

L.5 Federal Emergency Management Agency Digital Mapping Information Checklist

Federal Emergency Management Agency Digital Mapping Information Checklist

The following checklist is intended to solicit basic information about the format of digital mapping data submitted to the Federal Emergency Management Agency (FEMA) for preparation of a Digital Flood Insurance Rate Map (DFIRM). Please note that metadata compliant with the Federal Geographic Data Committee's *Content Standard for Digital Geospatial Metadata* should be submitted also. This metadata must include the following information and further details about the data submitted.

Point of Contact:

Name and/or Title _____
Community/Agency _____
Department _____
Address _____

Telephone _____
Fax _____
Email _____

Data Type:

Pertinent information includes the following:

Format:

- ESRI Coverage
- ESRI Shapefile
- MapInfo
- Intergraph
- AutoCAD
- Digital Line Graph
- Other _____

- Digital Orthophoto
 - Black & white
 - Color
 - TIF
 - JPEG
 - SID
 - PNG
 - Raw

- Scanned
 - Georeferenced? _____
 - Dots per inch _____
 - Black & white
 - Grey scale
 - Color

Source Information:

How and when were the data compiled? By whom? At what scale? Pertinent information includes the following:

- Photogrammetrically compiled
- Digitized from a hardcopy source
 - Parcel maps/Plat maps
 - USGS quadrangles
 - Orthophotos
 - Aerial photos
 - Other community map _____
 - Generated using coordinate geometry (COGO)
 - Scanned

Date of photography or source material _____

Scale of data creation _____

Agency or firm that produced the data _____

Date of creation (if incomplete, provide estimated completion date) _____

Projection, Datums, Accuracy:

What coordinate system and projection were used? What horizontal and vertical datums were used? What is the stated accuracy of the data?

Coordinate system/projection:

- State Plane
- UTM
- Geographic (latitude and longitude)
- Other _____

Units:

- Feet
- Meters
- Decimal degrees
- Degrees, minutes, seconds
- Other _____

Horizontal datum:

- NAD27, Clarke 1866 spheroid
- NAD83, GRS80 spheroid

Vertical datum:

- NGVD29
- NAVD88
- Other _____

Accuracy _____

Data Contents:

What features are contained in the data set(s)? Are feature names included? If so, are they available as attributes and/or graphic text (annotation)? Please provide file structure details in the form of metadata, a data dictionary, or a layer list in addition to this form

- Roads
 - Centerlines
 - Edge of pavement
- Road names
 - Scale(s) at which they were intended to be used _____
- Railroads
 - Railroad names
- Airports
 - Airport names
- Streams, lakes, other water bodies
 - Feature names
- Range & township/section lines and numbers

- Political boundaries
 - Area names
- Flood control structures (dams, weirs, jetties, culverts, etc.)
- Floodplain boundaries and/or other FIRM features
- Contours
 - Contour interval _____
- DEM/DTM/TIN
- Building outlines
- Parcels

Transfer Media:

What options are there for transferring the data to other users? What are the platform options?

Media:

- CD-ROM
- 8mm tape
- 4mm tape
- Zip disk
- Diskettes
- DVD
- Email
- Other _____

Platforms:

- UNIX
- PC
- NT

L.6 Metadata Example for Draft Digital Data

DFIRM DATABASE, FLOOD COUNTY, USA

Identification_Information:

Citation:

Citation_Information:

Originator: FEMA Mapping Partner

Publication_Date: 20000505

Title: DIGITAL FLOOD INSURANCE RATE MAP DATABASE, FLOOD COUNTY, USA

Geospatial_Data_Presentation_Form: Vector_and_Raster_Digital_Data

Publication_Information:

Publication_Place: Washington, DC

Publisher: Federal Emergency Management Agency

Other_Citation_Details: Metadata_File_Name: 99009C_19980915_metadata.htm

Online_Linkage: <http://www.fema.gov/msc>

Description:

Abstract: The Digital Flood Insurance Rate Map (DFIRM) Database depicts flood risk information and supporting data used to develop the risk data. The primary risk classifications used are the 1-percent-annual-chance flood event, the 0.2-percent-annual-chance flood event, and areas of minimal flood risk. The DFIRM Database is derived from Flood Insurance Studies (FISs), previously published Flood Insurance Rate Maps (FIRMs), flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data where available. The FISs and FIRMs are published by the Federal Emergency Management Agency (FEMA). The file is georeferenced to earth's surface using the UTM projection and coordinate system. The specifications for the horizontal control of DFIRM data files are consistent with those required for mapping at a scale of 1:12,000.

Purpose: The FIRM is the basis for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP). Insurance applications include enforcement of the mandatory purchase requirement of the Flood Disaster Protection Act, which "... requires the purchase of flood insurance by property owners who are being assisted by Federal programs or by Federally supervised, regulated or insured agencies or institutions in the acquisition or improvement of land facilities located or to be located in identified areas having special flood hazards" (Section 2 (b) (4) of the Flood Disaster Protection Act of 1973). In addition to the identification of Special Flood Hazard Areas (SFHAs), the risk zones shown on the FIRMs are the basis for the establishment of premium rates for flood coverage offered through the NFIP.

The DFIRM Database presents the flood risk information depicted on the FIRM in a digital format suitable for use in electronic mapping applications. The DFIRM Database is a subset of the Digital FIS database that serves to archive the information collected during the FIS.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 19980701

Currentness_Reference: FIRM and FIS Effective date

Status:

Progress: Complete

Maintenance_and_Update_Frequency: Irregular

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -84.125

East_Bounding_Coordinate: -84.25

North_Bounding_Coordinate: 30.5

South_Bounding_Coordinate: 30.625

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: FEMA Flood Hazard Zone
Theme_Keyword: DFIRM Database
Theme_Keyword: DFIRM
Theme_Keyword: Special Flood Hazard Area
Theme_Keyword: Digital Flood Insurance Rate Map
Theme_Keyword: CBRS
Theme_Keyword: Coastal Barrier Resources System
Theme_Keyword: Riverine Flooding
Theme_Keyword: Coastal Flooding
Theme_Keyword: NFIP
Theme_Keyword: Base Flood Elevation
Theme_Keyword: SFHA
Theme_Keyword: Flood Insurance Rate Map
Theme_Keyword: FIRM
Theme_Keyword: Floodway

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: FLOOD COUNTY
Place_Keyword: USA

Access_Constraints: None

Use_Constraints: The hardcopy FIRM and DFIRM maps and the accompanying FISs are the official designation of SFHAs and Base Flood Elevations (BFEs) for the NFIP. For the purposes of the NFIP, changes to the flood risk information published by FEMA may only be performed by FEMA and through the mechanisms established in the NFIP regulations (44 CFR Parts 59-78).

These digital data are produced in conjunction with the hardcopy FIRMs and generally match the hardcopy map exactly. However the hardcopy flood maps and flood profiles are the authoritative documents for the NFIP.

Acknowledgement of FEMA would be appreciated in products derived from these data.

Point_of_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: Mapping Partner Contact Name

Contact_Position: Mapping Partner Position

Contact_Address:

Address_Type: mailing address

Address: Mapping Partner Address

City: Mapping Partner City

State_or_Province: Mapping Partner State

Postal_Code: Mapping Partner Zip

Country: Mapping Partner Country

Contact_Voice_Telephone: Mapping Partner Phone Number

Contact_Electronic_Mail_Address: Mapping Partner Email

Native_Data_Set_Environment: Description of Mapping Partner's digital mapping environment

Cross_Reference:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication_Date: 19980701

Title: Flood Insurance Rate Map, FLOOD COUNTY, USA

Geospatial_Data_Presentation_Form: map

Publication_Information:

Publication_Place: Washington, DC

Publisher: Federal Emergency Management Agency

Cross_Reference:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication Date: 19980701

Title: Flood Insurance Study, FLOOD COUNTY, USA

Geospatial_Data_Presentation_Form: document

Publication_Information:

Publication_Place: Washington, DC

Publisher: Federal Emergency Management Agency

Cross Reference:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication Date: 19980701

Title: Raster DFIRM, FLOOD COUNTY, USA

Geospatial Data Presentation Form: raster digital data

Publication Information:

Publication Place: Washington, DC

Publisher: Federal Emergency Management Agency

Data Quality Information:

Attribute Accuracy:

Attribute_Accuracy_Report: The DFIRM Database consists of countywide vector files and associated attributes produced in conjunction with the hardcopy FEMA FIRMs. The published effective FIRM and DFIRM are issued as the official designation of the SFHAs. As such, they are adopted by local communities and form the basis for administration of the NFIP. For these purposes they are authoritative. Provisions exist in the regulations for public review, appeals and corrections of the flood risk information shown to better match real world conditions. As with any engineering analysis of this type, variation from the estimated flood heights and floodplain boundaries is possible. Details of FEMA's requirements for the FISs and flood mapping process that produces these data are available in the Guidelines and Specifications for Flood Hazard Mapping Partners. Attribute accuracy was tested by manual comparison of source graphics with hardcopy plots and a symbolized display on an interactive computer graphic system.

Independent quality control testing of FEMA's DFIRM database was also performed.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the FIS report that accompanies this DFIRM database. Users should be aware that BFEs shown in the S_BFE table represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be used in conjunction with the FIRM for purposes of construction and/or floodplain management. The 1-percent-annual-chance water-surface elevations shown in the S_XS table match the regulatory elevations shown in the FIS report.

Logical_Consistency_Report: When FEMA revises an FIS, adjacent studies are checked to ensure agreement between flood elevations at the boundaries of the studies. Like wise, flood elevations at the confluence of streams studied independently are checked to ensure agreement at the confluence. The FIRM and the FIS are developed together and care is taken to ensure that the elevations and other features shown on the flood profiles in the FIS agree with the information shown on the FIRM. However, the elevations as shown on the FIRM are rounded whole-foot elevations. They must be shown so that a profile recreated from the elevations on the FIRM will match the FIS profiles within one half of one foot.

Completeness_Report: The data contained in the DFIRM Database files reflect the content of the source materials. Features may have been eliminated or generalized on the source graphic, due to scale and legibility constraints. With new mapping, FEMA plans to maintain full detail in the spatial data it produces. However, older information is often transferred from existing maps where some generalization has taken place.

Flood risk data are developed for communities participating in the NFIP for use in insurance rating and for floodplain management. Flood hazard areas are determined using statistical analyses of records of river flow, storm tides, and rainfall, information obtained through consultation with the communities, floodplain topographic surveys, and hydrological and hydraulic analysis. Both detailed and approximate analyses are employed. Generally, detailed analyses are used to generate flood risk data only for developed or developing areas of communities. For areas where little or no development is expected to occur, FEMA uses approximate analyses to generate flood risk data. Typically, only drainage areas that are greater than one square mile are studied.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report: The DFIRM Database consists of countywide vector files and associated attributes produced in conjunction with the hard copy FEMA FIRMs. The published effective FIRM and DFIRM maps are issued as the official designation of the SFHAs. As such they are adopted by local communities and form the basis for administration of the NFIP. For these purposes they are authoritative. Provisions exist in the regulations for public review, appeals and corrections of the flood risk information shown to better match real world conditions. As with any engineering analysis of this type, variation from the estimated flood heights and floodplain boundaries is possible. Details of FEMA's requirements for the FISs and flood mapping process that produces these data are available in the Guidelines and Specifications for Flood Hazard Mapping Partners. Horizontal accuracy was tested by manual comparison of source graphics with hardcopy plots and a symbolized display on an interactive computer graphic system.

Independent quality control testing of FEMA's DFIRM database was also performed.

Vertical_Positional_Accuracy:

Vertical_Positional_Accuracy_Report: The DFIRM Database consists of countywide vector files and associated attributes produced in conjunction with the hard copy FEMA FIRMs. The published effective FIRM and DFIRM maps are issued as the official designation of the SFHAs. As such they are adopted by local communities and form the basis for administration of the NFIP. For these purposes they are authoritative. Provisions exist in the regulations for public review, appeals and corrections of the flood risk information shown to better match real world conditions. As with any engineering analysis of this type, variation from the estimated flood heights and floodplain boundaries is possible. Details of FEMA's requirements for the FISs and flood mapping process that produces these data are available in the Guidelines and Specifications for Flood Hazard Mapping Partners. Vertical accuracy was tested by manual comparison of source graphics with hardcopy plots and a symbolized display on an interactive computer graphic system.

Independent quality control testing of FEMA's DFIRM database was also performed.

Lineage

Source_Information:

Source_Citation:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication Date: 1987

Title: Flood Insurance Study, FLOOD COUNTY USA (Unincorporated areas).

Geospatial_Data_Presentation_Form: map

Publication_Information:

Publication_Place: Washington, DC

Publisher: Federal Emergency Management Agency

Other_Citation_Details: The hydrologic and hydraulic analyses for the FIS dated April 17, 1987, were prepared by the U.S. Army Corps of Engineers (USACE), Springfield District, for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-84-E-1506. That work was completed in December 1985. Denominator_of_Source_Scale: 2400-12000

Source Scale Denominator: 12,000
Type_of_Source_Media: paper
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar Date: 19870601
Source_Currentness_Reference: Effective Date
Source Citation Abbreviation: FIS1
Source_Contribution: Spatial and attribute information, floodplain widths, BFEs, floodplain location.
Source_Information:
Source_Citation:
Citation_Information:
Originator: Federal Emergency Management Agency
Publication Date: 1987
Title: Flood Insurance Study, FLOODVILLE, Town of
Geospatial_Data_Presentation_Form: map
Publication_Information:
Publication_Place: Washington, DC
Publisher: Federal Emergency Management Agency
Other Citation Details: The hydrologic and hydraulic analyses for the FIS report dated April 17, 1987, were prepared by the USACE, Springfield District, for the FEMA, under Inter-Agency Agreement No. EMW-84-E-1506, Project Order No. 1, Amendment No. 4. That work was completed in December 1985.
Denominator of Source Scale: 2400-12000
Source Scale Denominator: 12,000
Type_of_Source_Media: paper
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar Date: 19870601
Source_Currentness_Reference: Effective Date
Source Citation Abbreviation: FIS2
Source_Contribution: Spatial and attribute information, floodplain widths, BFEs, floodplain location.
Source_Information:
Source_Citation:
Citation_Information:
Originator: Federal Emergency Management Agency
Publication Date: 1998
Title: Flood Insurance Study Report, FLOOD COUNTY, USA and Incorporated areas.
Geospatial_Data_Presentation_Form: map
Publication_Information:
Publication_Place: Washington, DC
Publisher: Federal Emergency Management Agency
Other Citation Details: For this countywide FIS, the hydrologic and hydraulic analyses were prepared by USACE for FEMA, under Inter-Agency Agreement No. EMW-94-C-0019. This work was completed in October 1995. Denominator of Source Scale: 2400-12000
Source Scale Denominator: 12000
Type_of_Source_Media: paper
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar Date: 19980701
Source_Currentness_Reference: Effective Date

Source Citation Abbreviation: FIS3

Source_Contribution: Spatial and attribute information, floodplain widths, BFEs, floodplain location.

Source_Information:

Source_Citation:

Citation_Information:

Originator: Town of Floodville Stormwater Management Department, 126 Royal Oaks Drive, Suite 201, Floodville, USA 99150

Publication Date: 1995

Title: Base map for Floodville, USA

Geospatial Data Presentation Form: vector digital data

Publication Information:

Publication Place: Floodville, USA

Publisher: Town of Floodville Stormwater Management

Other Citation Details: These files were photogrammetrically compiled at scales of 1"=200' (urban areas) and 1"=400' (rural areas) from aerial photographs.

Source Scale Denominator: 4, 800

Type of Source Media: CD-ROM

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 19950301

Source Currentness Reference: ground conditions

Source Citation Abbreviation: BASE1

Source Contribution: Location of roads, railroads, bridges, streams and other physical features shown.

Source_Information:

Source_Citation:

Citation_Information:

Originator: Flood County Geographic Information Systems Department, 1110 South Road, Suite 205, Floodville, USA 99150

Publication Date: 1995

Title: Base map for Flood County, USA

Geospatial Data Presentation Form: vector digital data

Publication Information:

Publication Place: Floodville, USA

Publisher: Flood County Geographic Information Systems Department

Other Citation Details: These files were photogrammetrically compiled at scales of 1"=200' (urban areas) and 1"=400' (rural areas) from aerial photographs.

Source Scale Denominator: 4,800

Type of Source Media: CD-ROM

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 19950301

Source Currentness Reference: ground conditions

Source Citation Abbreviation: BASE2

Source Contribution: Location of roads, railroads, bridges, streams and other physical features shown.

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S. Geological Survey

Publication Date: 1998

Title: Digital Orthophoto Quadrangle

Geospatial Data Presentation Form: remote-sensing image

Publication Information:

Publication Place: Reston, VA

Publisher: U.S. Geological Survey

Other Citation Details: The digital orthophoto quadrangle (DOQ) is a 1-meter ground resolution, quarter-quadrangle (3.75-minutes of latitude by 3.75-minutes of longitude) image cast on the Universal Transverse Mercator Projection (UTM) on the North American Datum of 1983 (NAD83). The imagery is based on panchromatic black and white (or color infra-red) NAPP or NAPP-like photography.

Source Scale Denominator: 12,000

Type of Source Media: CD-ROM

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 19970301

Source Currentness Reference: ground conditions

Source Citation Abbreviation: BASE3

Source Contribution: Location of roads, railroads, bridges, streams and other physical features shown.

Process Step:

Process Description: The DFIRM Database is compiled in conjunction with the hard copy FIRM and the Final printed FIS report. The specifics of the hydrologic and hydraulic analyses performed are detailed in the FIS report. The results of these studies are submitted in digital format to FEMA. These data and unrevised data from effective FIRMs are compiled onto the base map used for DFIRM publication and checked for accuracy and compliance with FEMA standards.

Source Used Citation Abbreviation: FIS1-FIS3, BASE1-BASE3

Process Date: 1996

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector and raster

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Point

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: String

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Raster Object Information:

Raster Object Type: Pixel

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Planar:

Grid_Coordinate_System:

Grid Coordinate System Name: Universal Transverse Mercator

Universal Transverse Mercator:

UTM Zone Number: 16

Transverse Mercator:

Scale Factor at Central Meridian: 0.9996

Longitude of Central Meridian: -87.0

Latitude of Projection Origin: 0.0

False Easting: 500000

False Northing: 0.0

Planar_Coordinate_Information:

Planar_Coordinate_Encoding_Method: Coordinate Pair

Coordinate_Representation:

Abscissa_Resolution: 0.061

Ordinate_Resolution: 0.061

Planar_Distance_Units: meters
Geodetic_Model:
Horizontal_Datum_Name: North American Datum 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378206.4
Denominator_of_Flattening_Ratio: 294.98

Vertical_Coordinate_System_Definition:
Altitude_System_Definition:
Altitude_Datum_Name: National Geodetic Vertical Datum of 1929
Altitude_Resolution: 0.03
Altitude_Distance_Units: feet
Altitude_Encoding_Method: Attribute Values

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview: The DFIRM Database is made up of several data themes containing both spatial and attribute information. These data together represent the current flood risk for the subject area as identified by FEMA. The attribute tables include SFHA locations, flood zone designations, BFEs, political entities, cross-section locations, FIRM panel information, and other data related to the NFIP.

