physically located within the TSDN.
- Write a brief narrative, using the form shown in Figure M-11, to explain any additional procedure used to create the final work maps (e.g., whether field inspection or spot surveying was done to enhance the accuracy of the final work maps).
- List all supplemental materials (e.g., topographic maps, aerial photographs) with an accompanying explanation of how those materials relate to the work maps.

If photogrammetric processes were used, FEMA may request that the submitting Mapping Partner provide the following in the Mapping Information section of the TSDN:

- Documentation for the most recent calibration of the aerial camera and stereoplotter(s);
- Details on the flying height and camera focal length;
- Estimated "C Factor(s)" of the stereoplotter(s) used on the project; and
- Aerial triangulation reports, which are described in Appendix A, Subsection A.7.2 of these Guidelines.

If Global Positioning System (GPS) surveys were performed as part of the Flood Map Project, the submitting Mapping Partner shall provide the GPS documentation described in Appendix A of these Guidelines. This includes data categorized by the National Oceanic and Atmospheric Administration as follows:

- B-file—Project information, station position information, survey measurements, occupation notes, and synchronization information;
- D-file—Station descriptions and/or recovery notes for all new and/or newly occupied stations;
- G-file—Differential coordinates, standard errors, correlations, and related information required for a least-squares adjustment of a GPS field project; and
- R-file—Files created by the GPS receiver that contain the phase data of each satellite observed and any other files created by the receiver that are necessary during processing.

[February 2002]

#### **M.2.1.5 Miscellaneous Reference Materials**

The submitting Mapping Partner shall include all other support materials developed or used during the Flood Map Project in the "Miscellaneous Reference Materials" section of the TSDN. The submitting Mapping Partner shall compile an inventory of all essential and nonessential data using the form shown in Figure M-12. The submitting Mapping Partner shall include such reference materials as field survey notes and notebook, watershed studies, site visit photographs, community population and demographic studies, tax base reports, and legal references in this section.

[February 2002]

## **M.2.2 Support Data Generated by Receiving Mapping Partner**

There are two instances in which the receiving Mapping Partner must physically incorporate materials in the TSDN prepared by the submitting Mapping Partner. First, the receiving Mapping Partner shall complete the appropriate portion of the Key to Cross-Section Labeling and/or Key to Transect Labeling sheets contained in the TSDN.

During the processing of the draft and final report and map materials, FEMA may direct the receiving Mapping Partner to revise some of the technical support data included in the TSDN to correct discrepancies or errors in the original data supplied by the submitting Mapping Partner. In such cases, the receiving Mapping Partner shall mark the data determined to be in error as “VOID.” The receiving Mapping Partner also shall remove the void data from the TSDN and insert the revised data. When adding revised data to the TSDN, the receiving Mapping Partner shall properly label and place the data in the correct section. The receiving Mapping Partner shall maintain the void data until processing of the report and map has been completed (i.e., when the new or revised FIS report and FIRM become effective); at that time, the receiving Mapping Partner shall discard the void data.

[February 2002]

## **M.2.3 Map Revisions Initiated by Community Officials**

For map revisions initiated by community officials under Part 65 of the NFIP regulations, FEMA does not require the submitting Mapping Partner (i.e., the community or other revision requester) to submit supporting data in the TSDN format. However, FEMA strongly encourages the use of the TSDN format to ensure all supporting data are submitted and clearly labeled for future reference.

To support a Map Revision under Part 6a5 of the NFIP regulations, the submitting Mapping Partner shall submit the following materials:

- Correspondence from the requester, the community, and, where applicable, the State, or other interested parties;
- Technical support data, such as calculations, graphs, charts, technical reports, diskettes, and computer printouts containing both input and detailed output for hydrologic and/or hydraulic analyses;
- Project location;
- Topographic, survey, and tax mapping information;
- Aerial photographs;
- Design drawings; and

- Annotated copies of effective NFIP maps; Flood Profiles; and Summary of Discharges, Floodway Data, and Transect Location Tables.