Entity_and_Attribute_Detail_Citation: Appendix L of FEMA's Guidelines and Specifications for FEMA Flood Hazard Mapping Partners contains a detailed description of each attribute code and a reference to other relevant information.

The following tables are included in this data set:

S_BFE
S_Fld_Haz_Ar
S_Fld_Haz_Ln
S_Gen_Struct
S_LOMR
L_Stn_Start
S_Wtr_Ar
S_Wtr_Ln
S_XS
L_Wtr_Nm
S_Base_Index
S_Perm_Bmk
S_PLSS_AR
S_PLSS_LN
S_Pol_Ar
S_Pol_Ln
S_Quad_Index
S_Label_Ld
S_Trnsport_Ln
S_Label_Pt

Distribution_Information:

Distributor:

Contact_Information:

Contact_Organization_Primary:
Contact_Organization: Mapping Partner Contact
Contact_Address:
Address_Type: mailing address
Address: Mapping Partner Address
City: Mapping Partner City
State_or_Province: Mapping Partner State
Postal_Code: Mapping Partner Zip Code
Country: Mapping Partner Country

Contact Voice Telephone: Mapping Partner Phone Number
Contact Electronic Mail Address: Mapping Partner Email Address
Contact Instructions: Details for Mapping Partner distribution of data
Distribution Liability: Mapping Partner Liability Disclaimer
Standard Order Process:

Non-digital Form: Information about hardcopy versions available

Digital Form:

Digital Transfer Information:

Format Name: Mapping Partner Data Format

Format Version Number: 1

Digital Transfer Option:

Offline Option:

Offline Media: CD-ROM

Recording Format: ISO 9660

Fees: Contact Distributor

Metadata_Reference_Information:

Metadata_Date: 19980509

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact Organization: Mapping Partner Contact

Contact Position: Mapping Partner Position

Contact Address:

Address Type: mailing address

Address: Mapping Partner Address

City: Mapping Partner City

State or Province: Mapping Partner State

Postal Code: Mapping Partner Zip Code

Country: Mapping Partner Country

Contact Voice Telephone: Mapping Partner Phone

Contact Electronic Mail Address: Mapping Partner Email Address

Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: FGDC-STD-001-1998

L.7 Database Table Structure Requirements for Preliminary and Final Digital Flood Insurance Rate Map Databases

Table: S_Base_Index

This table is required if a raster base map was used as the base map for the Flood Insurance Rate Map (FIRM).

The S_Base_Index table contains information about the raster data used as a base map for the study area. A spatial file with locational information also corresponds with this data table.

The spatial elements representing raster base map tile index features are rectangular polygons. For standard U.S. Geological Survey Digital Ortho Quadrangles, polygons must match quarter-quad boundaries (excluding overedge). Otherwise, polygons must match the boundaries of the raster tiles used (excluding overedge if present).

This is a Standard DFIRM Database table.

The S_Base_Index table contains the following elements.

BASE_ID	R	S	Primary key for table lookup. Assigned by table creator.
FILENAME	R	S	Base Filename. This filename must be assigned by the raster base map provider or the table creator. The filename should match the filename or specific product identifier assigned by the primary distributor of the raster base map used. This must be the complete filename including the file extension. This identifier must allow the user of the DFIRM database to unambiguously identify the raster base maps used on the FIRM to the primary distributor of the raster base map.
BASE_DATE	R	S	Base Date. This is the date that raster base map was acquired by the producer of the base map. For a vector base map that is rasterized for distribution, this data should be the acquisition date for the original vector base map.
SOURCE_CIT	R	S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Base_Index table.

Table: S_Base_Index

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
BASE_ID	R	S	text	11					string	11		character	11	11		character	11	
FILENAME	R	S	text	50					string	50		character	50	50		character	50	
BASE_DATE	R	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_BFE

The Base Flood Elevation (BFE) table is required for any digital data where BFE lines will be shown on the corresponding Flood Insurance Rate Map (FIRM). Normally if there are any riverine AE zones, BFE lines are required.

The S_BFE table contains information about the BFEs within a study area. A spatial file with locational information also corresponds with this data table. BFE lines indicate the rounded whole-foot water surface elevation of the 1-percent-annual-chance flood.

The spatial elements representing BFE features are lines extending from Special Flood Hazard Area (SFHA) boundary to SFHA boundary. The BFE lines will have no visible gaps or overshoots between the SFHA boundary and the end of the BFE line at the publication scale of the DFIRM. However, the ends of the BFE lines are not necessarily snapped precisely to the SFHA boundary. Each BFE is represented by a single line. While BFE lines are depicted as wavy lines on the hardcopy FIRM, they should be primarily straight lines in the spatial data, although they may bend consistent with procedures described in Volume 1 of these Guidelines.

This is a Standard DFIRM Database table.

The S_BFE table contains the following elements.

BFE_LN_ID	R S	Primary key for table lookup. Assigned by table creator.
ELEV	R S	BFE. The rounded, whole-foot elevation of the 1-percent-annual-chance flood. This is the value of the BFE that is printed next to the BFE line on the FIRM.
LEN_UNIT	R S	BFE Units. This unit indicates the measurement system used for the BFEs. Normally this would be feet. Acceptable values for this field are listed in the D_Length_Units table.
V_DATUM	R S	Vertical Datum. The vertical datum indicates the reference surface from which the flood elevations are measured. Normally this would be North American Vertical Datum of 1988 for new studies. Acceptable values for this field are listed in the D_V_Datum table.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_BFE table.

Table: S_BFE

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
BFE_LN_ID	R	S	text	11					string	11		character	11	11		character	11	
ELEV	R	S	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
LEN_UNIT	R	S	text	20					string	20		character	20	20		character	20	
V_DATUM	R	S	text	6					string	6		character	6	6		character	6	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_CBRS

This table only applies to coastal areas that have specially protected areas designated by Congress on John H. Chafee Coastal Barrier Resources System (CBRS) maps. Authoritative CBRS boundary locations are shown on these maps administered by the U.S. Fish and Wildlife Service. Normally these areas are already shown on existing Federal Emergency Management Agency (FEMA) maps for the area. CBRS areas have restrictions on Federal funding (including flood insurance coverage) after specified dates for new or substantially improved structures. See Section 2.2 and Appendix K of these Guidelines for more detailed information about CBRS areas.

The S_CBRS table contains information about the CBRS areas within the study area, if applicable. A spatial file with locational information also corresponds with this data table.

The spatial elements representing CBRS features are closed polygons. Each contiguous CBRS area of the same CBRS_TYP and same CBRS_DATE must be a single polygon.

This is a Standard DFIRM Database table.

The S_CBRS table contains the following elements.

CBRS_ID	R	S	Primary key for table lookup. Assigned by table creator.
CBRS_TYP	A	S	CBRS Type. The type code provides details of the types of prohibitions that apply to the area. Normally this would be a CBRS area or Otherwise Protected Area (OPA). Acceptable values for this field are listed in the D_CBRS_Type table. This field is applicable if CBRS_TF is true. Otherwise this field is null.
CBRS_DATE	A	S	CBRS Date. Legislative or administrative date on which prohibitions for the CBRS area apply. This must be indicated on the Flood Insurance Rate Map with a note or with a fill pattern indicated on the legend. This field is applicable if CBRS_TF is true. Otherwise this field is null.
CBRS_TF	R	S	This field is True if the area is a CBRS or an OPA. Enter "T" for true or "F" for false.
SOURCE_CIT	R	S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_CBRS table.

Table: S_CBRS

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
CBRS_ID	R	S	text	11					string	11		character	11	11		character	11	
CBRS_TYP	A	S	text	35					string	35		character	35	35		character	35	
CBRS_DATE	A	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
CBRS_TF	R	S	text	1					string	1		character	1	1		character	1	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_Cst_Gage

This table is required when gage information is used to support the calibration of models or methods used in the analysis of coastal flood hazards and may be used in the determination of flood heights.

The S_Cst_Gage table contains information about coastal gages for the study area. The spatial location of these gages may be some distance from the areas for which coastal flood hazards were determined. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the coastal gages are points.

This is an Enhanced DFIRM Database table.

The S_Cst_Gage table contains the following elements.

GAGE_ID	R E	Primary key for table lookup. Assigned by table creator.
CST_MDL_ID	A E	Coastal Model Identification. This field is populated by a linking element to the L_Cst_Model table. The L_Cst_Model table contains detailed information about the coastal models that were used to determine the coastal flood hazard for the area of each individual gage. This ID field should contain a number that matches the CST_MDL_ID field for a record in the L_Cst_Model. Multiple gages may link to a single record in the L_Cst_Model table.
GAGE_NM	R E	Gage name assigned by agency maintaining gage.
AGENCY	R E	Name of agency maintaining gage.
REC_INTVL	A E	Recording Interval. This field is populated only if the coastal gage is a fixed-interval gage.
TIME_UNIT	A E	Recording Interval Time Unit. This field is populated only if the coastal gage is a fixed-interval gage.
START_PD	R E	Gage Record Starting Date. Start of earliest period of record used in gage analysis.
END_PD	R E	Gage Record Ending Date. End of latest period of record used in gage analysis.
GAGE_TYPE	R E	Gage Type. This value indicates the type of coastal gage.

WVDIR_TF	R	E	Does the gage record wave direction True or False? Enter "T" for true or "F" for false.
WDSPD_TF	R	E	Does the gage record wind speed True or False? Enter "T" for true or "F" for false.
WDDIR_TF	R	E	Does the gage record wind direction True or False? Enter "T" for true or "F" for false.
SOURCE_CIT	R	E	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Cst_Gage table.

Table: S_Cst_Gage

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
GAGE_ID	R	E	text	11					string	11		character	11	11		character	11	
CST_MDL_ID	A	E	text	11					string	11		character	11	11		character	11	
GAGE_NM	R	E	text	150					string	150		character	150	150		character	150	
AGENCY	R	E	text	150					string	150		character	150	150		character	150	
REC_INTVL	A	E	text	11					string	11		character	11	11		character	11	
TIME_UNIT	A	E	text	20					string	11		character	11	11		character	11	
START_PD	R	E	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
END_PD	R	E	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
GAGE_TYPE	R	E	text	40					string	40		character	40	40		character	40	
WVDIR_TF	R	E	text	1					string	1		character	1	1		character	1	
WDSPD_TF	R	E	text	1					string	1		character	1	1		character	1	
WDDIR_TF	R	E	text	1					string	1		character	1	1		character	1	
SOURCE_CIT	R	E	text	11					string	11		character	11	11		character	11	

Table: S_Cst_Tsct_Ln

This table is required when the corresponding Flood Insurance Rate Map (FIRM) and/or Flood Insurance Study (FIS) will show coastal transect locations. Normally this is any area with a coastal study.

The S_Cst_Tsct_Ln table contains information about the Coastal Transect Lines within the study area, if applicable. The transect lines indicate the location that was used to provide representative topographic information for the coastal flood models used. A spatial file with locational information also corresponds with this data table.

The spatial elements representing coastal transects are lines generally extending from offshore all the way across the coastal floodplain. Transects can also extend seaward when wave runup modeling is used into determining coastal flood hazards. Each transect should be represented by a single line feature without the circles on each end shown on the hard copy map. The location and shape of the lines should depict as accurately as possible the position of the transect used.

This is a modified Standard DFIRM Database table that includes Standard DFIRM Database items and Enhanced Database items. All items after SOURCE_CIT are Enhanced.

The S_Cst_Tsct_Ln table contains the following elements.

TRAN_LN_ID	R S	Primary key for table lookup. Assigned by table creator.
TRAN_NO	R S	Transect Number. Transect number as shown on FIRM or in FIS. Each transect is normally numbered sequentially.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Cst_Tsct_Ln table.
CST_MDL_ID	A E	Coastal Model Identification. This field is populated by a linking element to the L_Cst_Model table. The L_Cst_Model table contains detailed information about the coastal models that were used to determine the coastal flood hazard for the area of each individual transect line. This ID field should contain a number that matches the CST_MDL_ID field for a record in the L_Cst_Model. Multiple transects may link to a single record in the L_Cst_Model table. This field is not required for digital conversion of existing FISs. Significant additional research may be required to identify the model that applies for each transect. However, for new coastal studies, this field is required.
SETUP_DPTH	A E	Wave Set-up Depth. This is the depth of wave setup that is added to the 1% annual chance stillwater elevation.
SIG_HT	A E	Significant Wave Height. This is the wave height associated with the 1% annual chance storm event. It is the average height of the

highest 1/3 of all waves. It is used in WHAFIS 3.0 and RUNUP 2.0 models.

SIG_PD	A E	Significant Wave Period. This is the wave period associated with the 1% annual chance storm event. It is the time it takes for a wave of the significant wave height to pass a point.
CON_HT	A E	Controlling Wave Height. 1.6 times the significant wave height.
CON_PD	A E	Controlling Wave Period. The time it takes for a wave of the controlling wave height to pass a point.
MEAN_HT	A E	Mean Wave Height. Average height of all waves. This information is typically derived from wave gage data.
MEAN_PD	R E	Mean Wave Period. Average period of all waves. This information is typically derived from wave gage data.
EROS_METH	A E	Erosion Methodology. Describes the erosion methodology.
TIME_UNIT	R E	Units of Time Measurement. This field is populated if there is a value entered for the significant wave period, controlling wave period, or the mean wave period. The period values all should use the same unit of time measurement. Acceptable values for this field are listed in the D_Time_Units table.
V_DATUM	R E	Vertical Datum. This is the vertical datum of the printed FIRM. The vertical datum describes the reference surface from which elevation on the map is measured. Normally this would be North American Vertical Datum of 1988 for new studies. Acceptable values for this field are listed in the D_V_Datum table.
LEN_UNIT	R E	Length Units. This unit indicates the measurement system used for height. Normally this would be feet. Acceptable values for this field are listed in the D_Length_Units table.
VZONE_EXT	R E	V Zone Extent. This information provides a brief summary to users about the predominating methodology that was used to determine the landward extent of the V Zone in any mapped flood hazard area. Acceptable values for this field are listed in the D_VZone table.
METHOD	R E	Source Method. This value describes the general methodology used in deriving the station and elevation point data along transects used in coastal flood hazards. Acceptable values for this field are listed in the D_Method table.
EFF_TF	R E	Is the coastal transect part of the effective study True or False? Enter "T" for true or "F" for false.

SHOWN_FIRM	R E	Transect Shown on FIRM. Is the transect shown on the FIRM True or False? Enter "T" for true or "F" for false.
SHR_ROUGH	R E	Shoreline Roughness. This value is the shoreline type classification that relates each transect with a shoreline type. This information can be used in conjunction with other coastal hazard analyses or applications and provides a useful set of data about relative shoreline roughness. Acceptable values for this field are listed in the D_Shr_Rough table.
L_RANGE	R E	Left Range of Coastal Transect. Looking landward, the range is the along-shore distance to the left of the transect line that the transect is intended to represent.
L_DIRECT	R E	Direction of Left Range. Direction is entered as the bearing of the range away from the transect. The left range direction is measured in degrees and is the angle of an arc taken in a clockwise direction from north to the range's bearing. If the transect is oriented perpendicular to the shoreline, this value will be +/-90 degrees of the transect's direction in degrees from north.
R_RANGE	R E	Right Range of Coastal Transect. Looking landward, the range is the along-shore distance to the right of the transect line that the transect is intended to represent
R_DIRECT	R E	Direction of Right Range. Direction is entered as the bearing of the range away from the transect. The right range direction is measured in degrees and is the angle of an arc taken in a clockwise direction from north to the range's bearing. If the transect is oriented perpendicular to the shoreline, this value will be +/-90 degrees of the transect's in direction in degrees from north.
LOC_DESC	R E	Location Description. This is a description of the location of the coastal transects. This description is used and/or can be found in the transect table in the FIS text.
XCOORD	R E	X-Coordinate. The X-coordinate of the 0.0-foot elevation point along the transect. This point must fall on the transect and have the same horizontal datum of the study. The coordinates must be entered using the same coordinate system used for the DFIRM GIS data. If the S_Shore_Ln table is provided, the shoreline should cross the transect at this point.

YCOORD

R E Y-Coordinate. The Y-coordinate of the 0.0-foot elevation point along the transect. This point must fall on the transect and have the same horizontal datum of the study. The coordinates must be entered using the same coordinate system used for the DFIRM GIS data. If the S_Shore_Ln table is provided, the shoreline should cross the transect at this point.

Table: S_Cst_Tsct_Ln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			Type	field size	dec	format	input mask	type	width	Dec	type	item width	output width	dec	type	width	dec	
TRAN_LN_ID	R	S	Text	11					string	11		character	11	11		character	11	
TRAN_NO	R	S	Text	4					string	4		character	4	4		character	4	
SOURCE_CIT	R	S	Text	11					string	11		character	11	11		character	11	
CST_MDL_ID	A	E	Text	11					string	11		character	11	11		character	11	
SETUP_DPTH	A	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
SIG_HT	A	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
SIG_PD	A	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
CON_HT	A	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
CON_PD	A	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2

MEAN_HT	A	E	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
MEAN_PD	R	E	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
EROS_METH	A	E	Text	15				string	15		character	15	15		character	15	
TIME_UNIT	R	E	Text	20				string	20		character	20	20		character	20	
V_DATUM	R	E	Text	6				string	6		character	6	6		character	6	
LEN_UNIT	R	E	Text	20				string	20		character	20	20		character	20	
VZONE_EXT	R	E	Text	40				string	40		character	40	40		character	40	
METHOD	R	E	Text	20				string	20		character	20	20		character	20	
EFF_TF	R	E	Text	1				string	1		character	1	1		character	1	
SHOWN_FIRM	R	E	Text	1				string	1		character	1	1		character	1	
SHR_ROUGH	R	E	Text	10				string	10		character	10	10		character	10	
L_RANGE	R	E	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
L_DIRECT	R	E	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
R_RANGE	R	E	number	8	2			number	13	2	numeric	8	13	2	decimal	15	2

			(double)														
R_DIRECT	R	E	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
LOC_DESC	R	E	Text	254				string	254		character	254	254		character	254	
XCOORD	R	E	number (double)	8	2			string	13	2	numeric	8	13	2	decimal	15	2
YCOORD	R	E	number (double)	8	2			string	13	2	numeric	8	13	2	decimal	15	2

Table: S_FIRM_Pan

This table is required for all preliminary or final DFIRM databases.

The S_FIRM_Pan table contains information about the Flood Insurance Rate Map (FIRM) panel area. A spatial file with locational information also corresponds with this data table.

The spatial entities representing FIRM panels are polygons. The polygon for the FIRM panel corresponds to the panel neatlines. As a result, the panels are generally rectangular. In situations where a portion of a panel lies outside of the jurisdiction being mapped, the user must refer to the S_POL_AR table to determine the portion of the panel area where the DFIRM database shows the effective flood hazard data for the mapped jurisdiction.

This is a Standard DFIRM Database table.

The S_FIRM_Pan table contains the following elements.

FIRM_ID	R S	Primary key for table lookup. Assigned by table creator.
ST_FIPS	R S	State FIPS. This is the two-digit code that corresponds to the state Federal Information Processing Standard (FIPS) code. This is a standard numbering system that is used by the Federal government. Defined in FIPS Pub 6-4. These two numbers correspond to the first two digits of the panel number.
PCOMM	R S	Community or County Identification Number. This is the 3 rd through the 6 th digits of the panel number. For community based maps this corresponds to the Federal Emergency Management Agency (FEMA) Community Identification number. For countywide maps this is the county (or county equivalent) FIPS code with a "C".
PANEL	R S	Panel Number. This is 7 th through the 10 th digits in the complete panel number. This is assigned by the scale of the map and the position within the community or county. The panel number scheme is described in detail in Appendix K of these Guidelines.
SUFFIX	R S	Map Suffix. This is the final digit in the complete panel number. This is a letter suffix at the end of the panel number.
FIRM_PAN	R S	FIRM Panel Number. This is the complete FIRM panel number, which is made up of ST_FIPS, PCOMM, PANEL, and SUFFIX. This is the 11-digit FIRM panel number that is shown in the title block of the map.
PANEL_TYP	R S	Panel Type. The type of FIRM panel that identifies whether the panel is printed or not printed and whether it is community based or

countywide mapping. Acceptable values for this field are listed in the D_Panel_Typ table.

EFF_DATE	A S	Effective Date. This is the effective date of the current map revision. This field is not populated until the FIRM effective date is established and the Final FIRM is ready for hardcopy production by FEMA. Then it is required.
SCALE	R S	Map Scale. This is the denominator of the FIRM scale as a ratio. For example, 24000 is the denominator for a 1" = 2000' map. Acceptable values for this field are listed in the D_Scale table.
PNP_REASON	A S	Panel Not Printed Reason. This is the explanation of the reason for the FIRM panels that are not printed. See Appendix K of these Guidelines for a listing of Panel Not Printed reasons that may be used. Only completed if the hardcopy panel is not printed by FEMA.
NW_LAT	R S	Northwest Latitude. This is the latitude of the northwest corner of the FIRM panel neatline. This value is in degrees, minutes, seconds (DDD MM SS.SSS). Normally this corresponds to U.S. Geological Survey (USGS) 7.5' quadrangle maps using North American Datum of 1983 (NAD83), or even subdivisions thereof. However this value must reflect the actual latitude if non-standard panel sizes are used.
NW_LONG	R S	Northwest Longitude. This is the longitude of the northwest corner of the FIRM panel. This value is in degrees, minutes, seconds (DDD MM SS.SSS). Normally this corresponds to USGS 7.5' quadrangle maps using NAD83, or even subdivisions thereof. However this value must reflect the actual longitude if non-standard panel sizes are used.
SE_LAT	R S	Southeast Latitude. This is the latitude of the southeast corner of the FIRM panel. This value is in degrees, minutes, seconds (DDD MM SS.SSS). Normally this corresponds to USGS 7.5' quadrangle maps using NAD83, or even subdivisions thereof. However this value must reflect the actual latitude if non-standard panel sizes are used.
SE_LONG	R S	Southeast Longitude. This is the longitude of the southeast corner of the FIRM panel. This value is in degrees, minutes, seconds (DDD MM SS.SSS). Normally this corresponds to USGS 7.5' quadrangle maps using NAD83, or even subdivisions thereof. However this value must reflect the actual longitude if non-standard panel sizes are used.

SOURCE_CIT R S Source Citation. Abbreviation used in the metadata file when describing the source information for the S_FIRM_Pan table.

Table: S_FIRM_Pan

Field	R/A	R/A	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
FIRM_ID	R	S	text	11					string	11		character	11	11		character	11	
ST_FIPS	R	S	text	2					string	2		character	2	2		character	2	
PCOMM	R	S	text	4					string	4		character	4	4		character	4	
PANEL	R	S	text	4					string	4		character	4	4		character	4	
SUFFIX	R	S	text	1					string	1		character	1	1		character	1	
FIRM_PAN	R	S	text	11					string	11		character	11	11		character	11	
PANEL_TYP	R	S	text	35					string	35		character	35	35		character	35	
EFF_DATE	A	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
SCALE	R	S	text	5					string	5		character	5	5		character	5	
PNP_REASON	A	S	text	50					string	50		character	50	50		character	50	
NW_LAT	R	S	text	15					string	15		character	15	15		character	15	
NW_LONG	R	S	text	15					string	15		character	15	15		character	15	
SE_LAT	R	S	text	15					string	15		character	15	15		character	15	
SE_LONG	R	S	text	15					string	15		character	15	15		character	15	

SOURCE_CIT	R	S	text	11				string	11		character	11	11		character	11	
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Table: S_Fld_Haz_Ar

This table is required for all draft Digital Flood Insurance Rate Map data.

The S_Fld_Haz_Ar table contains information about the flood hazards within the study area. A spatial file with locational information also corresponds with this data table. These zones are used by the federal Emergency Management Agency (FEMA) to designate the Special Flood Hazard Area (SFHA) and for insurance rating purposes. These data are the flood hazard areas that are or will be depicted on the Flood Insurance Rate Map (FIRM). A spatial file with locational information also corresponds with this data table.

The spatial elements representing the flood zones are polygons. The entire area of the jurisdiction(s) mapped by the FIRM should have a corresponding flood zone polygon. There is one polygon for each contiguous flood zone designated.

This is a modified Standard DFIRM Database table that includes Standard DFIRM Database items and Enhanced Database items. All items after SOURCE_CIT are Enhanced.

The S_Fld_Haz_Ar table contains the following elements.

FLD_AR_ID	R S	Primary key for table lookup. Assigned by table creator.
FLD_ZONE	R S	Flood Zone. This is a flood zone designation. These zones are used by FEMA to designate the SFHAs and for insurance rating purposes. NOTE: The symbol '%' is a reserved symbol in most software packages so the word 'percent' was abbreviated to 'PCT'. Acceptable values for this field are listed in the D_Zone table.
FLOODWAY	A S	Floodway Type. Floodway areas are designated by FEMA and adopted by communities to provide an area that will remain free of development to moderate increases in flood heights due to encroachment on the floodplain. Normal floodway areas are 'floodway'. Special cases will have a note on the hardcopy FIRM. If the corresponding area is not designated as a floodway, this field is null. Acceptable values for this field are listed in the D_Floodway table.
SFHA_TF	R S	Special Flood Hazard Area. If the area is within SFHA this field would be True. This field will be true for any area that is coded for any A or V zone flood areas. It should be false for any X or D zone flood areas. Enter "T" for true or "F" for false.
STATIC_BFE	A S	Static Base Flood Elevation. For areas of constant Base Flood Elevation (BFE), the BFE value is shown beneath the zone label rather than on a BFE line. In this situation the same BFE applies to the entire polygon. This is normally occurs in lakes or coastal

zones. This field is only populated where a static BFE is shown on the FIRM.

V_DATUM	A S	Vertical Datum. The vertical datum indicates the reference surface from which the flood elevations are measured. Normally this would be North American Vertical Datum of 1988 for new studies. This field is only populated if the STATIC_BFE field is populated. Acceptable values for this field are listed in the D_V_Datum table.
DEPTH	A S	Depth Value for Zone AO Areas. This is shown beneath the zone label on the FIRM. This field is only populated if a depth is shown on the FIRM.
LEN_UNIT	A S	Length Units. This unit indicates the measurement system used for the BFEs and/or depths. Normally this would be feet. This field is only populated if the STATIC_BFE or DEPTH field is populated. Acceptable values for this field are listed in the D_Length_Units table.
VELOCITY	A S	Velocity Measurement. This is shown beneath the zone label on the FIRM for alluvial fan areas (certain Zone AO areas). This value represents the velocity of the flood flow in this area. This field is only populated when a velocity is shown on the FIRM.
VEL_UNIT	A S	Unit of Measurement for the Velocity Attribute. This is shown in the legend where alluvial fans are present. This field is only populated if the VELOCITY field is populated. Acceptable values for this field are listed in the D_Velocity_Units table.
AR_REVERT	A S	If the area is Zone AR, this field would hold the zone that the area would revert to if the AR zone were removed. This field is only populated if the corresponding area is Zone AR. Acceptable values for this field are listed in the D_Zone table.
BFE_REVERT	A S	If Zone is Zone AR, this field would hold the static base flood elevation for the reverted zone. This field is populated when Zone equals AR and the reverted zone has a static BFE.
DEP_REVERT	A S	If Zone is Zone AR, this field would hold that flood depth for the reverted zone. This field is populated when Zone equals AR and the reverted zone has a depth assigned.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Fld_Haz_Ar table. Normally, the flood hazard area polygon will be divided to distinguish areas modified by the most recent revision from areas based on the effective FIRM prior to the most recent revision. Revisions and sources prior to the most recent revision will not be

tracked for individual polygons in the flood hazard areas table in the standard database.

- HYDRO_ID A E Hydrologic Model Identification. A code that provides a link to the hydrologic model table, L_Hydro_Model. The L_Hydro_Model table provides information on the methods used to determine the flood hazard for areas of shallow flooding and ponding. This ID field must contain a number that matches the HYDRO_ID field for a record in the L_Hydro_Model table. This attribute is only required for flood hazard areas with AO and AH zone designations or ponding associated with AE zones.
- CST_MDL_ID A E Coastal Model Identification. This field is populated by a linking element to the L_Cst_Model table. The L_Cst_Model table contains detailed information about the coastal models that were used to determine the coastal flood hazard for this area. This ID field must contain a number that matches the CST_MDL_ID field for a record in the L_Cst_Model table that documents coastal model information. This attribute is only required in areas for which flood hazard determinations do not consider wave hazards. The static BFE values in these areas are based on surge modeling and/or tidal analyses. When wave hazards are considered modeling information is linked to the transects used to complete the wave analysis.

Table: S_Fld_Haz_Ar

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo		
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
FLD_AR_ID	R	S	text	11				string	11		character	11	11		character	11	
FLD_ZONE	R	S	text	55				string	55		character	55	55		character	55	
FLOODWAY	A	S	text	30				string	30		character	30	30		character	30	
SFHA_TF	R	S	text	1				string	1		character	1	1		character	1	
STATIC_BFE	A	S	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
V_DATUM	A	S	text	6				string	6		character	6	6		character	6	
DEPTH	A	S	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
LEN_UNIT	A	S	text	20				string	20		character	20	20		character	20	
VELOCITY	A	S	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
VEL_UNIT	A	S	text	20				string	20		character	20	20		character	20	
AR_REVERT	A	S	text	6				string	6		character	6	6		character	6	

BFE_REVERT	A	S	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
DEP_REVERT	A	S	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
SOURCE_CIT	R	S	text	11				string	11		character	11	11		character	11	
HYDRO_ID	A	E	text	11				string	11		character	11	11		character	11	
CST_MDL_ID	A	E	text	11				string	11		character	11	11		character	11	

Table: S_Fld_Haz_Ln

This table is required for all preliminary or final DFIRM databases.

The S_Fld_Haz_Ln table contains information about the flood hazard line features for the study area. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the boundaries of the flood hazard areas depicted on the Flood Insurance Rate Map (FIRM) are lines.

This is a Standard DFIRM Database table.

The S_Fld_Haz_Ln table contains the following elements.

FLD_LN_ID	R	S	Primary key for table lookup. Assigned by table creator.
LN_TYP	R	S	Line Type. These line types describe the flood boundary and may be used to indicate how the feature must be depicted on the hardcopy FIRM. Acceptable values for this field are listed in the D_Ln_Typ table.

Table: S_Fld_Haz_Ln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
FLD_LN_ID	R	S	text	11					string	11		character	11	11		character	11	
LN_TYP	R	S	text	45					string	45		character	45	45		character	45	

Table: S_Gen_Struct

This table is required whenever hydraulic structures are shown in the flood profile. It is also required if levees are shown on the FIRM, channels containing the flooding are shown on the FIRM, or any other structure that impacts the area's flood risk is shown on the FIRM.

The S_Gen_Struct table contains information about the hydraulic structures within the study area. It must include all structures shown in the flood profiles. In addition, levees, sea walls, channels that contain flooding, and other significant flood control structures shown on the Flood Insurance Rate Map (FIRM) must be included. A spatial file with locational information also corresponds with this data table.

Spatial elements representing general structures are represented by lines. The lines must represent the primary characteristic of the structure. For example, bridges must be represented by the transportation centerline carried by the bridge. Dams must be represented by a line corresponding to the top of the dam. Levees must be represented by a line corresponding to the top of levee. A line corresponding to the centerline of the main barrel must represent a culvert.

This is a Standard DFIRM Database table.

The S_Gen_Struct table contains the following elements.

STRUCT_ID	R	S	Primary key for table lookup. Assigned by table creator.
STRUCT_TYP	R	S	Structure Type. Hydraulic structures within the study area. Acceptable values for this field are listed in the D_Struct_Typ table.
STRUCT_NM	A	S	Structure Name. This is the name of the feature and the name that will be shown on the hardcopy FIRM. This record is left blank if the structure is not named on FIRM and/or the name is unknown.
WTR_NM	R	S	Surface Water Feature Name. This is the formal name of the surface water feature associated with the structure, as it will appear on the hardcopy FIRM.
SOURCE_CIT	R	S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Gen_Struct table.

Table: S_Gen_Struct

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
STRUCT_ID	R	S	text	11					string	11		character	11	11		character	11	
STRUCT_TYP	R	S	text	36					string	36		character	36	36		character	36	
STRUCT_NM	A	S	text	50					string	50		character	50	50		character	50	
WTR_NM	R	S	text	100					string	100		character	100	100		character	100	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_Label_Ld

This table is required for Digital Flood Insurance Rate Map (DFIRM) data if any label leader lines are shown on the hardcopy FIRM.

The S_Label_Ld table contains information about leader lines that would connect labels to feature locations on base maps. The purpose of this table, along with the S_Label_Pt table is so that the Digital Flood Insurance Rate Map (DFIRM) database can contain the names of roads and other physical features in or near the Special Flood Hazard Areas regardless of the type or structure of the base map used. A spatial file with locational information also corresponds with this data table.

The spatial entities representing label leaders will be lines.

This is a Standard DFIRM Database table.

The S_Label_Ld table contains the following elements.

LEADER_ID	R	S	Primary key for table lookup. Assigned by table creator.
LABEL_TYPE	R	S	Label type. This is a description of the planimetric features to which the labels and leaders are associated. For vector based maps, the labels and leaders will be associated with vector features in S_Trnsport_Ln, S_Wtr_Ar and S_Wtr_Ln. For maps with an ortho-photo base, the labels and leaders will be associated with DOQ water and transportation features. For maps that use both vector features and ortho-photos, all values may apply. Acceptable values for this field are listed in the D_Label_Typ table.

Table: S_Label_Ld

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
LEADER_ID	R	S	text	11					string	11		character	11	11		character	11	
LABEL_TYPE	R	S	text	20					string	20		character	20	20		character	20	

Table: S_Label_Pt

This table is required for all preliminary or final DFIRM databases.

The S_Label_Pt table contains information for point locations that would link labels to base map features. The purpose of this table, along with the S_Label_Ld table is so that the Digital Flood Insurance Rate Map (DFIRM) database can contain the names of roads and other physical features in or near the Special Flood Hazard Areas (SFHAs) regardless of the type or structure of the base map used. A spatial file with locational information also corresponds with this data table.

The spatial entities representing labels are points. The point corresponds to the lower left corner of the label.

This is a Standard DFIRM Database table.

The S_Label_Pt table contains the following elements.

LABEL_ID	R S	Primary key for table lookup. Assigned by table creator.
LABEL	R S	Label for map feature.
LABEL_TYPE	R S	Label type. This is a description of the planimetric features to which the labels and leaders are associated. For vector based maps, the labels and leaders will be associated with vector features in S_Trnsport_Ln, S_Wtr_Ar and S_Wtr_Ln. For maps with an ortho-photo base, the labels and leaders will be associated with DOQ water and transportation features. For maps that use both vector features and ortho-photos, all values may apply. Acceptable values for this field are listed in the D_Label_Typ table.
DEGREES	R S	The degrees of rotation required for the placement of a feature label onto a Flood Insurance Rate Map panel. The rotation angle of the text measured in degrees. The angle is zero for unrotated horizontal text and increases in a counterclockwise direction to 359. Text rotated clockwise has a negative value between 0 and -359.

Table: S_Label_Pt

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
LABEL_ID	R	S	text	11					string	11		character	11	11		character	11	
LABEL	R	S	text	254					string	254		character	254	254		character	254	
LABEL_TYPE	R	S	text	20					string	20		character	20	20		character	20	
DEGREES	R	S	integer	2	0				number	4	0	binary	4	10	0	decimal	4	0

Table: S_LOMR

This table is required when a Mapping Partner incorporates the results of effective Letters of Map Revision (LOMRs) into the draft Digital Flood Insurance Rate Map (DFIRM) data submitted to the Federal Emergency Management Agency (FEMA).

The S_LOMR table contains information about LOMR areas that are incorporated into the Flood Insurance Rate Map (FIRM). This table is planned as a mechanism for DFIRM producers to communicate areas of the DFIRM data that were updated to reflect the results of LOMRs. It is included in the draft DFIRM data submittal. It is not planned for distribution by FEMA once a complete map revision has incorporated these LOMRs into the effective FIRM panel. Therefore it is not included in the Preliminary or Final DFIRM data. A spatial file with locational information also corresponds with this data table.

The spatial entities representing LOMRs are polygons. The spatial information contains the bounding polygon for each LOMR area.

This is a modified Standard DFIRM Database table that includes Standard DFIRM Database items and Enhanced Database items. All items after SOURCE_CIT are Enhanced.

The S_LOMR table contains the following elements.

LOMR_ID	R S	Primary key for table lookup. Assigned by table creator.
EFF_DATE	R S	Effective Date. Effective date of the LOMR.
CASE_NO	R S	Case Number. This is the case number of the LOMR that is assigned by FEMA. The case number is used to track the LOMR's supporting documentation.
SCALE	R S	Map Scale. This is the denominator of the effective LOMR scale as a ratio. For example, 24000 is the denominator for a 1" = 2000' map. Acceptable values for this field are listed in the D_Scale table.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_LOMR table.
STATUS	R E	Status of the LOMR. Valid entries for this field include the following: 'effective' 'incorporated' 'superseded'

Table: S_LOMR

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo		
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
LOMR_ID	R	S	text	11				string	11		character	11	11		character	11	
EFF_DATE	R	S	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
CASE_NO	R	S	text	13				string	13		character	13	13		character	13	
SCALE	R	S	text	5				string	5		character	5	5		character	5	
SOURCE_CIT	R	S	text	11				string	11		character	11	11		character	11	
STATUS	R	E	text	12				string	12		character	12	12		character	12	

Table: S_Nodes

This table is required for all studies with new or revised hydrologic data. A spatial file with locational information also corresponds with this data table.

The S_Nodes table contains data only on the location of points used to define the topology of the hydrologic network. Nodes can be subbasin pourpoints, confluences, diversions, hydraulic structures, etc. Nodes are connected to each other via links, which are defined in S_Profil_Basln (see below).