In most cases, the submitting Mapping Partner for a map revision request shall follow the same organizational and reproducible quality standards discussed in Subsection M.2 for FEMA-contracted Flood Map Projects. Specifically, whenever possible, the receiving Mapping Partner (i.e., the Mapping Partner assigned to review and process the map revision request for FEMA) shall provide guidance to the submitting Mapping Partner. This guidance, either by issuing written directions or through telephone conversations, shall clarify proper labeling and data identification requirements, as well as requirements concerning the legibility of materials that must be reproduced.

To the extent possible, the receiving Mapping Partner shall review all submitted support data for compliance with FEMA requirements for the identification, labeling, completeness, and quality of the data.

[February 2002]

## **M.3 Processing and Maintenance Requirements**

### **M.3.1 FEMA-Contracted Flood Map Projects**

After receiving the draft submittal and TSDN from the submitting Mapping Partner, the receiving Mapping Partner shall perform a cursory review of the TSDN. The purpose of this cursory review is to ensure that all sections are complete and that all data are labeled in a neat, clear, and organized manner in accordance with the guidance in Section M.2.

The receiving Mapping Partner shall ensure that a completed index form is included for each section of the TSDN. If any information is missing, mislabeled, or not labeled, the receiving Mapping Partner shall contact the submitting Mapping Partner for clarification. If the receiving Mapping Partner determines during the initial review that the TSDN does not conform to the guidelines in Section M.2, the receiving Mapping Partner shall consult with the FEMA Lead (either the RPO or PO) to determine which Mapping Partner must revise the TSDN submittal to bring it into compliance with FEMA requirements.

When data are common to more than one community, the TSDN for each community must contain a complete copy of the shared data, or the location of the data must be cross-referenced to a form for each section and subsection of the TSDN. To maintain the integrity of the original TSDN submittal, the receiving Mapping Partner shall make copies of any data needed during the review of the draft materials and production of the report and map. The receiving Mapping Partner shall maintain the original data in the TSDN for eventual digital storage.

Additional guidance regarding the individual sections of the TSDN is provided in Subsections F.3.1.1 through F.3.1.4.

[February 2002]

#### **M.3.1.1 Engineering Analyses**

The receiving Mapping Partner shall verify that both paper copies and/or copies of computer models on diskette or CD-ROM are maintained with the TSDN. The receiving Mapping Partner shall store the electronic media to ensure their integrity and that they are readily accessible for retrieval and use in responding to both internal and external information requests.

The receiving Mapping Partner shall perform a cursory review to verify the following:

- The Key to Cross-Section Labeling and/or Key to Transect Labeling include comprehensive cross referencing among the field survey notes; draft report and map materials; hydraulic computer analysis; and, if readily available, EPA Reach File Numbers.
- The Key to Cross-Section Labeling and/or Key to Transect Labeling are complete.
- The information in each Key to Cross-Section Labeling and/or Key to Transect Labeling pertains to only one flooding source.
- The information in each Key to Cross-Section Labeling and Key to Transect Labeling is presented in order from the mouth or point farthest downstream to the point farthest upstream.

[February 2002]

#### **M.3.1.2 Flood Insurance Study Report Data**

The receiving Mapping Partner shall review the “Flood Insurance Study Report Data” section of the TSDN provided by the Mapping Partner to ensure the following:

- The draft FIS report section contains all relevant components prepared by the submitting Mapping Partner, including draft text, Flood Profiles, data tables, and certification statement of work accomplished.
- This section includes only the most up-to-date record copies of the draft FIS report.
- The draft materials in this section pertain only to the appropriate community.
- All materials in this section are legible; properly labeled; easily identified by community; complete; and of original, reproducible quality.

[February 2002]

#### **M.3.1.3 Mapping Information**

The receiving Mapping Partner shall review the “Mapping Information” section of the TSDN provided by the Mapping Partner to ensure the following:

- The section includes comprehensive mapping information relating to the processing of the Flood Map Project.
- The digital data included meet the requirements in Appendices K and L of these Guidelines.

- All materials in this section are legible; properly labeled; easily identified by community and flooding source; complete; and of original, reproducible quality.

[February 2002]

#### **M.3.1.4 Miscellaneous Reference Materials**

The receiving Mapping Partner shall verify that all materials included in this section of the TSDN are properly labeled and exhibit number(s) are assigned to those materials that cannot be included in the TSDN because of size or volume.

[February 2002]

### **M.3.2 Map Revisions Initiated by Community Officials**

As an integral part of the overall process for supporting map revisions, the receiving Mapping Partner reviews technical, scientific, and other administrative support data prepared and submitted by a revision requester. The review typically consists of, but is not limited to, ensuring that all support data received are complete, technically adequate, in compliance with FEMA-specified guidelines and specifications, and NFIP regulations, and sufficient to support a given map revision request. Most technical support data generated by the revision requester are subject to the same engineering and mapping standards outlined for FEMA-contracted Flood Map Projects discussed earlier in these Guidelines.

When processing map revision cases, the receiving Mapping Partner generally develops support data during the review and evaluation of the revision request—including internal review information and correspondence with the requester, State agencies, FEMA, community officials, or other agencies—that must be archived and maintained. The remaining information generated by the receiving Mapping Partner pertains to the appeal period and/or related statutory requirements for the establishment or modification of Base Flood Elevations, as applicable.

For purposes of this Appendix, two separate phases of processing, wherein uniform guidelines and specifications are necessary for map revisions, have been identified:

- The **Review Processing Phase** includes activities of the receiving Mapping Partner associated with the initial identification, coordination, and technical review of a map revision case up to the resolution of that case.
- The **Post-Review Processing Phase** relates to those activities performed by the receiving Mapping Partner, after the case has been resolved, to close out the file and prepare the supporting information for active storage and eventual processing by the Engineering Study Data Package Facility (ESDPF) staff.

The Review Processing and Post-Review Processing Phases are discussed in more detail in Subsections M.3.2.1 and M.3.2.2, respectively.

[February 2002]

### **M.3.2.1 Review Processing Phase**

The receiving Mapping Partner shall, to the extent possible, provide initial guidance to the submitting Mapping Partner regarding the preparation and submittal of technical support data for a map revision request. If the receiving Mapping Partner and submitting Mapping Partner discuss a request before data are submitted, the receiving Mapping Partner shall provide overall guidance concerning the submittal quality of the support data to facilitate eventual digital conversion of the data for permanent retention. The requester is required to submit only the essential or relevant data that fully support the FEMA requirements for proper evaluation of the map revision request. Once support data are received, the receiving Mapping Partner reviews the revision request and develops revision case files under the procedures outlined below.

Generally, the support data submitted by the requester and the data generated by the receiving Mapping Partner shall contain what will be defined as “essential data” and “nonessential data.” Essential data are the support data that are critical to understanding or recreating conditions that resulted in a map revision or other resolution of the map revision request, which therefore must be maintained by FEMA. Nonessential data are data generated as part of the internal production process or for general, informational purposes only. Nonessential data are usually needed for temporary storage only (i.e., throughout the review and production process) and can be discarded once the case has been resolved or during the Post-Review Processing Phase.

The receiving Mapping Partner shall use judgment in determining what data are considered essential or nonessential. Because of the nature of map revision cases, specific guidance concerning the essential versus nonessential character of individual pieces of supporting information is not possible.

The guidance given in the following paragraphs are for typical revision cases and shall not be construed as inflexible. However, the receiving Mapping Partner shall also refrain from retaining materials that are clearly not critical to understanding or recreating conditions that pertain to the resolution of a map revision case. Examples of essential revision support materials include:

- All official correspondence, including resolution letters (e.g., Letters of Map Revision, denial letters) and enclosures transmitted with those letters;
- All materials stored in the Flood Elevation Determination Docket (FEDD);
- Hydrologic and hydraulic models, calculations or computer printouts;
- Summary tables;
- Technical reports; and
- Topographic maps, work maps, tax maps, survey plats, and aerial photographs (all sizes and formats).