The spatial elements representing the nodes are points.

This is an Enhanced DFIRM Database table.

The S_Nodes table contains the following elements.

NODE_ID	R E	Primary key for this table. Assigned by table creator.
SOURCE_CIT	R E	Source Citation. Abbreviation used in the metadata file when describing the source information for S_Nodes.

Table: S_Nodes

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
NODE_ID	R	E	text	11				string	11		character	11	11		character	11	
SOURCE_CIT	R	E	text	11				string	11		character	11	11		character	11	

Table: S_Ovrbnkln

This table is required for a detailed study that uses overbank flow lengths as input data.

The S_Ovrbnkln table contains information about overbank flow line features for the study area.

The features are those lines along which overbank flow distances between two cross sections are measured. Between any two adjacent cross sections, there must be two overbank flow lines: one for the right overbank line and one for the left overbank line. The two lines may be one continuous line or may be broken at the cross section. However, if the line is broken, the line must be continuous between the cross sections; the endpoints of an overbank line must lie on a cross section. A spatial file with locational information also corresponds with this data table.

Since models will eventually overlap, these features should represent the lines associated with the model for the base flood from which the effective FIRM was derived.

Locations are based on standard engineering practice and should match locations used in the analysis.

The spatial elements representing the boundaries of the flood hazards depicted on the FIRM are lines.

This is an Enhanced DFIRM Database table.

The S_Ovrbnkln table contains the following elements.

OVRBNK_ID	R E	Primary key for table lookup. Assigned by table creator.
WTR_NM	R E	Surface Water Feature Name. This is the formal name of the surface water feature, as it will appear on the hardcopy FIRM.
OBNK_SIDE	R E	Overbank Side. Indicates which side the overbank line represents. Enter "L" for left or "R" for right.
SOURCE_CIT	R E	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Ovrbnkln.

Table: S_Ovrbnkln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
OVRBNK_ID	R	E	text	11					string	11		character	11	11		character	11	
WTR_NM	R	E	text	100					string	100		character	100	100		character	100	
OBNK_SIDE	R	E	text	1					string	1		character	1	1		character	1	
SOURCE_CIT	R	E	text	11					string	11		character	11	11		character	11	

Table: S_Perm_Bmk

This table is required unless there are no National Geodetic Survey (NGS) or other bench marks that meet the minimum standard in the jurisdiction covered by the Flood Insurance Rate Map (FIRM).

The S_Perm_Bmk table contains information about Permanent Bench Marks that are associated with the study area. The bench marks shown in this file must meet the requirements specified in Subsection 1.4.1.4.1. A spatial file with locational information also corresponds with this data table.

The spatial entities representing bench marks are points. Generally, the assigned Mapping must place these points based on the coordinates in the NGS database. However, the horizontal coordinates maintained by the NGS for vertical bench marks is often not very precise because the users usually rely on the location descriptions to locate the bench marks. If the source of the horizontal coordinates used by the NGS is not precise, the Mapping Partner may adjust the position based on better available data.

This is a Standard DFIRM Database table.

The S_Perm_Bmk table contains the following elements.

BM_ID	R S	Primary key for table lookup. Assigned by table creator.
PID	R S	Permanent Identifier. This must be the NGS assigned or community assigned permanent identifier. It must be unique for each bench mark.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Perm_Bmk table.

Table: S_Perm_Bmk

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
BM_ID	R	S	text	11				string	11		character	11	11		character	11	
PID	R	S	text	11				string	11		character	11	11		character	11	
SOURCE_CIT	R	S	text	11				string	11		character	11	11		character	11	

Table: S_PFD_Ln

This table is required when a primary frontal dune (PFD) is present along portions or all of the coastline within the modeled coastal floodplain. PFDs are not required to be continuous along the length of the studied shoreline. It is applicable when PFD_TF = "T" in the L_Cst_Model table.

The S_PFD_Ln table contains information about the primary frontal dune features for the coastal study area. Primary frontal dunes are not shown on the HRM but are used in the coastal floodplain analysis. They are lines that represent the back side of the first natural ridge inland from the coastal shoreline and where the gradient changes from steep to gentle. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the primary frontal dunes are lines.

This is an Enhanced DFIRM Database table.

The S_PFD_Ln table contains the following elements.

PFD_ID	R	E	Primary key for table lookup. Assigned by table creator.
SOURCE_CIT	R	E	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_PFD_Ln table.

Table: S_PFD_Ln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
PFD_ID	R	E	text	11				string	11		character	11	11		character	11	
SOURCE_CIT	R	E	text	11				string	11		character	11	11		character	11	

Table: S_PLSS_Ar

This table is required when U.S. Public Land Survey System (PLSS) areas are shown on the Flood Insurance Rate Map and the data used for the map can be distributed by FEMA at no cost.

The S_PLSS_Ar table contains information about PLSS areas that are associated with the study area, if applicable. This would include the attributes for the range, township, and section areas. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the PLSS areas are polygons. Generally there is one polygon per section. The PLSS areas must cover the entire jurisdiction where sections are defined.

In general, the Public Land Survey System table structure is fairly flexible depending on the format of the data available for the map. The Federal Emergency Management Agency's (FEMA's) objective is to have spatially accurate PLSS data to which the flood hazard information is referenced. Users must be able to identify section, township and range information on the printed maps. If these objectives are met, then almost any file structure is acceptable. PLSS features may be represented as either polygons or lines. With some data structures, it may not be practical to assign attributes to each spatial entity. While these attributes are desirable, FEMA recognizes that they may not always be easily available. This is acceptable because the PLSS system is a public system not maintained by FEMA. This information is provided for reference on the paper maps..

This is a Standard DFIRM Database table.

The S_PLSS_Ar table contains the following elements.

PLSS_AR_ID	R S	Primary key for table lookup. Assigned by table creator.
RANGE	A S	Range Number. This is the range number assigned to the PLSS area shown. This attribute would also include the designation of E (east) or W (west) as part of the data. For example, 21W would be an acceptable value. This field is applicable whenever the SECT_NO does not equal zero.
TWP	A S	Township. This is the township number assigned to the PLSS area shown. This attribute would also include the designation of N (north) or S (south) as part of the data. For example, 14S would be an acceptable value. This field is applicable whenever the SECT_NO does not equal zero.
SECT_NO	R S	Section. This is the section number assigned to the PLSS area shown.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_PLSS_Ar table. This

field is required when source citation information is not provided by the S_PLSS_Ln table.

Table: S_PLSS_Ar

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo		
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
PLSS_AR_ID	R	S	text	11				string	11		character	11	11		character	11	
RANGE	A	S	text	8				string	8		character	8	8		character	8	
TWP	A	S	text	8				string	8		character	8	8		character	8	
SECT_NO	R	S	text	4				string	4		character	4	4		character	4	
SOURCE_CIT	R	R	text	11				string	11		character	11	11		character	11	

Table: S_PLSS_Ln

This table is required when U.S. Public Land Survey System (PLSS) areas are shown on the FIRM and the data used for the map can be distributed by FEMA at no cost.

The S_PLSS_Ln table contains information about the boundary lines for the PLSS that is associated with the study area, if applicable. This would include the attributes for the adjacent range and township areas.

In general, the Public Land Survey System table structure is fairly flexible depending on the format of the data available for the map. The Federal Emergency Management Agency's (FEMA's) objective is to have spatially accurate PLSS data to which the flood hazard information is referenced. Users must be able to identify section, township and range information on the printed maps. If these objectives are met, then almost any file structure is acceptable. PLSS features may be represented as either polygons or lines. With some data structures, it may not be practical to assign attributes to each spatial entity. While these attributes are desirable, FEMA recognizes that they may not always be easily available. This is acceptable because the PLSS system is a public system not maintained by FEMA. This information is provided for reference on the paper maps..

A spatial file with locational information corresponds with this data table.

The spatial entities representing PLSS boundaries are lines.

This is a Standard DFIRM Database table.

The S_PLSS_Ln table contains the following elements.

PLSS_LN_ID	R S	Primary key for table lookup. Assigned by table creator.
LN_TYP	R S	Line Type. This describes the PLSS boundary and may be used to indicate how the feature must be depicted on the hardcopy Flood Insurance Rate Map (FIRM). Acceptable values for this field are listed in the D_Ln_Typ table.
E_RANGE	A S	East Range Number. This is the range number assigned to the PLSS area shown to the east of the line feature. This number is shown on the hardcopy FIRM. This attribute would also include the designation of E (east) or W (west) as part of the data. For example, 21W would be an acceptable value. Only populated for lines that divide one range from another.
W_RANGE	A S	West Range Number. This is the range number assigned to the PLSS area shown to the west of the line feature. This number is shown on the hardcopy FIRM. This attribute would also include the designation of E (east) or W (west) as part of the data. For

example, 21W would be an acceptable value. Only populated for lines that divide one range from another.

- N_TWP A S North Township. This is the township number assigned to the PLSS area shown to the north of the line feature. This number is shown on the hardcopy FIRM. This attribute would also include the designation of N (north) or S (south) as part of the data. For example, 14S would be an acceptable value. Only populated for lines that divide one township from another.
- S_TWP A S South Township. This is the township number assigned to the PLSS area shown to the south of the line feature. This number is shown on the hardcopy FIRM. This attribute would also include the designation of N (north) or S (south) as part of the data. For example, 14S would be an acceptable value. Only populated for lines that divide one township from another.
- SOURCE_CIT R S Source Citation. Abbreviation used in the metadata file when describing the source information for the S_PLSS_Ln table. This field is required when source citation information is not provided by the S_PLSS_Ar table.

Table: S_PLSS_Ln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
PLSS_LN_ID	R	S	text	11					string	11		character	11	11		character	11	
LN_TYP	R	S	text	45					string	45		character	45	45		character	45	
E_RANGE	A	S	text	8					string	8		character	8	8		character	8	
W_RANGE	A	S	text	8					string	8		character	8	8		character	8	
N_TWP	A	S	text	8					string	8		character	8	8		character	8	
S_TWP	A	S	text	8					string	8		character	8	8		character	8	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_Pol_Ar

This table is required for all preliminary or final DFIRM databases.

The S_Pol_Ar table contains information about the Political Areas within the study area. This includes the attributes for the political areas and other areas such as forests, parks, military lands, and Tribal lands. For the National Flood Insurance Program (NFIP), it is important to know the jurisdiction that has land use authority over an area. Political jurisdictions individually agree to participate in the NFIP and availability of insurance, floodplain regulations, and insurance rates may vary by political jurisdiction. The political jurisdiction assigned to each area corresponds to the jurisdiction responsible for NFIP and floodplain management for that area. A spatial file with locational information also corresponds with this data table.

The spatial entities representing political areas are polygons.

This is a Standard DFIRM Database table.

The S_Pol_Ar table contains the following elements.

POL_AR_ID	R S	Primary key for table lookup. Assigned by table creator.
POL_NAME1	R S	Political Area Name 1. This is the primary name of the area shown. For areas that have more than one name, this would be the primary name with subsequent names shown in fields below. This would correspond to the official name of this jurisdiction used by the Federal Emergency Management Agency (FEMA) within the NFIP. For unincorporated areas of a county, this must be the county name (e.g., Montgomery County).
POL_NAME2	A S	Political Area Name 2. This is the secondary name of the area shown. Populated if there is a common name for an area other than the official jurisdiction name.
CO_FIPS	R S	County Federal Information Processing Standard (FIPS) Code. This is the three-digit county FIPS code. This is a standard numbering system that is used by the Federal government. Defined in FIPS Pub 6-4.
ST_FIPS	R S	State FIPS. This is the two-digit code that corresponds to the state FIPS code. This is a standard numbering system that is used by the Federal government. Defined in FIPS Pub 6-4. These two numbers correspond to the first two digits of the panel number.
COMM_NO	R S	Community Number. This is the four-digit number assigned by FEMA to each community for tracking purposes under the NFIP. On newer Flood Insurance Rate Maps (FIRMs) the state FIPS and the community number appear below the community name where it

is shown in the body of the map. For single jurisdiction FIRMs, this is the 3^d through the 6th digits of the panel number. This number can be obtained from the community status book that can be viewed at www.fema.gov/msc. Areas under Federal jurisdiction such as National Parks, National Forests, military bases, etc. do not have community numbers assigned by FEMA. These areas should have a value of FED in the COMM_NO field. Areas under state jurisdiction such as state parks and wildlife reservations should have a value of ST in the COMM_NO field. For any other jurisdictions where local community does not have the authority to administer the NFIP and FEMA does not assign a community number, the COMM_NO field should contain OTHR.

- CID R S Community Identification Number. This is the six-digit community number assigned by FEMA. It is created by combining the state FIPS code with the COMM_NO. If the jurisdiction does not have a community number assigned by FEMA, the CID is created by combining the state FIPS code with the abbreviation contained in the COMM_NO field (FED, ST, or OTHR).
- ANI_TF R S Area Not Included. This field contains information about the geographical area to determine if it is included in the FIRM or not. Areas Not Included fall within the extent of the FIRM, but no flood risk information is shown on this map. This is either because the area is mapped on another FEMA map or because the area is not mapped at all by FEMA. Enter “T” for true or “F” for false.
- COM_NFO_ID A S Community Information Identification. This attribute links to the table L_Comm_Info that contains information about the specific community. This table must contain a number that matches a corresponding number in the COM_NFO_ID field of the L_Comm_Info. This field is populated for any jurisdiction that has a CID number issued by FEMA.

Table: S_Pol_Ar

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
POL_AR_ID	R	S	text	11					string	11		character	11	11		character	11	
POL_NAME1	R	S	text	50					string	50		character	50	50		character	50	
POL_NAME2	A	S	text	50					string	50		character	50	50		character	50	
CO_FIPS	R	S	text	3					string	3		character	3	3		character	3	
ST_FIPS	R	S	text	2					string	2		character	2	2		character	2	
COMM_NO	R	S	text	4					string	4		character	4	4		character	4	
CID	R	S	text	6					string	6		character	6	6		character	6	
ANI_TF	R	S	text	1					string	1		character	1	1		character	1	
COM_NFO_ID	A	S	text	11					string	11		character	11	11		character	11	

Table: S_Pol_Ln

This table is required for all preliminary or final DFIRM databases.

The S_Pol_Ln table contains information about the boundaries of Political Areas within the study area. This would include the attributes for the political areas and other areas such as forests, parks, military lands, and Native American lands. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the boundaries of the political jurisdictions depicted on the Flood Insurance Rate Map (FIRM) are lines.

This is a Standard DFIRM Database table.

The S_Pol_Ln table contains the following elements.

POL_LN_ID	R S	Primary key for table lookup. Assigned by table creator.
LN_TYP	R S	Line Type. This describes the jurisdictional boundary and can be used to indicate how the feature must be depicted on the hardcopy FIRM. Acceptable values for this field are listed in the D_Ln_Typ table.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Pol_Ln table.

Table: S_Pol_Ln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
POL_LN_ID	R	S	text	11					string	11		character	11	11		character	11	
LN_TYP	R	S	text	45					string	45		character	45	45		character	45	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_Precip_Gage

This table is required when rain gages are used in developing the hydrologic analysis. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the precipitation gages are points.

This is an Enhanced DFIRM Database table.

The S_Precip_Gage table contains the following elements.

PRECIP_ID	R E	Primary key for this table. Assigned by table creator.
GAGE_ID	R E	Rain Gage Identification Number. The ID for the rain gage. Assigned by agency maintaining gage.
AGENCY	R E	Agency. Name of agency maintaining gage.
CASE_NO	R E	FEMA Case Number. The case number for the rain gage links to the L_Case_Info table.
GAGE_TYPE	R E	Rain Gage Type. This attribute establishes gage type. Values include tipping, instantaneous, and fixed interval. Acceptable values for this field are listed in the D_Gage table.
REC_INTVL	A E	Recording Interval. This field is populated only if the rain gage is a fixed-interval gage.
TIME_UNIT	A E	Recording Interval Time Unit. This attribute establishes the unit of measure of the recording interval. This field is populated only if the rain gage is a fixed-interval gage. Acceptable values for this field are listed in the D_Time_Units table.
START_PD	R E	Start Period. This value is the start of the earliest period of record used in the gage analysis.
END_PD	R E	End Date. This value is the end of the latest period of record used in the gage analysis.
SOURCE_CIT	R E	Source Citation. Abbreviation used in the metadata file when describing the source information for S_Precip_Gage.

Table: S_Precip_Gage

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo		
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
PRECIP_ID	R	E	text	11				string	11		character	11	11		character	11	
GAGE_ID	R	E	text	25				string	25		character	25	25		character	25	
AGENCY	R	E	text	150				string	150		character	150	150		character	150	
CASE_NO	R	E	text	12				string	12		character	12	12		character	12	
GAGE_TYPE	R	E	text	40				string	40		character	40	40		character	40	
REC_INTVL	A	E	text	11				string	11		character	11	11		character	11	
TIME_UNIT	A	E	text	20				string	20		character	20	20		character	20	
START_PD	R	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
END_PD	R	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
SOURCE_CIT	R	E	text	11				string	11		character	11	11		character	11	

Table: S_Profil_Basln

This table is required for a detailed study when hydrologic and hydraulic models have been developed for reaches of streams. The results of the models are shown on the FIRM. The profile baseline and/or stream centerline may or may not be shown on the FIRM.

The S_Profil_Basln table contains information about profile baseline and stream centerline features for the study area. A spatial file with locational information also corresponds with this data table. The spatial elements representing the profile baseline and stream centerline are lines.

This is an Enhanced DFIRM Database table.

The S_Profil_Basln table contains the following elements.

BASELN_ID	R E	Primary key for table lookup. Assigned by table creator.
WTR_NM	R E	Surface Water Feature Name. This is the formal name of the surface water feature as it will appear on the hardcopy FIRM.
WATER_TYP	R E	Surface Water Feature Type. The type value describes the kind of watercourse represented. Valid entries include items such as stream/river, channel, and shoreline/coastline. Acceptable values for this field are listed in the D_Water_Typ table.
UP_NODE	A E	Upstream Node. This is the node ID at the upstream end of the reach. This ID field must contain a number that matches the NODE_ID field in the S_Nodes table, which documents points used to define the topology of the hydrologic network. This field is only populated when WATER_TYP's value equals "PROFILE BASELINE" or "PROFILE BASELINE AND STREAM CENTERLINE".
DN_NODE	A E	Downstream Node. This is the node ID at the downstream end of the reach. This ID field must contain a number that matches the NODE_ID field for a record in the S_Nodes table, which documents points used to define the topology of the hydrologic network. This field is only populated when WATER_TYP's value equals "PROFILE BASELINE" or "PROFILE BASELINE AND STREAM CENTERLINE".
ROUTE_METH	A E	Hydrologic Routing Method. This is the hydrologic routing method used for the reach. This field is only populated if hydrologic routing is used for the reach.
SHOWN_FIRM	R E	Profile Baseline Shown on FIRM. This field is true only if the centerline is shown on the FIRM. Enter "T" for true or "F" for false.

SOURCE_CIT R E Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Profil_Basln.