## *Guidelines and Specifications for Flood Hazard Mapping Partners*

For the revision case files, except for the FEDD file information, the receiving Mapping Partner shall:

- Ensure revision case file materials have a maximum size of 11" × 17."
- Separate materials that are larger than 11" × 17" and physically maintain those materials outside the revision case file.
- File essential data that are 11" × 17" or smaller as part of the revision case file, unless the data in question are in the form of a voluminous report.
- Prepare a cross-referenced listing of the essential data not included in the revision case file so that these data can be readily identified as part of the revision package. and maintain the listing within the revision case file.
- Ensure the contents of the revision case file are legible (printed, typed, or handwritten in dark ink or pencil) and of original copy quality for future digital conversion.
- Ensure the revision case file properly identifies the community name, requester name, and the date when data were prepared.
- Ensure the revision case file is in good whole condition without tears or missing segments.

The nonessential materials generally consist of the following: large blue-line prints of mapping information (Preliminary or Revised Preliminary copies of maps), duplicate data, extraneous reports or unrelated support data, void or superseded data, internal memorandums, transmittals, and other internal processing information. Although these types of data must be maintained throughout the Review Processing Phase of a revision, they are not critical in recreating the results for the final revision determination and, therefore, would not be considered for digital conversion by FEMA at a future date.

[February 2002]

### **Standard-Size Revision Case File Items**

For purposes of these Guidelines, the term "standard-size revision case file" refers to any file that consists of a legal- or letter-sized manila folder containing original general correspondence, mapping information, technical information, or data (excluding computer printouts for hydrologic and hydraulic models, and information stored as part of the FEDD file) that are no larger than 11" × 17". The receiving Mapping Partner shall file all documents, reports, mapping information, or other support data (including hydrologic and hydraulic computer printouts) larger than 11" × 17" separately, and shall include a listing of those oversized in the standard-size case file. The receiving Mapping Partner shall maintain the FEDD file, as applicable, as a separate entity. Like the case file, the materials in the FEDD file must be complete, concise (to the extent possible), and in reverse chronological order.

[February 2002]

### **Essential Revision Case File Items**

Essential items shall constitute the scannable portion of the case file and shall be organized in reverse chronological order. Data pertaining to specific technical areas shall, if practical, be grouped together in the case file, in reverse chronological order whenever possible. The receiving Mapping Partner shall file the case file items deemed essential for future scanning on the right-hand side of the revision case file folder (i.e., the side with the filing label), using a two-pronged, Acco-style binder and retainer (or equivalent) at the top.

To facilitate proper identification of the data, the receiving Mapping Partner shall include the following information on the front or the inside cover of the revision case file:

- Community identification number;
- Community name, type (e.g., CTY, V, TWP, CO), and State;
- Requester's first initial and last name;
- Flooding sources;
- Affected map type and map panel number;
- Case resolution date (MM/DD/YY); and
- Identification number of receiving Mapping Partner.

In addition to the labeling on the file noted above, the receiving Mapping Partner shall place a summary listing of the essential materials pertinent to the revision case not physically included within the revision case file. The information on this listing shall include the title, date, map scale (if applicable), and a description of the contents of each essential item. The receiving Mapping Partner's case identification number shall be included at the top center of that page.

Because of the critical nature of the data contained in computer printouts, a second or separate listing of computer printouts supporting the revision case shall be placed behind the summary of essential materials not physically included in the revision case file. Generally, because of their size, computer printouts are filed separately from the revision case file, but they are a part of the essential items requirement. Again, this listing shall identify the various computer model runs (e.g., study/restudy conditions, existing conditions, proposed conditions), the dates of the runs, and the names of the flooding sources modeled for each run.

[February 2002]

### **Nonessential Revision Case File Items**

The receiving Mapping Partner shall maintain nonessential standard-size items in the revision case file. The receiving Mapping Partner shall place nonessential items relevant to the processing of the map revision request, but not pertinent to the technical support data, on the left-hand side of the revision case file folder.

The receiving Mapping Partner shall attach the nonessential items to the top of the file folder using a two-pronged, Acco-style binder and retainer (or equivalent). The receiving Mapping Partner shall label the data as nonessential using a standard 8-1/2" × 11" form that reads "INTERNAL PROCESSING FORMS; DO NOT SCAN." The receiving Mapping Partner shall delete nonessential once the map revision request has been resolved.