Table: S_Profil_BasIn

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
BASELN_ID	R	E	text	11					string	11		character	11	11		character	11	
WTR_NM	R	E	text	100					string	100		character	100	100		character	100	
WATER_TYP	R	E	text	40					string	40		character	40	40		character	40	
UP_NODE	A	E	text	11					string	11		character	11	11		character	11	
DN_NODE	A	E	text	11					string	11		character	11	11		character	11	
ROUTE_METH	A	E	text	254					string	254		character	254	254		character	254	
SHOWN_FIRM	R	E	text	1					string	1		character	1	1		character	1	
SOURCE_CIT	R	E	text	11					string	11		character	11	11		character	11	

Table: S_Quad_Index

This table is required for all preliminary or final DFIRM databases.

The S_Quad_Index table contains information about the US Geological Survey (USGS) 7.5-Minute Series Topographic Quadrangle maps that cover the study area. While USGS quadrangles do not meet the Federal Emergency Management (FEMA) digital base map standards, they are often useful as a supplementary reference source. The quadrangle information is provided as a convenience to users who may want to cross-reference this map series. A spatial file with locational information also corresponds with this data table.

The spatial entities representing the USGS quadrangles are polygons. Each polygon corresponds to the neatline of a USGS map.

This is a Standard DFIRM Database table.

The S_Quad_Index table contains the following elements.

QUAD_ID	R S	Primary key for table lookup. Assigned by table creator.
QUAD_NO	R S	Quad Number. This is the eight-digit USGS alphanumeric quadrangle identifier. The list of values for each state is published by USGS in the State Indexes to Topographic and Other Map Coverage. This item is composed of three components: the latitude, rounded down to the nearest whole degree, of the 7.5-minute quadrangle map sheet; the longitude, rounded down to the nearest whole degree, of the 7.5-minute quadrangle map sheet; and the alphanumeric map sheet identifier used by USGS (i.e., A1 through H8).
QUAD_NM	R S	Quad Name. This is the name of the quadrangle that is assigned by USGS.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for S_Quad_Index table.

Table: S_Quad_Index

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
QUAD_ID	R	S	text	11					string	11		character	11	11		character	11	
QUAD_NO	R	S	text	8					string	8		character	8	8		character	8	
QUAD_NM	R	S	text	50					string	50		character	50	50		character	50	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_Riv_Mrk

This table is required if the Flood Insurance Rate Map (FIRM) shows river distance marks.

The S_Riv_Mrk table contains information about the River Marks shown on the hardcopy FIRM if applicable. A spatial file with locational information also corresponds with this data table.

The spatial entities representing the river marks are points. The points are generally located along side of the river at regular intervals.

This is a Standard DFIRM Database table.

The S_Riv_Mrk table contains the following elements.

RIV_MRK_ID	R S	Primary key for table lookup. Assigned by table creator.
START_ID	R S	Start Identification. A code that provides a link to a point in the L_Stn_Start table at which the river mark distances start.
RIV_MRK_NO	R S	River Mark Number. This attribute usually represents the distance from a known point (identified by START_ID), such as the confluence with another river, to the current river mark. This is the value shown next to the river mark on the FIRM.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Riv_Mrk table.

Table: S_Riv_Mrk

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
RIV_MRK_ID	R	S	text	11					string	11		character	11	11		character	11	
START_ID	R	S	text	11					string	11		character	11	11		character	11	
RIV_MRK_NO	R	S	text	6					string	6		character	6	6		character	6	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_Shore_Ln

This table is required for coastal modeling studies.

The S_Shore_Ln table contains information about the shoreline used in the coastal flood hazard model. Typically, the S_Shore_Ln represents to 0.0-foot elevation contour. The S_Shore_Ln shoreline may not be shown on the FIRM but must be archived for informational purposes. The mapped shoreline is stored in the S_Wtr_Ln table of the standard DFIRM database. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the shorelines are lines.

This is an Enhanced DFIRM Database table.

The S_Shore_Ln table contains the following elements.

SHR_LN_ID	R E	Primary key for table lookup. Assigned by table creator.
SHRLN_TYP	R E	Shoreline Type. This value describes the criteria used in determining the shoreline in coastal flood hazard models. Acceptable values for this table are listed in the D_Shr_Typ table.
V_DATUM	R E	Vertical Datum. This is the vertical datum of the printed FIRM. The vertical datum describes the reference surface from which elevation on the map is measured. Normally this would be North American Vertical Datum of 1988 for new studies. Acceptable values for this field are listed in the D_V_Datum table.
SOURCE_CIT	R E	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Shore_Ln table.

Table: S_Shore_Ln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
SHR_LN_ID	R	E	text	11					string	11		character	11	11		character	11	
SHRLN_TYP	R	E	text	30					string	30		character	30	30		character	30	
V_DATUM	R	E	text	6					string	6		character	6	6		character	6	
SOURCE_CIT	R	E	text	11					string	11		character	11	11		character	11	

Table: S_Stn_Start

This table is required when the geographic location of station start points exist.

The S_Stn_Start contains information about station points. These points indicate the reference point that was used as the origin for distance measurements along streams and rivers. This table links to descriptive information in the L_Stn_Start table. A spatial file with locational information also corresponds with this data table.

The spatial entity representing station starting locations are points. The point should be located on the stream centerline at the place where the measurements begin. This point may be outside the jurisdiction mapped in some cases. The location of the stationing start for a group of cross sections is normally referenced as a note on the floodway data table and on the flood profiles. Generally, all the cross sections for a particular reach are reference to the same starting point.

This is an Enhanced DFIRM Database table.

The S_Stn_Start table contains the following elements.

STRT_PT_ID	R	E	Primary key for this table. Assigned by table creator.
START_ID	R	E	Start Identification. This is a link to the station start lookup table. The station start describes the origin for the measurements in the STREAM_STN field. This field must contain a number that links to a unique value in the START_ID field in the L_Stn_Start table.
SOURCE_CIT	R	E	Source Citation. Abbreviation used in the metadata file when describing the source information for S_Stn_Start.

Table: S_Stn_Start

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
STRT_PT_ID	R	E	text	11				string	11		character	11	11		character	11	
START_ID	R	E	text	11				string	11		character	11	11		character	11	
SOURCE_CIT	R	E	text	11				string	11		character	11	11		character	11	

Table: S_Subbasins

This table is required for all studies with new or revised hydrologic data.

The S_Subbasins table contains data specific to each subbasin in the hydrologic analysis, including the subbasin's relationship to the hydrologic network. The subbasin may be the subbasin specific to a detailed hydrologic model. It may also correspond to the drainage area used in a regression analysis, or to the drainage area for a stream gage. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the subbasins are polygons. In some cases the extent of these polygons may overlap, for example, cumulative subbasin areas for a regression analysis.

This is an Enhanced DFIRM Database table.

The S_Subbasins table contains the following elements.

SUBBAS_ID	R	E	Primary key for this table. Assigned by table creator.
SUBBAS_NM	R	E	Name of subbasin.
NODE_ID	R	E	Node Identification. A code that provides a link to a valid entry from the S_Nodes table. ID for the load/outflow point (pourpoint) for the subbasin.
SOURCE_CIT	R	E	Source Citation. Abbreviation used in the metadata file when describing the source information for S_Subbasins.

Table: S_Subbasins

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
SUBBAS_ID	R	E	text	11					string	11		character	11	11		character	11	
SUBBAS_NM	R	E	text	254					string	254		character	254	254		character	254	
NODE_ID	R	E	text	11					string	11		character	11	11		character	11	
SOURCE_CIT	R	E	text	11					string	11		character	11	11		character	11	

Table: S_Trnsport_Ln

This table or an equivalent that is fully documented is required for all Digital Flood Insurance Rate Map databases that use a vector rather than raster base map data.

The S_Trnsport_Ln table contains information about the linear base map transportation features such as roads, railroads, and airports. A spatial file with locational information also corresponds with this data table.

The spatial entities representing linear transportation features are normally lines. However, if the available transportation data depict roads as polygons, polygon representation is acceptable. In general, the transportation table structure is fairly flexible depending on the format of the data available for the map. The Federal Emergency Agency's (FEMA's) objective is to have spatially accurate base map data to which the flood hazard information is referenced. Users must be able to identify the names of roads, railroads and other major features in or near the special flood hazard area. If these objectives are met, then almost any file structure is acceptable. Road centerlines or edge of pavement files are both acceptable, provided that they meet the FEMA base map standard. With some data structures, it may not be practical to assign feature names or other attributes to each spatial entity. While these attributes are desirable, FEMA recognizes that they may not always be easily available. This is acceptable because the S_Label_Pt and S_Label_Ld tables will identify the names of all of the important features in or near the SFHA.

This is a Standard DFIRM Database table.

The S_Trnsport_Ln table contains the following elements.

TRANS_ID	R S	Primary key for table lookup. Assigned by table creator.
TRANS_TYP	R S	Transportation Feature Type. These line types indicate how the feature must be depicted on the hardcopy Flood Insurance Rate Map. Acceptable values for this field are listed in the D_Trans_Typ table.
RD_STAT	R S	Road Status. Acceptable values for this field are listed in the D_Rd_Stat table.
PREFIX	A S	Prefix of the Feature Name. Not all features will have an entry in this attribute. Valid entries might include N for a transportation feature named N Main Street.
FEAT_NM1	R S	Feature Name 1. This is the primary name of the feature. For areas that have more than one name, this would be the primary name with subsequent names shown in fields below. Route numbers and "Intercoastal Waterway" would also be included in this item.

NM_TYP	R S	Name Type. Transportation feature name type. Valid entries include items such as road, street, or avenue. Acceptable values for this field are listed in the D_Nm_Typ table.
SUFFIX	A S	Suffix of the Feature Name. Not all features will have an entry in this attribute. Valid entries might include NW for a transportation feature named Main Street NW.
FEAT_NM2	A S	Feature Name 2. This is the secondary name of the feature.
FEAT_NM3	A S	Feature Name 3. This is the tertiary name of the feature.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Trnsport_Ln table.

Table: S_Trnsport_Ln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
TRANS_ID	R	S	text	11					string	11		character	11	11		character	11	
TRANS_TYP	R	S	text	50					string	50		character	50	50		character	50	
RD_STAT	R	S	text	20					string	20		character	20	20		character	20	
PREFIX	A	S	text	50					string	50		character	50	50		character	50	
FEAT_NM1	R	S	text	100					string	100		character	100	100		character	100	
NM_TYP	R	S	text	20					string	20		character	20	20		character	20	
SUFFIX	A	S	text	50					string	50		character	50	50		character	50	
FEAT_NM2	A	S	text	100					string	100		character	100	100		character	100	
FEAT_NM3	A	S	text	100					string	100		character	100	100		character	100	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_Water_Gage

This table is required when non-rain gages are used in developing the hydrologic analysis. A spatial file with locational information also corresponds with this data table.

The spatial elements representing the water gages are points.

This is an Enhanced DFIRM Database table.

The S_Water_Gage table contains the following elements.

GAG_WTR_ID	R	E	Primary key for this table. Assigned by table creator.
GAGE_ID	R	E	Gage Identification. Assigned by the agency maintaining the gage.
AGENCY	R	E	Agency. Name of the agency maintaining the gage.
GAGE_TYPE	R	E	Gage Type. This attribute establishes the gage type. Values include flow, stage, wind direction, wind speed, wave, and tide. Acceptables values for this table are listed in the D_Gage table.
REC_INTVL	R	E	Recording Interval. Recording interval for the gage.
TIME_UNIT	R	E	Recording Interval Time Unit. This attribute establishes the unit of measure of the recording interval. Acceptable values for this table are listed in the D_Time_Units table.
CASE_NO	R	E	FEMA Case Number. The case number for the water gage links to the L_Case_Info table.
START_PD	R	E	Start Period. This value is the start of the earliest period of record used in the gage analysis.
END_PD	R	E	End Period. This value is the end of the latest period of record used in the gage analysis.
SOURCE_CIT	R	E	Source Citation. Abbreviation used in the metadata file when describing the source information for S_Water_Gage.

Table: S_Water_Gage

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo		
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
GAG_WTR_ID	R	E	text	11				string	11		character	11	11		character	11	
GAGE_ID	R	E	text	25				string	25		character	25	25		character	25	
AGENCY	R	E	text	150				string	150		character	150	150		character	150	
GAGE_TYPE	R	E	text	40				string	40		character	40	40		character	40	
REC_INTVL	R	E	text	11				string	11		character	11	11		character	11	
TIME_UNIT	R	E	text	20				string	20		character	20	20		character	20	
CASE_NO	R	E	text	12				string	12		character	12	12		character	12	
START_PD	R	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
END_PD	R	E	date/time	8		yyyymmdd	00/00/0000	date	11		date	8	10		date	11	
SOURCE_CIT	R	E	text	11				string	11		character	11	11		character	11	

Table: S_Wtr_Ar

This table is required for any Digital Flood Insurance Rate Map (DFIRM) database where vector surface water features are shown on the Flood Insurance Rate Map (FIRM) and some of these features are represented as polygons in the spatial data. Vector streams must always be shown with a vector base map. They may also be shown on raster base maps.

The S_Wtr_Ar table contains information about surface water area features. A spatial file with locational information also corresponds with this data table.

The spatial elements representing surface water area features are polygons. Normally lakes, ponds and streams wide enough to show both channel banks will be represented as polygons. However, the main purpose of the S_Wtr_Ar table and the S_Wtr_Ln table are to provide a cartographic depiction of the surface water features for visual interpretation of the mapping data. As a result, the method for structuring surface water features as lines or polygons is very flexible. Surface water features may appear in either the S_Wtr_Ar table or the S_Wtr_Ln table or both. However, features that appear in both must match exactly. The hydrologic structure of the stream network will be represented by tables in the Enhanced DFIRM Database.

In general, the surface water table structure is fairly flexible depending on the format of the data available for the map. The Federal Emergency Management Agency's (FEMA's) objective is to have spatially accurate surface water feature data to which the flood hazard information is referenced. Users must be able to identify the names of flooding sources and other important surface water features. If these objectives are met, then almost any file structure is acceptable. Streams, rivers and lakes may be represented as either polygons or lines. With some data structures, it may not be practical to assign feature names or other attributes to each spatial entity. While these attributes are desirable, FEMA recognizes that they may not always be easily available. This is acceptable because the S_Label_Pt and S_Label_Ld tables will identify the names of flooding sources and other important surface water features.

This is a Standard DFIRM Database table.

The S_Wtr_Ar table contains the following elements.

WTR_AR_ID	R	S	Primary key for table lookup. Assigned by table creator.
WATER_TYP	R	S	Surface Water Feature Type. This type value describes the classification of the surface water feature. Valid entries include items such as lake, retention pond, and reservoir. Acceptable values for this field are listed in the D_Water_Typ table.
WTR_NM	R	S	Surface Water Feature Name. This is the formal name of the surface water feature, as it will appear on the hardcopy FIRM.
SOURCE_CIT	R	S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Wtr_Ar table.

Table: S_Wtr_Ar

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
WTR_AR_ID	R	S	text	11					string	11		character	11	11		character	11	
WATER_TYP	R	S	text	40					string	40		character	40	40		character	40	
WTR_NM	R	S	text	100					string	100		character	100	100		character	100	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_Wtr_Ln

This table is required for any Digital Flood Insurance Rate Map (DFIRM) database where vector surface water features are shown on the Flood Insurance Rate Map (FIRM) and some of these features are represented as lines in the spatial data. Vector streams must always be shown with a vector base map. They may also be shown on raster base maps.

The S_Wtr_Ln table contains information about surface water linear features. A spatial file with locational information also corresponds with this data table.

The spatial elements representing surface water line features are lines. Normally stream centerlines will be represented as line features. However, the main purpose of the S_Wtr_Ar table and the S_Wtr_Ln table is to provide a cartographic depiction of the surface water features for visual interpretation of the mapping data. As a result, the method for structuring surface water features as lines or polygons is very flexible. Lake shorelines and stream channel banks used to show lakes and wide rivers are usually represented as polygons. However, they may be represented as lines based on the structure of the data received and the Mapping Partner's discretion. Surface water features may appear in either the S_Wtr_Ar table or the S_Wtr_Ln table or both. However, features that appear in both must match exactly. The hydrologic structure of the stream network will be represented by tables in the Enhanced DFIRM Database.

In general, the surface water table structure is fairly flexible depending on the format of the data available for the map. The Federal Emergency Management Agency's (FEMA's) objective is to have spatially accurate surface water feature data to which the flood hazard information is referenced. Users must be able to identify the names flooding sources and other important surface water features. If these objectives are met, then most any file structure is acceptable. Streams, rivers and lakes may be represented as polygons or lines. With some data structures, it may not be practical to assign feature names or other attributes to each spatial entity. While these attributes are desirable, FEMA recognizes that they may not always be easily available. This is acceptable because the S_Label_Pt and S_Label_Ld tables will identify the names of flooding sources and other important surface water features.

This is a Standard DFIRM Database table.

The S_Wtr_Ln table contains the following elements.

WTR_LN_ID	R S	Primary key for table lookup. Assigned by table creator.
WATER_TYP	R S	Surface Water Feature Type. The type value describes the kind of watercourse represented. Valid entries include items such as stream/river, channel, and shoreline/coastline. Acceptable values for this field are listed in the D_Water_Typ table.
CHAN_REP	R S	Channel Representation. Single means linear water features represented by a centerline. Double means linear water features represented by shorelines or channel banks. Acceptable values for this field are listed in the D_Chn_Rep table.

WTR_NM	R S	Surface Water Feature Name. This is the formal name of the surface water feature, as it will appear on the hardcopy FIRM.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_Wtr_Ln table.

Table: S_Wtr_Ln

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
WTR_LN_ID	R	S	text	11					string	11		character	11	11		character	11	
WATER_TYP	R	S	text	40					string	40		character	40	40		character	40	
CHAN_REP	R	S	text	20					string	20		character	20	20		character	20	
WTR_NM	R	S	text	100					string	100		character	100	100		character	100	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	

Table: S_XS

This table is required for any Digital Flood Insurance Rate Map database where cross sections are shown on the Flood Insurance Rate Map (FIRM). Normally any FIRM that has associated flood profiles has cross sections.

The S_XS table contains information about cross section lines. A spatial file with locational information also corresponds with this data table. These lines represent the locations of channel surveys performed for input into the hydraulic model used to calculate flood elevations. These locations are also shown on the Flood Profiles in the Flood Insurance Study (FIS) report and can be used to cross reference the Flood Profiles to the planimetric depiction of the flood hazard. All cross sections for which a spatial location is available should be included in this table.

The spatial elements representing cross sections are lines generally extending from outside the floodplain, across the entire floodplain and out the other side. Each cross section should be represented by a single line feature without the hexagons shown on each end on the hardcopy map. The location and shape of the lines should depict as accurately as possible the position of the cross section used.

This is a modified Standard DFIRM Database table that includes Standard DFIRM Database items and Enhanced Database items. All items after SOURCE_CIT are Enhanced. The Enhanced DFIRM Database must contain all modeled cross sections, whether they are printed on the FIRM or not.

The S_XS table contains the following elements.