[February 2002]

### **Oversized Revision Case File Items**

The receiving Mapping Partner shall follow similar guidelines for maintaining essential oversized items, including:

- Computer printouts from hydrologic and hydraulic models;
- CD-ROMs or diskettes containing digital versions of hydrologic and hydraulic models, maps, and related data;
- Work, survey, plat, or tax maps;
- Construction drawings,
- Topographic or aerial photographic maps;
- Supplementary (bound) reports; and
- Transect maps.

The receiving Mapping Partner shall file such data in boxes or shelving appropriate for storing oversized documents. To facilitate future retrieval, the receiving Mapping Partner shall clearly label each oversized item with the appropriate community name, state name, requester name, and case number. The receiving Mapping Partner also shall develop a listing of the essential oversized items and shall file this listing in the standard size case file for cross-referencing.

ESDPF staff (except for the hydrologic or hydraulic computer models/printouts) generally will not scan the essential oversized items. Therefore, the receiving Mapping Partner shall maintain the oversized materials in hardcopy format. The receiving Mapping Partner shall archive essential computer models in their original format.

The receiving Mapping Partner shall maintain nonessential oversized items only until such time as the revision case has been resolved. The receiving Mapping Partner shall then discard these items.

[February 2002]

#### **M.3.2.2 Post-Review Processing Phase**

The receiving Mapping Partner shall store all of the essential revision case files and FEDD files as noted earlier in this Appendix for an indefinite period of time. The ESDPF staff will initiate the digital conversion of the revision case files and FEDD files, as applicable.

Once the ESDPF staff shall not call in revision case files or FEDD files for digital conversion until approximately 1 year after the resolution date. The delay in call-in time is to allow the receiving Mapping Partner to respond to inquiries pertaining to the revision case. The majority of such inquiries are received within 1 year after case resolution. Therefore, the risk of having the receiving Mapping Partner receive an inquiry while the revision case file is being converted to digital format should be minimal.

The receiving Mapping Partner has organized the revision case file, the FEDD file, and the oversized items into the proper standard size format during the Review Processing Phase. Therefore, the effort required for the receiving Mapping Partner at the time of call-in shall involve only retrieving the essential standard size case file and the FEDD file and transmitting them to the ESDPF. The receiving Mapping Partner shall not transmit oversized items (except for the hydrologic and hydraulic computer printouts) to the ESDPF because these materials will not be digitally converted, and the summary listing will be a part of the digital file.

As is done with the digital study and restudy support data files, the ESDPF staff shall return the revision case file to the receiving Mapping Partner on CD-ROM for future use in responding to data requests from all sources. The CD-ROM record will be supplemented by the oversized items retained by the receiving Mapping Partner in permanent hardcopy storage.

[February 2002]

TECHNICAL SUPPORT DATA NOTEBOOK

For

---

(COMMUNITY NAME AND STATE)

FLOOD INSURANCE STUDY/ MAP REVISION

SUBMITTED BY: \_\_\_\_\_

DATE SUBMITTED: \_\_\_\_\_

Submitted by: \_\_\_\_\_

SPECIAL PROBLEM REPORT (SPR) INDEX

\_\_\_\_\_  
(COMMUNITY NAME, STATE)

FLOOD INSURANCE STUDY/ MAP REVISION

<u>SPR DATE</u>	<u>SPR TITLE</u>	<u>EXHIBIT NO.</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Figure M-2. Special Problem Report Index**

SPECIAL PROBLEM REPORT

DATE: \_\_\_\_\_

CONTRACT/ AGREEMENT NUMBER: \_\_\_\_\_

COMMUNITY NAME : \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

PROBLEM AREA

TECHNICAL COORDINATION

UNRESOLVED

DISCRIPANCIES

UNREALISTIC SCHEDULE

OTHER

DETAILED EXPLANATION

PROPOSED SOLUTION

**Figure M-3. Special Problem Report Form**

Page \_\_\_\_ of \_\_\_\_

Submitted by: \_\_\_\_\_

CONTACT REPORTS INDEX

\_\_\_\_\_  
(COMMUNITY NAME, STATE)

FLOOD INSURANCE STUDY/ MAP REVISION

<u>CONTACT REPORT DATE</u>	<u>FIRM/AGENCY CONTACTED</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**Figure M-4. Contact Reports Index**