XS_LN_ID	R S	Primary key for table lookup. Assigned by table creator.
XS_LTR	A S	Cross-Section Letter. The letter or number that is assigned to the cross section on the hardcopy FIRM and in the FIS report. This attribute is blank if the cross section is not shown on the FIRM. For a digital conversion, only cross sections that are shown on the FIRM will be available.
START_ID	R S	Start Identification. This is a link to the station start lookup table. The station start describes the origin for the measurements in the STREAM_STN field. This field should contain a number that links to a unique value in the START_ID field in the L_Stn_Start table.
STREAM_STN	R S	Stream Station. This is the measurement along the stream to the cross-section location. Normally this information is available in the Floodway Data table in the FIS report. When no Floodway Data table is published, this value can be read from the horizontal scale of the flood profile. The units are clarified in the description in the START_DESC field in the L_Stn_Start table.

XS_LN_TYP	R S	Cross-Section Line Type. This attribute should contain 'LETTERED' for cross sections that are shown on the hardcopy FIRM. If the cross section will not be shown on the hardcopy FIRM, this attribute should contain 'NOT LETTERED' to indicate that the cross section is part of the backup data for the study, but is not shown on the FIRM.
WTR_NM	R S	Surface Water Feature Name. This is the formal name of the surface water feature, as it will appear on the hardcopy FIRM.
WSEL_REG	R S	Regulatory Water-Surface Elevation for the 1-Percent-Annual-Chance Flood Event. This is the precise water surface elevation of the base flood calculated at this cross section. This elevation exactly matches the elevation of the base flood in the Flood Profiles and the Floodway Data table. This number is determined during the engineering analysis for the study. This value should match the regulatory column in the Floodway Data table in the FIS report or the elevation from the corresponding flood profile if no Floodway Data table is published.
LEN_UNIT	R S	Water Surface Elevation Units. This unit indicates the measurement system used for the water surface elevation. Normally this would be feet. Acceptable values for this field are listed in the D_Length_Units table.
V_DATUM	R S	Vertical Datum. The vertical datum indicates the reference surface from which the flood elevations are measured. Normally this would be North American Vertical Datum of 1988 for new studies. Acceptable values for this field are listed in the D_V_Datum table.
SOURCE_CIT	R S	Source Citation. Abbreviation used in the metadata file when describing the source information for the S_XS table. Table:
BED_ELEV	R E	Streambed Elevation. The elevation of the streambed at this cross section as shown on the Flood Profile in the FIS.
TOP_WIDTH	R E	Top Width. Width of the floodway at this cross section as shown in the Floodway Data table in the FIS.
XS_AREA	R E	Cross Section Area. Area of the cross section underwater for the width of the floodway as shown in the Floodway Data table in the FIS.
AREA_UNIT	R E	Area Unit. This unit specifies the areal unit for the area of the cross section underwater for the width of the floodway. Acceptable values for this field are listed in the D_Area_Units table.

VELOCITY	R E	Mean Velocity. The mean velocity of the floodway at this cross section as shown in the Floodway Data table in the FIS.
VEL_UNIT	R E	Velocity Measurement. This unit specifies the unit of measurement for the velocity of the floodway. Acceptable values for this field are listed in the D_Velocity_Units table.

Table: S_XS

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
XS_LN_ID	R	S	text	11					string	11		character	11	11		character	11	
XS_LTR	A	S	text	12					string	12		character	12	12		character	12	
START_ID	R	S	text	11					string	11		character	11	11		character	11	
STREAM_STN	R	S	text	12					string	12		character	12	12		character	12	
XS_LN_TYP	R	S	text	20					string	20		character	20	20		character	20	
WTR_NM	R	S	text	100					string	100		character	100	100		character	100	
WSEL_REG	R	S	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
LEN_UNIT	R	S	text	20					string	20		character	20	20		character	20	
V_DATUM	R	S	text	6					string	6		character	6	6		character	6	
SOURCE_CIT	R	S	text	11					string	11		character	11	11		character	11	
BED_ELEV	R	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
TOP_WIDTH	R	E	number	8	2				number	13	2	numeric	8	13	2	decimal	15	2

			(double)														
XS_AREA	R	E	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
AREA_UNIT	R	E	text	20				string	20		character	20	20		character	20	
VELOCITY	R	E	number (double)	8	2			number	13	2	numeric	8	13	2	decimal	15	2
VEL_UNIT	R	E	text	20				string	20		character	20	20		character	20	

Table: Study_Info

This table is required for all draft Digital Flood Insurance Rate Map data.

The Study_Info table contains details about the study such as the study name, datum, projection, etc. There is normally only one record in this table for each Flood Insurance Rate Map (FIRM).

This is a modified Standard DFIRM Database table that includes Standard DFIRM Database items and Enhanced Database items. The item STUDY_ZIP is Enhanced.

The Study_Info table contains the following elements.

STD_NFO_ID	R S	Primary key for table lookup. Assigned by table creator.
STUDY_PRE	A S	Study Prefix. This is the prefix of the study name such as 'City of' or 'Town of'. This field is applicable for single jurisdiction maps where the type of jurisdiction precedes the name of the jurisdiction in the map title. For county-wide maps or maps of the unincorporated portions of a county, this field is NULL.
STUDY_NM	R S	Study Name. This attribute contains the main portion of the study name, which is shown in the title block of the hardcopy FIRM. For county-wide FIRMs, or FIRMs for the unincorporated portions of counties, the name should include the county or county equivalent descriptor (e.g. Washington County or Iberia Parish).
STATE_NM	R S	State Name. This attribute contains the state name for the study and is shown in the title block of the hardcopy FIRM.
CNTY_NM	R S	County Name. This is the county (or county equivalent) name that the study falls within. The name should include the county or county equivalent descriptor (e.g. Washington County or Iberia Parish). The county name is also shown in the title block section of the hardcopy FIRM.
JURIS_TYP	A S	Political Jurisdiction Type. This attribute contains entries such as 'Unincorporated Areas' or 'All Jurisdictions' or 'and Incorporated Areas'. This field is applicable when the type of map is 'Unincorporated Areas' or 'All Jurisdictions' or 'and Incorporated Areas'. For a single jurisdiction map, this field is NULL. If there are data in this attribute, it is also shown in the title block section of the hardcopy FIRM.
LG_PAN_NO	R S	Largest Panel Number. This is the highest panel number shown on the FIRM Index for the area mapped. This number is shown in the title block section of the hardcopy FIRM.

OPP_TF	R S	Only Panel Printed. This field is True only if the study has only one printed panel. Enter “T” for true or “F” for false.
H_DATUM	R S	Horizontal Datum. Valid entries for this attribute include North American Datum of 1927 or North American Datum of 1983 (NAD83). This is the horizontal datum used for the printed FIRM. The horizontal datum describes the reference system on which the horizontal coordinate information shown on the FIRM is based. NAD83 is the preferred horizontal datum.
V_DATUM	R S	Vertical Datum. This is the vertical datum of the printed FIRM. The vertical datum describes the reference surface from which elevation on the map is measured. Normally this would be North American Vertical Datum of 1988 for new studies. Acceptable values for this field are listed in the D_V_Datum table.
PROJECTION	R S	Map Projection used for hardcopy FIRM publication. The preferred projection is Universal Transverse Mercator (UTM). If a State Plane coordinate system and associated projection is used, this field should include the name of the projection, the state and the zone (e.g., Lambert Conformal Conic, Virginia North Zone).
PROJ_ZONE	A S	Projection Zone. When using many map projections and coordinate systems, there is a zone associated with the area. This field is populated based on the projection selected for the Final hardcopy map production. Applies if the projection used has a zone parameter such as UTM or state plane. The zone should be stated as the appropriate Federal Information Processing Standard zone or FIPZONE.
CW_TF	R S	Countywide, true/false. This attribute is true if the hardcopy FIRM includes all incorporated areas and any unincorporated areas of the county. Enter “T” for true or “F” for false.
CBRS_PHONE	A S	Coastal Barrier Resources System (CBRS) Phone number. This is the phone number for the contact person/office for the CBRS legislative area. Applies if the FIRM contains CBRS areas. Enter the phone number as a ten-digit numeric string with hyphens in the following format, 000-000-0000.
CBRS_REG	A S	CBRS Coordinator’s region. This attribute contains the Fish and Wildlife Service (FWS) region within which the FIRM is located. Applies if the FIRM contains CBRS areas.
RTROFT_TF	R S	Retrofit, True/False. The Retrofit attribute should be True if older study data is used with updated stream location data. If flood features were adjusted to fit new stream locations due to better base

map information this attribute would be true. Enter “T” for true or “F” for false.

- META_NM R S Metadata File Name. This attribute stores the name of the metadata file. The file should be named <ST_FIPS><PCOMM>_<EFF_DATE>_metadata.txt; where ST_FIPS is the two digit state FIPS code; PCOMM is the four digit community or county identification number; and EFF_DATE is the effective date of the study. If the study is not yet effective, the effective date, <EFF_DATE>, should be replaced with the word “PRELIM”.
- STUDY_ZIP A E Name of the Study Zipfile. This attribute stores the path/filename of the zipped file that contains the FIS report or auxiliary data that is relevant to the entire study.

Table: Study_Info

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
STD_NFO_ID	R	S	text	11					string	11		character	11	11		character	11	
STUDY_PRE	A	S	text	20					string	20		character	20	20		character	20	
STUDY_NM	R	S	text	50					string	50		character	50	50		character	50	
STATE_NM	R	S	text	50					string	50		character	50	50		character	50	
CNTY_NM	R	S	text	50					string	50		character	50	50		character	50	
JURIS_TYP	A	S	text	50					string	50		character	50	50		character	50	
LG_PAN_NO	R	S	text	4					string	4		character	4	4		character	4	
OPP_TF	R	S	text	1					string	1		character	1	1		character	1	
H_DATUM	R	S	text	10					string	10		character	10	10		character	10	
V_DATUM	R	S	text	6					string	6		character	6	6		character	6	
PROJECTION	R	S	text	50					string	50		character	50	50		character	50	
PROJ_ZONE	A	S	text	4					string	4		character	4	4		character	4	
CW_TF	R	S	text	1					string	1		character	1	1		character	1	
CBRS_PHONE	A	S	text	15		000-000-0000	000\-000\-0000		string	15		character	15	15		character	15	

CBRS_REG	A	S	text	1				string	1		character	1	1		character	1
RTROFT_TF	R	S	text	1				string	1		character	1	1		character	1
META_NM	R	S	text	50				string	50		character	50	50		character	50
STUDY_ZIP	A	E	text	254				string	254		character	254	254		character	254

Table: L_Aux_Data

This table is required when the data developer wishes to document additional data sources used in developing the study. The table may be used to document other data sets such as topography, soils, land use, coastal roughness, etc.

This is an Enhanced DFIRM Database table.

The L_Aux_Data table contains the following elements.

DATA_ID	R E	Primary key for this table. Assigned by table creator.
CASE_NO	R E	FEMA Case Number. The case number for the auxiliary data links to the L_Case_Info table.
DATA_DATE	R E	Date the data was prepared (e.g., date of file originally supplied by Mapping Partner).
DATA_TYPE	R E	Description of data set.
ORG_NAME	A E	Organization which generated/supplied the data.
CONTACT	A E	Name of contact person.
TITLE	A E	Title of contact person.
PHONE	A E	Phone number of contact person/organization. Enter the phone number as a ten-digit numeric string with hyphens in the following format, 000-000-0000.
ADDRESS1	A E	Line 1 of mailing address of contact person/organization.
ADDRESS2	A E	Line 2 of mailing address of contact person/organization.
ADDRESS3	A E	Line 3 of mailing address of contact person/organization.
CITY	A E	City of contact person/organization.
STATE	A E	State/Territory/Commonwealth of contact person/organization.
ZIP	A E	Postal ZIP code of contact person/organization.
FILE_NM	R E	Name of accompanying data file.
META_NM	R E	Name of metadata file that describes the accompanying dataset.

Table: L_Aux_Data

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
DATA_ID	R	E	text	11					string	11		character	11	11		character	11	
CASE_NO	R	E	text	12					string	12		character	12	12		character	12	
DATA_DATE	R	E	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
DATA_TYPE	R	E	text	254					string	254		character	254	254		character	254	
ORG_NAME	A	E	text	100					string	100		character	100	100		character	100	
CONTACT	A	E	text	50					string	50		character	50	50		character	50	
TITLE	A	E	text	25					string	25		character	25	25		character	25	
PHONE	A	E	text	15		000-000-0000	000\-000\-0000		string	15		character	15	15		character	15	
ADDRESS1	A	E	text	50					string	50		character	50	50		character	50	
ADDRESS2	A	E	text	50					string	50		character	50	50		character	50	
ADDRESS3	A	E	text	50					string	50		character	50	50		character	50	
CITY	A	E	text	50					string	50		character	50	50		character	50	
STATE	A	E	text	50					string	50		character	50	50		character	50	
ZIP	A	E	text	10					string	10		character	10	10		character	10	

FILE_NM	R	E	text	254				string	25		character	25	25		character	25	
META_NM	R	E	text	50				string	50		character	50	50		character	50	

Table: L_Case_Info

This table is required for all studies with new or revised hydrologic data.

The L_Case_Info table is a lookup table that contains data specific to the study, including FEMA Case information and general hydrologic and/or hydraulic backup information. The fields are populated by the Mapping Partner who creates the database. If a Case Number is not available at the time the table is populated, the Mapping Partner shall use a temporary unique identification number.

This is an Enhanced DFIRM Database table.

The L_Case_Info table contains the following elements.

CASE_NO	R E	Primary key for this table. FEMA Case Number for study. Used to link to archived electronic and hardcopy data, and to link to various hydrologic and hydraulic data tables.
CASE_DESC	R E	General description of the study, for example, the study location and method(s) used.
CASE_ZIP	R E	Name of the Case Zipfile. This attribute stores the file name/pathway of the zipped file that contains engineering support data associated with the Case.
STD_NFO_ID	R E	Study Information Identification. A code that provides a link to a valid entry from the Study_Info table.
EFF_DATE	R E	Effective date of the Case.

Table: L_Case_Info

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
CASE_NO	R	E	text	12					string	12		character	12	12		character	12	
CASE_DESC	R	E	text	254					string	254		character	254	254		character	254	
CASE_ZIP	R	E	text	254					string	254		character	254	254		character	254	
STD_NFO_ID	R	E	text	11					string	11		character	11	11		character	11	
EFF_DATE	R	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		

Table: L_Comm_Info

This table is required for all preliminary or final DFIRM databases.

The L_Comm_Info table is a lookup table that contains community map repository details and map history information that is shown on the Flood Insurance Rate Map (FIRM) legend or index. This table will include any community that has a CID; even if it is considered non-floodprone or non-participating. Communities that do not have a CID issued by FEMA, or are not included within the area of the data submittal, will not appear in this table. The “not populated” values, that are described in sections L.2.5.10 and L.3.5.11, may be used to fill in some of the required fields when necessary. There is normally one record in this table for each community mapped on the FIRM.

This is a Standard DFIRM Database table.

The L_Comm_Info table contains the following elements.

COM_NFO_ID	R	S	Primary key for table lookup that links to the S_Pol_Ar table. Value in this field must match the values COM_NFO_ID field of the S_Pol_Ar table.
REPOS_ADR1	R	S	First line of the mailing or street address for the map repository. The map repository is the office the community has designated as responsible for maintaining copies of all the flood hazard information the Federal Emergency Management Agency (FEMA) publishes for the community. The public may view copies of the current effective information at the map repository. This information is also displayed in the FIRM legend or index. For example, this line might read ‘Division of Community and Economic Development’.
REPOS_ADR2	A	S	Second line of the mailing or street address for the map repository. This information is also displayed in the FIRM legend or index. For example, this line might read ‘226 W. Fourth Street’. This field is applicable if the map repository address requires more than one line.
REPOS_ADR3	A	S	Third line of the mailing or street address for the map repository. This information is also displayed in the FIRM legend or index. For example, this line might read ‘Suite 200’. This field is applicable if address requires additional space.
REPOS_CITY	R	S	City portion of the mailing or street address for the map repository. This information is also displayed in the FIRM legend or index. For example, this line might read ‘Springfield’.

REPOS_ST	R S	State portion of the mailing or street address for the map repository. This information is also displayed in the FIRM legend or index. The full name of the state should be provided. For example, this line might read 'ILLINOIS'.
REPOS_ZIP	R S	ZIP Code portion of the mailing or street address for the map repository. This information is also displayed in the FIRM legend or index. For example, this line might read '62269'.
IN_ID_DAT	R S	Initial identification date for the community as shown on the FIRM legend, index, or Flood Insurance Study (FIS) report. This information can also be obtained from FEMA. See Appendix K of these Guidelines for more detailed information about map dates.
IN_NFIP_DT	R S	Initial date of the first National Flood Insurance Program map published by FEMA for this community. This can be obtained from the FIRM legend, index, or FIS report. This information can also be obtained from FEMA. See Appendix K of these Guidelines for more detailed information about map dates.
IN_FRM_DAT	R S	Initial date FIRM was created. This can be obtained from the FIRM legend, index, or FIS report. This information can also be obtained from FEMA. See Appendix K of these Guidelines for more detailed information about map dates.
RECENT_DAT	A S	Most recent panel date. This can be obtained from the FIRM Index or the FEMA Community Status book at www.fema.gov/msc . This field is only populated for final DFIRM Databases. See Appendix K of these Guidelines for more detailed information about map dates.

Table: L_Comm_Info

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
COM_NFO_ID	R	S	text	11					string	11		character	11	11		character	11	
REPOS_ADR1	R	S	text	50					string	50		character	50	50		character	50	
REPOS_ADR2	A	S	text	50					string	50		character	50	50		character	50	
REPOS_ADR3	A	S	text	50					string	50		character	50	50		character	50	
REPOS_CITY	R	S	text	50					string	50		character	50	50		character	50	
REPOS_ST	R	S	text	50					string	50		character	50	50		character	50	
REPOS_ZIP	R	S	text	9					string	9		character	9	9		character	9	
IN_ID_DAT	R	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
IN_NFIP_DT	R	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
IN_FRM_DAT	R	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
RECENT_DAT	A	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		

Table: L_Cst_Model

This table is completed if coastal engineering analysis was performed. It is required for new coastal studies. It is not required for digital conversions of effective flood hazard information because considerable additional effort may be required to research the applicable models.

The L_Cst_Model table is a lookup table that contains information about the coastal models that were used during the engineering analysis.

This is an Enhanced DFIRM Database table.

The L_Cst_Model table contains the following elements.

CST_MDL_ID	R	E	Primary key for table lookup that links to the S_Cst_Tsct_Ln table. Value in this field should match the values in the CST_MDL_ID field of the S_Cst_Tsct_Ln table.
WTR_NM	R	E	Surface Water Feature Name. This is the formal name of the surface water feature, as it will appear on the hardcopy FIRM.
CASE_NO	R	E	Case Number Identification. This field is populated by a linking element to the L_Case_Info table. The L_Case_Info table contains information about the FEMA case number and includes archived electronic data that are relevant to the case.
SURGE_MDL	R	E	Hurricane Surge Model. This is the name or abbreviation of the Federal Emergency Management Agency (FEMA) approved hurricane surge model that is associated with the coastal engineering analysis. Acceptable values for this field are listed in the D_Surge_Mdl table.
SURGE_DATE	R	E	Hurricane Surge Model Run Date. This is the date the model was run.
SURGE_ZIP	R	E	Filename/path of zip file containing surge model input, surge model output, README.TXT, and any other supporting reports and documentation.
SURGE_EFF	R	E	Surge Effective Date. Effective date of the surge model.
WAVEHT_MDL	A	E	Wave Height Model. This is the name or abbreviation of the FEMA approved wave height model that was used for the coastal engineering analysis. Acceptable values for this field are listed in the the D_Wave_Mdl table.
WAVEHT_DT	A	E	Wave Height Model Run Date. This is the date the model was run.

RUNUP_MDL	A E	Runup Model. This is the name or abbreviation of the FEMA approved wave runup model that was used for the coastal engineering analysis. Acceptable values for this field are listed in the D_Runup_Mdl table.
RUNUP_DATE	A E	Runup Model Run Date. This is the date the wave runup model was run.
SETUP_METH	A E	Wave Setup Methodology. This information should detail the methodology used for determining the wave setup magnitude.
SETUP_DATE	A E	Wave Setup Methodology Date. This is the date the setup methodology was run.
PFD_TF	R E	Have primary frontal dune criteria been applied in the coastal modeling? Enter "T" for true or "F" for false
EROS_TF	A E	Has erosion treatment been applied in the coastal modeling? Enter "T" for true or "F" for false.
WAVE_EFF	A E	Wave Effective Date. Effective date of the wave height and wave runup models.
WAVE_ZIP	A E	File name/path of zip file containing wave height input, wave height output, wave runup input, wave runup output, README.TXT, and any other supporting reports and documentation.

Table: L_Cst_Model

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo		
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
CST_MDL_ID	R	E	text	11				string	11		character	11	11		character	11	
WTR_NM	R	E	text	100				string	100		character	100	100		character	100	
CASE_NO	R	E	text	50				string	50		character	50	50		character	50	
SURGE_MDL	R	E	text	40				string	40		character	40	40		character	40	
SURGE_DATE	R	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
SURGE_ZIP	R	E	text	254				string	254		character	254	254		character	254	
SURGE_EFF	R	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
WAVEHT_MDLA	A	E	text	25				string	25		character	25	25		character	25	
WAVEHT_DT	A	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
RUNUP_MDL	A	E	text	30				string	30		character	30	30		character	30	
RUNUP_DATE	A	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
SETUP_METH	A	E	text	100				string	100		character	100	100		character	100	
SETUP_DATE	A	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date		
PFD_TF	R	E	text	1				string	1		character	1	1		character	1	

EROS_TF	A	E	text	1			string	1		character	1	1		character	1
WAVE_EFF	A	E	date/time	8	yyyymmdd	00/00/0000	date			date	8	10		date	
WAVE_ZIP	A	E	text	254			string	254		character	254	254		character	254

Table: L_Hydra_Model

This table is only completed if detailed hydraulic engineering methods were used. It is required for new studies.

The L_Hydra_Model table is a lookup table that contains detailed information about the hydraulic models used in the engineering analysis for the area.

There should be one record for each distinct model run.

This is an Enhanced DFIRM Database table.

The L_Hydra_Model table contains the following elements.

HYDRA_ID	R S	Hydraulic Model Identification. The primary key for table lookup that links to the L_XS_Ratings table. The value in this field should match the values in the HYDRA_ID field of the L_XS_Ratings table.
HYDRA_MDL	R S	Hydraulic Model. This is the name or abbreviation of the hydraulic model that was used for the engineering analysis. Acceptable values for this field are listed in the D_Hydra table.
HYDRA_DATE	R S	Hydraulic Model Run Date. This is the date that the hydraulic model was run.
CASE_NO	R S	FEMA Case Number. This is the FEMA case number for the study. This ID may be used to link to the L_Case_Info table.
HYDRA_ZIP	R E	Name of the Hydraulic Model Zipfile. This attribute stores the file name/pathway of the zipped file that contains the hydraulic model input and output data and any other auxiliary hydraulic data information.

Table: L_Hydra_Model

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
HYDRA_ID	R	E	text	11					string	11		character	11	11		character	11	
HYDRA_MDL	R	E	text	40					string	40		character	40	40		character	40	
HYDRA_DATE	R	E	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date			
CASE_NO	R	E	text	12					string	12		character	12	12		character	12	
HYDRA_ZIP	R	E	text	254					string	254		character	254	254		character	254	

Table: L_Hydro_Model

This table is required for all studies with new or revised hydrologic data.

The L_Hydro_Model table contains data specific to a particular hydrologic model used in the study.

This is an Enhanced DFIRM Database table.

The L_Hydro_Model table contains the following elements.

HYDRO_ID	R	E	Hydrologic Model Identification. The primary key for table lookup that links to the L_Node_Disch table.
HYDRO_MDL	R	E	Hydrologic Model. This is the name or abbreviation of the hydrologic model that was used for the engineering analysis. Acceptable values for this field are listed in the D_Hydro table.
HYDRO_DATE	R	E	Hydrologic Model Run Date. This is the date that the hydrologic model was run.
CASE_NO	R	E	FEMA Case Number. The case number for the hydrologic model links to the L_Case_Info table.
HYDRO_ZIP	R	E	Name of the Hydrologic Model Zipfile. The file name/pathway of the zipped file containing input & output files for hydrologic analysis and supporting data analyses.

Table: L_Hydro_Model

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
HYDRO_ID	R	E	text	11					string	11		character	11	11		character	11	
HYDRO_MDL	R	E	text	40					string	40		character	40	40		character	40	
HYDRO_DATE	R	E	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
CASE_NO	R	E	text	12					string	12		character	12	12		character	12	
HYDRO_ZIP	R	E	text	254					string	254		character	254	254		character	254	

Table: L_Media

This table is required when digital photographs, sketches, or other media are used to describe spatial objects in the study.

The L_Media table is a lookup table that links archived media to the spatial object represented in the photograph, sketch, or other media.

This is an Enhanced DFIRM Database table.

The L_Media table contains the following elements.

MEDIA_ID	R	E	Primary key for table lookup. Assigned by table creator.
MEDIA_PATH	R	E	The file name/relative path/location of the photograph, sketch, or other media.
OBJ_TABLE	R	E	Object Table. The DFIRM Database table that corresponds to the spatial object that the photograph, sketch, or other media describes.
OBJ_ID	R	E	Object Identification. The DFIRM Database primary key that corresponds to the spatial object that the photograph, sketch, or other media describes. Can be used as Foreign Key to object.
MEDIA_TYPE	R	E	Media Type. This is the type of media used to describe the object (e.g., Photo, Sketch, Video, etc.)
MEDIA_DATE	R	E	Media Date. This is the date on which the photograph, sketch, or other media was created.
DESCRIPTION	R	E	Description of the Object. This is a brief description of the object. It should include relevant directional information (e.g., Downstream face of Third Street bridge, Left bank of Big Creek, Along transect 21 facing offshore).
AZIMUTH	A	E	Azimuth of a line that represents the line of sight from where the photographer was standing to the object. 0 – 360 degrees.

Table: L_Media

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
MEDIA_ID	R	E	text	11					string	11		character	11	11		character	11	
MEDIA_PATH	R	E	text	254					string	254		character	254	254		character	254	
OBJ_TABLE	R	E	text	20					string	20		character	20	20		character	20	
OBJ_ID	R	E	text	11					string	11		character	11	11		character	11	
MEDIA_TYPE	R	E	text	100					string	100		character	100	100		character	100	
MEDIA_DATE	R	E	date/time	8		yyyymmdd	00/00/0000	date				date	8	10		date		
DDESCRIPTION	R	E	text	254					string	254		character	254	254		character	254	
AZIMUTH	A	E	text	100					string	100		character	100	100		character	100	

Table: L_MT1_LOMC

The L_MT1_LOMC table is a lookup table that contains information about Letters of Map Change (LOMC) for the area. LOMCs typically include property descriptions. Frequently, LOMCs are issued to show that specific locations are outside the Special Flood Hazard Areas. Generally, the amount of detail that can be shown on the map does not allow these areas to be shown explicitly on the Flood Insurance Rate Map (FIRM). Instead, this information is communicated in the form of a LOMC. For data published by the Federal Emergency Management Agency (FEMA), this table would only include letters of map amendment and letters of map revision based on fill that have been revalidated following the map revision. Revalidated LOMCs indicate that the information presented in the LOMC continues to be true regardless of the depiction of this area on the FIRM.

For LOMCs that appear on more than one map panel, multiple records will exist with the same case number, but different panel numbers.

This is a Standard DFIRM Database table.

The L_MT1_LOMC table contains the following elements.

LOMC_ID	R	S	Primary key for table lookup. Assigned by table creator.
CASE_NO	R	S	Case Number. This is the case number assigned by FEMA to the LOMC. This must be filled in for reference back to the complete LOMC materials. The case number must be entered without hyphens or other separators.
EFF_DATE	R	S	Effective Date of the LOMC.
FIRM_PAN	R	S	FIRM panel number that the LOMC is on. This field provides a link to the S_FIRM_Pan table. MT1 LOMCs can be matched to a specific FIRM panel by matching this field to the FIRM_PAN field of the S_FIRM_Pan table.
LOMC_STAT	R	S	Status of the LOMC. Valid entries for this field include the following: ‘superseded’ ‘revalidated’ ‘incorporated’ ‘redetermined’

Only revalidated LOMCs are still in effect after a panel has been revised. All others must be superseded, redetermined or

incorporated into the new FIRM. Therefore, a final DFIRM Database will only include revalidated LOMCs.

Table: L_MT1_LOMC

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
LOMC_ID	R	S	text	11					string	11		character	11	11		character	11	
CASE_NO	R	S	text	13					string	13		character	13	13		character	13	
EFF_DATE	R	S	date/time	8		yyyymmdd	00/00/0000	date			date	8	10		date			
FIRM_PAN	R	S	text	11					string	11		character	11	11		character	11	
LOMC_STAT	R	S	text	20					string	20		character	20	20		character	20	

Table: L_Node_Disch

This table is required when hydrologic routing (flow combining) is used in the hydrologic analysis. For nodes whose subbasins are headwaters, this table will contain the same flow information as the subbasin's outflow table.

L_Node_Disch is a lookup table that contains information regarding hydrologic routing.

A node may have none, one, or many links connected to it.

If an existing node is to be moved, it must be renamed.

This is an Enhanced DFIRM Database table.

The L_Node_Disch table contains the following elements.

FLOW_ID	R E	Primary key for this table. Assigned by table creator.
NODE_ID	R E	Node Identification. A code that links to the S_Nodes table.
NODE_TYPE	R E	Node Type. Values include junction (default), reservoir, structure, and diversion. A junction node may have none, one, or many links connected to it. Acceptable values for this field are listed in the D_Nodes table.
HYDRO_ID	R E	Hydrologic Model Identification. Link to the L_Hydro_Model table, which stores information about the hydrologic methods used in the study.
FREQUENCY	R E	Frequency Interval. This attribute stores the return period for the associated discharge. Acceptable values for this field are listed in the D_Frequency table.
DISCHARGE	R E	Discharge. Subbasin discharge/outflow for the above return period.
DISCH_UNIT	R E	Discharge Unit. This attribute stores the unit for the discharge. Acceptable values for this field are listed in the D_Discharge_Units table.

Table: L_Node_Disch

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
FLOW_ID	R	E	text	11					string	11		character	11	11		character	11	
NODE_ID	R	E	text	11					string	11		character	11	11		character	11	
NODE_TYPE	R	E	text	10					string	10		character	10	10		character	10	
HYDRO_ID	R	E	text	11					string	11		character	11	11		character	11	
FREQUENCY	R	E	text	100					string	100		character	100	100		character	100	
DISCHARGE	R	E	text	11					string	11		character	11	11		character	11	
DISCH_UNIT	R	E	text	20					string	20		character	20	20		character	20	

Table: L_Pan_Revis

This table will not apply for an initial Flood Insurance Rate Map (FIRM) or for a FIRM that has a completely new paneling scheme such as a first time countywide FIRM. Otherwise, this table is required for all Preliminary or Final Digital Flood Insurance Rate Map databases.

The L_Pan_Revis table is a lookup table that contains information about historic revisions to each FIRM panel.

For each FIRM panel that is being revised, there must be at least one record. There may also be multiple records for multiple revision dates for a particular panel and there may be multiple records for a single revision date if there are multiple revision notes for that date. Each FIRM panel may have a unique set of revision dates and revision codes. There must be one record for each FIRM_PAN, REVIS_DATE, REVIS_NOTE combination.

This is a Standard DFIRM Database table.

The L_Pan_Revis table contains the following elements.

REVIS_ID	R S	Primary key for table lookup. Assigned by table creator.
FIRM_PAN	R S	FIRM Panel Number. This field links to the S_FIRM_Pan table. This must match a value in the FIRM_PAN field of the S_FIRM_Pan table. This is the complete FIRM panel number, which is made up of ST_FIPS, PCOMM, PANEL, and SUFFIX, which are found in S_FIRM_Pan table. The FIRM panel number is the 11-digit FIRM panel number that is shown in the title block of the map.
REVIS_DATE	R S	Revision Date. Effective date of revision to the FIRM panel. FIRM revision dates can be found in the FIRM legend or the Flood Insurance Study (FIS) report.
REVIS_NOTE	R S	Revision Note. Note describing the reason for the revision to the panel. This is shown under the effective date in the FIRM legend or in the FIS report. A list of standard revision notes appears in Appendix K of these Guidelines.

Table: L_Pan_Revis

Field	R/A	S/E	MS Access					ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
REVIS_ID	R	S	text	11					string	11		character	11	11		character	11	
FIRM_PAN	R	S	text	11					string	11		character	11	11		character	11	
REVIS_DATE	R	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
REVIS_NOTE	R	S	text	254					string	254		character	254	254		character	254	

Table: L_Pol_FHBM

This table will not apply if all communities on the Flood Insurance Rate Map (FIRM) never had revisions to their Flood Hazard Boundary Maps (FHBM). Otherwise, this table is required for all Digital Flood Insurance Rate Map databases.

The L_Pol_FHBM table is a lookup table that contains a list of communities and FHBM revisions.

Each community may have different revision dates. Each revision date may have multiple revision notes.

This is a Standard DFIRM Database table.

The L_Pol_FHBM table contains the following elements.

FHBM_ID	R S	Primary key for table lookup. Assigned by table creator.
CID	R S	Community Identification Number, which links to the S_Pol_Ar table. The value in this field must match a value in the CID field of the S_Pol_Ar table. This is the six-digit community identification number assigned by the Federal Emergency Management Agency (FEMA). It is created by combining the state Federal Information Processing Standard code with the COMM_NO. Only communities which have had a revision to their FHBM will appear in this table.
FHBM_DATE	R S	FHBM revision date.
FHBM_NOTE	R S	FHBM revision note that describes the reason for the revision. FHBM revision notes are shown in the FIRM legend or Flood Insurance Study report. A list of standard revision notes appears in Appendix K of these Guidelines.

Table: L_Poi_FHBM

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
FHBM_ID	R	S	text	11					string	11		character	11	11		character	11	
CID	R	S	text	6					string	6		character	6	6		character	6	
FHBM_DATE	R	S	date/time	8		yyyymmdd	00/00/0000		date			date	8	10		date		
FHBM_NOTE	R	S	text	254					string	254		character	254	254		character	254	

Table: L_Regression

This table is required when regression equations are used in hydrologic analysis.

L_Regression is a lookup table that stores information regarding the regression equations utilized in the hydrologic modeling.

This is an Enhanced DFIRM Database table.

The L_Regression table contains the following elements.

REGR_ID	R E	Primary key for this table. Assigned by table creator.
SUBBAS_ID	R E	Subbasin Identification. A code that provides a link to a valid entry from the S_Subbasins table.
REGR_EQN	R E	Regression Equation. Regression equation used in the analysis. Non-Roman symbols (e.g., Greek) should be spelled out (e.g., Phi).
REGR_RPT	R E	Regression Report. This field stores the name of the report in which the regression equation was published.

Table: L_Regression

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			Type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
REGR_ID	R	E	text	11					string	11		character	11	11		character	11	
SUBBAS_ID	R	E	text	11					string	11		character	11	11		character	11	
REGR_EQN	R	E	text	254					string	254		character	254	254		character	254	
REGR_RPT	R	E	text	254					string	254		character	254	254		character	254	

Table: L_Stn_Start

This table is required for any Digital Flood Insurance Rate Map database that has an S_XS or S_Riv_Mrk table. Because of production limitations, it may be omitted at the direction of the FEMA Project Officer.

The L_Stn_Start table contains information about station starting locations. These locations indicate the reference point that was used as the origin for distance measurements along streams and rivers. This table is referenced by both the S_XS table, which contains stream station information for cross section, and by the S_Riv_Mrk table, which contains river distance marker points. The location of the stationing start for a group of cross sections is normally referenced as a note on the Floodway Data table and on the Flood Profiles. Generally, all of the cross sections for a particular reach are referenced to the same starting point. If multiple reaches are measured from the same point, they may share the same record in L_Stn_Start.

This is a Standard DFIRM Database table.

The L_Stn_Start table contains the following elements.

START_ID	R S	Primary key for table lookup. Assigned by table creator. This field is the link that is used to reference cross section in the S_XS table or river marks in the S_Riv_Mrk table to the appropriate stationing starting point.
START_DESC	R S	Start Description. The description of the location of the station starting point. This should include the measurement units. For example, "Distances are measured in feet upstream from the confluence with the Main Channel of the Big River."

Table: L_Stn_Start

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
START_ID	R	S	text	11					string	11		character	11	11		character	11	
START_DESC	R	S	text	254					string	254		character	254	254		character	254	

Table: L_Storm_Curve

This table is required when precipitation data are used in the hydrologic analysis.

The L_Storm_Curve table accommodates descriptions of Depth-Duration-Frequency (DDF) and Intensity-Duration-Frequency (IDF) relationships, as well as durations of e.g. design storms and precipitation patterns of historical storms.

This is an Enhanced DFIRM Database table.

The L_Storm_Curve table contains the following elements.

CURVE_ID	R	E	Primary key for this table. Assigned by table creator.
STORM_ID	R	E	Storm Identification. A code that provides a link to a valid entry from the L_Storm_Info table.
DURATION	R	E	Duration. Duration of precipitation event. The duration is that of a design or historical storm, or of a point on a DDF or IDF curve.
TIME_UNIT	R	E	Duration Unit. This attribute establishes the unit of measure of the corresponding duration entry. Acceptable values for this field are listed in the D_Time_Units table.
DEPTH	A	E	Precipitation Depth. This field is populated only if entering data for a DDF curve.
LEN_UNIT	A	E	Precipitation Depth Unit. This attribute establishes the unit of measure for precipitation depth. This field is populated only if a precipitation depth is entered. Acceptable values for this field are listed in the D_Length_Units table.
INTENSITY	A	E	Rainfall Intensity. This field is populated only if entering data for an IDF curve.
VEL_UNIT	A	E	Rainfall Intensity Unit. This attribute establishes the unit of measure for precipitation intensity. This field is populated only if a precipitation intensity is entered. Acceptable values for this field are listed in the D_Velocity_Units table.
FREQUENCY	A	E	Frequency Interval. This attribute stores the return period of the associated discharge. Acceptable values for this field are listed in the D_Frequency table.