Submitted by: \_\_\_\_\_

MEETING MINUTES / REPORTS INDEX

\_\_\_\_\_  
(COMMUNITY NAME, STATE)

FLOOD INSURANCE STUDY/ MAP REVISION

<u>MINUTES / REPORT DATE</u>	<u>MEETING DATE</u>	<u>MEETING TYPE</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Figure M-5. Meeting Minutes Index**

Submitted by: \_\_\_\_\_

## HYDROLOGIC ANALYSES INDEX

\_\_\_\_\_  
(COMMUNITY NAME, STATE)

### FLOOD INSURANCE STUDY/ MAP REVISION

NO. FLOODING SOURCE <u>STREAM NAME</u>	HYDROLOGIC METHOD/ <u>MODEL USED</u>	METHOD/ MODEL <u>ANALYSIS DATE</u>	EXHIBIT	
			<u>PAPER COPY</u>	<u>FLOPPY DISKETTES</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**Figure M-6. Hydrologic Analyses Index**

Page \_\_\_\_\_ of \_\_\_\_\_

Submitted by: \_\_\_\_\_

## HYDRAULIC ANALYSES INDEX

\_\_\_\_\_  
(COMMUNITY NAME, STATE)

### FLOOD INSURANCE STUDY/ MAP REVISION

<u>FLOODING SOURCE/ STREAM NAME</u>	<u>HYDRAULIC METHOD/ MODEL USED</u>	<u>METHOD / MODEL ANALYSIS DATE</u>	<u>EXHIBIT NO.</u>	
			<u>PAPER COPY</u>	<u>FLOPPY DISKETTES</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**Figure M-7. Hydraulic Analyses Index**

Submitted by: \_\_\_\_\_

KEY TO CROSS SECTION LABELING

\_\_\_\_\_  
(COMMUNITY NAME, STATE)

FLOOD INSURANCE STUDY/ MAP REVISION

PREFARED BY: \_\_\_\_\_ FLOODING SOURCE: \_\_\_\_\_

DATE PREPARED: \_\_\_\_\_ RUN DATE: \_\_\_\_\_

FIELD SURVEY SECTION NO.	CROSS SECTION LETTER IN DRAFT FIS REPORT	COMPUTER STATIONING
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Figure M-8. Key To Cross Section Labeling**

Page\_\_\_\_\_ of \_\_\_\_\_

## KEY TO TRANSECT LABELING

(COMMUNITY NAME AND STATE)

## FLOOD INSURANCE STUDY/MAP REVISION

PREPARED BY: \_\_\_\_\_

DATE PREPARED: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_

DATE REVIEWED: \_\_\_\_\_

FLOODING SOURCE: \_\_\_\_\_

RUN DATE: \_\_\_\_\_

WHAFIS VERSION: \_\_\_\_\_

EPA REACH

FIELD SURVEY  
TRANSECTION NO.

FIELD NO.

TRANSECT NO.  
IN FINAL FIS

TRANSECT No. DRAFT FIS

\_\_\_\_\_

---

---

---

---

---

---

---

---

---

---

---

---

---

<sup>1</sup>Erosion Considered    <sup>2</sup>Wave Setup Considered    <sup>3</sup>Wave considered

### Figure M-9. Key To Transect Labeling

Page \_\_\_\_\_ of \_\_\_\_\_

Submitted By: \_\_\_\_\_

MAPPING INFORMATION INDEX

\_\_\_\_\_  
(COMMUNITY NAME, STATE)

FLOOD INSURANCE STUDY/ MAP REVISION

<u>TYPE OF MAP</u>	<u>MAP DATE</u>	<u>NO. OF SHEETS</u>	<u>EXHIBIT NO.</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Figure M-10. Mapping Information Index**



Submitted By: \_\_\_\_\_

MISCELLANEOUS REFERENCE MATERIALS INDEX

\_\_\_\_\_  
(COMMUNITY NAME, STATE)

FLOOD INSURANCE STUDY/ MAP REVISION

<u>ITEM</u>	<u>ITEM DATE</u>	<u>EXHIBIT NO.</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Figure M-12. Miscellaneous Reference Materials Index**