Table: L_Storm_Curve

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			Type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
CURVE_ID	R	E	text	11					string	11		character	11	11		character	11	
STORM_ID	R	E	text	11					string	11		character	11	11		character	11	
DURATION	R	E	text	11					string	11		character	11	11		character	11	
TIME_UNIT	R	E	text	20					string	20		character	20	20		character	20	
DEPTH	A	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
LEN_UNIT	A	E	text	20					string	20		character	20	20		character	20	
INTENSITY	A	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
VEL_UNIT	A	E	text	20					string	20		character	20	20		character	20	
FREQUENCY	A	E	text	100					string	100		character	100	100		character	100	

Table: L_Storm_Info

This table is required when precipitation distributions are used in the hydrologic analysis.

The L_Storm_Info table is a lookup table that contains basic descriptions of precipitation patterns.

This is an Enhanced DFIRM Database table.

The L_Storm_Info table contains the following elements.

STORM_ID	R	E	Primary key for this table. Assigned by table creator.
STORM_TYPE	R	E	Storm Type. This attribute establishes the storm type. Acceptable values for this field are listed in the D_Storms table.
STORM_DESC	A	E	Storm Description. Brief text description/note for the storm.
SUBBAS_ID	R	E	Subbasin Identification. A code that provides a link to a valid entry from the S_Subbasins table.

Table: L_Storm_Info

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo			
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec
STORM_ID	R	E	text	11				string	11		character	11	11		character	11	
STORM_TYPE	R	E	text	20				string	20		character	20	20		character	20	
STORM_DESCA	R	E	text	254				string	254		character	254	254		character	254	
SUBBAS_ID	R	E	text	11				string	11		character	11	11		character	11	

Table: L_Subbas_Disch

This table is required for all studies with new or revised non-coastal hydrologic data.

The L_Subbas_Disch table is a lookup table that contains outflow data for each subbasin and recurrence interval in the hydrologic analysis. The subbasin outflow data is specific to that subbasin and must not be a cumulative system flow. (System flows, if required, are assigned in L_Node_Disch.)

This is an Enhanced DFIRM Database table.

The L_Subbas_Disch table contains the following elements.

DISCH_ID	R E	Primary key for this table. Assigned by table creator.
SUBBAS_ID	R E	Subbasin Identification. A code that provides a link to a valid entry from the S_Subbasins table.
FREQUENCY	R E	Frequency Interval. This attribute stores the return period for the associated discharge. Acceptable values for this field are listed in the D_Frequency table.
DISCHARGE	R E	Discharge. Subbasin discharge/outflow for the above return period.
DISCH_UNIT	R E	Discharge Unit. This attribute stores the discharge unit value. Acceptable values for this field are listed in the D_Discharge_Units table.

Table: L_Subbas_Disch

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
DISCH_ID	R	E	text	11					string	11		character	11	11		character	11	
SUBBAS_ID	R	E	text	11					string	11		character	11	11		character	11	
FREQUENCY	R	E	text	100					string	100		character	100	100		character	100	
DISCHARGE	R	E	number (double)	8	2				number	13	2	numeric	8	13	2	decimal	15	2
DISCH_UNIT	R	E	text	20					string	20		character	20	20		character	20	

Table: L_XS_Ratings

This table is required for a detailed study.

The L_XS_Ratings table is a lookup table that contains information about the cross sections. This table should contain a record for each frequency / scenario associated with a cross section. For instance, if a cross section has data for the 25-, 100- and 500-year recurrence intervals, the L_XS_Ratings table should have three associated records. Therefore, each cross section should be associated with at least one record in L_XS_Ratings. The L_XS_Ratings table should possess at least one record at all times: the data for the 100-year regulatory model.

This is an Enhanced DFIRM Database table.

The L_XS_Ratings table contains the following elements.

XS_RATG_ID	R E	Primary key for table lookup. Assigned systematically by the creator.
XS_LN_ID	R E	Foreign key for table lookup that links to the S_XS table. Value in this field should match the values in the XS_LN_ID field of the S_XS table.
XS_NO	R E	Cross Section Number. This attribute is used for all cross sections that are created during the engineering analysis. This must be populated with the number associated with the cross section used by the Mapping Partner in their modeling of the stream.
REACH_NM	A E	Reach Name. This attribute stores that name of the reach in the model that the cross section intersects. XS_NO and REACH_NM may be used in conjunction as a unique identifier to identify the correct cross section in the model zipfile. This field is not populated if the correct cross section may be identified in the model without merging XS_NO and REACH_NM.
FREQUENCY	R E	Frequency Interval. This field identifies the hydraulic analysis that applies to this record. Hydraulic analysis can be a recurrence interval (e.g., 1 percent or 0.2 percent flood hazard) or a scenario, for example without levee or with floodway. Acceptable values for this field are listed in the D_Frequency table. D_Frequency is an existing domain table that may be added to by the Mapping Partner that creates the database.
FREQ_WSEL	R E	Water Surface Elevation. This is the water surface elevation associated with the frequency or scenario identified in FREQUENCY.

LEN_UNIT	R E	Length Unit. This unit indicates the measurement system used for the water surface elevation, stream bed elevation, and top width. Acceptable values for this field are listed in the D_Length_Units table.
V_DATUM	R E	Vertical Datum. The vertical datum indicates the reference surface from which the flood elevations are measured. Normally this would be North American Vertical Datum of 1988 for new studies. Acceptable values for this field are listed in the D_V_Datum table.
FREQ_Q	A E	Discharge Value. This is the discharge value associated with the frequency or scenario identified in FREQUENCY. This field is required when the frequency or scenario identified is based on a discharge value. For example, it is not required for stage gage analysis on rivers near the coast.
DISCH_UNIT	A E	Discharge Unit. This unit specifies the unit of measurement for the discharge. This field is populated only if a discharge value is entered. Acceptable values for this field are listed in the D_Discharge_Units table.
HYDRA_ID	R E	Hydraulic Model Identification. A code that provides a link to the hydraulic model table, L_Hydra_Model. The L_Hydra_Model table will identify the hydraulic model used to calculate the flood hazard at this cross section line. This ID field must contain a number that matches the HYDRA_ID field for a record in the L_Hydra_Model table. The L_Hydra_Model table documents model information for this cross section. Multiple cross sections may link to a single record in the L_Hydra_Model table.
HYDRO_ID	R E	Hydrologic Model Identification. A code that provides a link to the hydrologic model table, L_Hydro_Model. The L_Hydro_Model table will identify the hydrologic model used to calculate the flood hazard at this cross section line. This ID field for a record in the L_Hydro_Model table. The L_Hydro_Model table documents model information for this cross section. Multiple cross sections may link to a single record in the L_Hydro_Model table.
EFF_MODELS	R E	Effective Hydraulic and Hydrologic Model. This field is true only if the elevation and discharge are the result of the effective hydraulic and hydrologic models at this cross section. Enter "T" for true or "F" for false.

Table: L_XS_Ratings

Field	R/A	S/E	MS Access				ESRI Shapefile			ESRI Coverage				MapInfo				
			type	field size	dec	format	input mask	type	width	dec	type	item width	output width	dec	type	width	dec	
XS_RATG_ID	R	E	text	11					string	11		character	11	11		character	11	
XS_LN_ID	R	E	text	11					string	11		character	11	11		character	11	
XS_NO	R	E	text	12					string	12		character	12	12		character	12	
REACH_NM	A	E	text	254					string	100		character	100	100		character	100	
FREQUENCY	R	E	text	100					string	254		character	254	254		character	254	
FREQ_WSEL	R	E	number (double)	8	2				number	8	2	numeric	8	13	2	decimal	15	2
LEN_UNIT	R	E	text	20					string	20		character	20	20		character	20	
V_DATUM	R	E	text	6					string	6		character	6	6		character	6	
FREQ_Q	A	E	number (double)	8	2				number	8	2	numeric	8	13	2	decimal	15	2
DISCH_UNIT	A	E	text	20					string	20		character	20	20		character	20	
HYDRA_ID	R	E	text	11					string	11		character	11	11		character	11	
HYDRO_ID	R	E	text	11					string	11		character	11	11		character	11	

EFF_MODELS	R	E	text	1			string	1	character	1	1	character	1
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L.8 Metadata Example for Preliminary and Final Digital Flood Insurance Rate Map Databases

DFIRM DATABASE, FLOOD COUNTY, USA

Identification_Information:

Citation:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication Date: 20000505

Title: DIGITAL FLOOD INSURANCE RATE MAP DATABASE, FLOOD COUNTY, USA

Geospatial_Data_Presentation_Form: Vector and Raster Digital Data

Publication_Information:

Publication Place: Washington, DC

Publisher: Federal Emergency Management Agency

Other_Citation_Details: Metadata_File_Name: 99009C_19980915_metadata.htm

Online_Linkage: <http://www.fema.gov/msc>

Description:

Abstract: The Digital Flood Insurance Rate Map (DFIRM) Database depicts flood risk information and supporting data used to develop the risk data. The primary risk classifications used are the 1-percent-annual-chance flood event, the 0.2-percent-annual-chance flood event, and areas of minimal flood risk. The DFIRM Database is derived from Flood Insurance Studies (FISs), previously published Flood Insurance Rate Maps (FIRMs), flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data, where available. The FISs and FIRMs are published by the Federal Emergency Management Agency (FEMA). The file is georeferenced to earth's surface using the UTM projection and coordinate system. The specifications for the horizontal control of DFIRM data files are consistent with those required for mapping at a scale of 1:12,000.

Purpose: The FIRM is the basis for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP). Insurance applications include enforcement of the mandatory purchase requirement of the Flood Disaster Protection Act, which "... requires the purchase of flood insurance by property owners who are being assisted by Federal programs or by Federally supervised, regulated or insured agencies or institutions in the acquisition or improvement of land facilities located or to be located in identified areas having special flood hazards," Section 2 (b) (4) of the Flood Disaster Protection Act of 1973. In addition to the identification of Special Flood Hazard Areas (SFHAs), the risk zones shown on the FIRMs are the basis for the establishment of premium rates for flood coverage offered through the NFIP.

The DFIRM Database presents the flood risk information depicted on the FIRM in a digital format suitable for use in electronic mapping applications. The DFIRM database is a subset of the Digital FIS database that serves to archive the information collected during the FIS.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar Date: 19980701

Currentness_Reference: FIRM and FIS effective date

Status:

Progress: Complete

Maintenance_and_Update_Frequency: Irregular

Spatial_Domain:

Bounding_Coordinates:

West Bounding Coordinate: -84.125

East Bounding Coordinate: -84.25

North Bounding Coordinate: 30.5

South Bounding Coordinate: 30.625

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: FEMA Flood Hazard Zone
Theme_Keyword: DFIRM Database
Theme_Keyword: DFIRM
Theme_Keyword: Special Flood Hazard Area
Theme_Keyword: Digital Flood Insurance Rate Map
Theme_Keyword: CBRS
Theme_Keyword: Coastal Barrier Resources System
Theme_Keyword: Riverine Flooding
Theme_Keyword: Coastal Flooding
Theme_Keyword: NFIP
Theme_Keyword: Base Flood Elevation
Theme_Keyword: SFHA
Theme_Keyword: Flood Insurance Rate Map
Theme_Keyword: FIRM
Theme_Keyword: Floodway

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: FLOOD COUNTY
Place_Keyword: USA

Access_Constraints: None

Use_Constraints: The hardcopy FIRM and DFIRM and the accompanying FISs are the official designation of SFHAs and Base Flood Elevations (BFEs) for the NFIP. For the purposes of the NFIP, changes to the flood risk information published by FEMA may only be performed by FEMA and through the mechanisms established in the NFIP regulations (44 CFR Parts 59-78).

These digital data are produced in conjunction with the hardcopy FIRMs and generally match the hardcopy map exactly. However the hardcopy flood maps and flood profiles are the authoritative documents for the NFIP.

Acknowledgement of FEMA would be appreciated in products derived from these data.

Point_of_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: Federal Emergency Management Agency

Contact_Position: Federal Insurance and Mitigation Administration

Contact_Address:

Address_Type: mailing address

Address: 500 C Street, S.W.

City: Washington

State_or_Province: District of Columbia

Postal_Code: 20472

Country: USA

Contact_Voice_Telephone: 1-800-358-9616

Contact_Electronic_Mail_Address: www.fema.gov/msc

Native_Data_Set_Environment: Original data development environment varies. Finishing of the data is done using ESRI's ARC/INFO software.

Cross_Reference:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication_Date: 19980701

Title: Flood Insurance Rate Map, FLOOD COUNTY, USA

Geospatial_Data_Presentation_Form: map

Publication_Information:

Publication_Place: Washington, DC
Publisher: Federal Emergency Management Agency

Cross_Reference:

Citation_Information:

Originator: Federal Emergency Management Agency
Publication_Date: 19980701
Title: Flood Insurance Study, FLOOD COUNTY, USA
Geospatial_Data_Presentation_Form: document

Publication_Information:

Publication_Place: Washington, DC
Publisher: Federal Emergency Management Agency

Cross_Reference:

Citation_Information:

Originator: Federal Emergency Management Agency
Publication_Date: 19980701
Title: *Raster DFIRM, FLOOD COUNTY, USA*
Geospatial_Data_Presentation_Form: raster digital data

Publication_Information:

Publication_Place: Washington, DC
Publisher: Federal Emergency Management Agency

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report: The DFIRM Database consists of countywide vector files and associated attributes produced in conjunction with the hard copy FEMAFIRM. The published effective FIRM and DFIRM maps are issued as the official designation of the SFHAs. As such they are adopted by local communities and form the basis for administration of the NFIP. For these purposes they are authoritative. Provisions exist in the regulations for public review, appeals and corrections of the flood risk information shown to better match real world conditions. As with any engineering analysis of this type, variation from the estimated flood heights and floodplain boundaries is possible. Details of FEMA's requirements for the FISs and flood mapping process that produces these data are available in the Guidelines and Specifications for Flood Hazard Mapping Partners. Attribute accuracy was tested by manual comparison of source graphics with hardcopy plots and a symbolized display on an interactive computer graphic system.

Independent quality control testing of FEMA's DFIRM database was also performed.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the FIS report that accompanies this DFIRM database. Users should be aware that BFEs shown in the S_BFE table represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report must be used in conjunction with the FIRM for purposes of construction and/or floodplain management. The 1-percent-annual-chance water-surface elevations shown in the S_XS table match the regulatory elevations shown in the FIS report.

Logical_Consistency_Report: When FEMA revises an FIS, adjacent studies are checked to ensure agreement between flood elevations at the boundaries. Likewise flood elevations at the confluence of streams studied independently are checked to ensure agreement at the confluence. The FIRM and the FIS are developed together and care is taken to ensure that the elevations and other features shown on the flood profiles in the FIS agree with the information shown on the FIRM. However, the elevations as shown on the FIRM are rounded whole-foot elevations. They must be shown so that a profile recreated from the elevations on the FIRM will match the FIS profiles within one half of one foot.

Completeness_Report: Data contained in the DFIRM Database files reflect the content of the source materials. Features may have been eliminated or generalized on the source graphic, due to scale and legibility constraints. With new mapping, FEMA plans to maintain full detail in the spatial data it

produces. However, older information is often transferred from existing maps where some generalization has taken place.

Flood risk data are developed for communities participating in the NFIP for use in insurance rating and for floodplain management. Flood hazard areas are determined using statistical analyses of records of river flow, storm tides, and rainfall; information obtained through consultation with the communities; floodplain topographic surveys; and hydrological and hydraulic analysis. Both detailed and approximate analyses are employed. Generally, detailed analyses are used to generate flood risk data only for developed or developing areas of communities. For areas where little or no development is expected to occur, FEMA uses approximate analyses to generate flood risk data. Typically, only drainage areas that are greater than one square mile are studied.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report: The DFIRM Database consists of countywide vector files and associated attributes produced in conjunction with the hardcopy FEMA FIRM. The published effective FIRM and DFIRM are issued as the official designation of the SFHAs. As such they are adopted by local communities and form the basis for administration of the NFIP. For these purposes they are authoritative. Provisions exist in the regulations for public review, appeals and corrections of the flood risk information shown to better match real world conditions. As with any engineering analysis of this type, variation from the estimated flood heights and floodplain boundaries is possible. Details of FEMA's requirements for the FISs and flood mapping process that produces these data are available in the Guidelines and Specifications for Flood Hazard Mapping Partners. Horizontal accuracy was tested by manual comparison of source graphics with hardcopy plots and a symbolized display on an interactive computer graphic system.

Independent quality control testing of FEMA's DFIRM database was also performed.

Vertical_Positional_Accuracy:

Vertical_Positional_Accuracy_Report: The DFIRM Database consists of countywide vector files and associated attributes produced in conjunction with the hardcopy FEMA FIRM. The published effective FIRM and DFIRM maps are issued as the official designation of the SFHAs. As such they are adopted by local communities and form the basis for administration of the NFIP. For these purposes they are authoritative. Provisions exist in the regulations for public review, appeals and corrections of the flood risk information shown to better match real world conditions. As with any engineering analysis of this type, variation from the estimated flood heights and floodplain boundaries is possible. Details of FEMA's requirements for the FISs and flood mapping process that produces these data are available in the Guidelines and Specifications for Flood Hazard Mapping Partners. Vertical accuracy was tested by manual comparison of source graphics with hardcopy plots and a symbolized display on an interactive computer graphic system.

Independent quality control testing of FEMA's DFIRM database was also performed.

Lineage

Source_Information:

Source_Citation:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication Date: 1987

Title: Flood Insurance Study, FLOOD COUNTY USA (Unincorporated areas).

Geospatial_Data_Presentation_Form: map

Publication_Information:

Publication_Place: Washington, DC

Publisher: Federal Emergency Management Agency

Other_Citation_Details: The hydrologic and hydraulic analyses for the FIS dated April 17, 1987, were prepared by the U.S. Army Corps of Engineers (USACE), Springfield District, for the Federal Emergency Management Agency (FEMA), under Inter-

Agency Agreement No. EMW-84-E-1506. That work was completed in December 1985. Denominator of Source Scale: 2400-12000.

Source Scale Denominator: 12,000

Type_of_Source_Media: paper

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar Date: 19870601

Source_Currentness_Reference: Effective Date

Source Citation Abbreviation: FIS1

Source_Contribution: Spatial and attribute information, floodplain widths, BFEs, floodplain location.

Source_Information:

Source_Citation:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication Date: 1987

Title: Flood Insurance Study, FLOODVILLE, Town of

Geospatial_Data_Presentation_Form: map

Publication_Information:

Publication_Place: Washington, DC

Publisher: Federal Emergency Management Agency

Other Citation Details: The hydrologic and hydraulic analyses for the FIS report dated April 17, 1987, were prepared by the USACE, Springfield District, for the FEMA, under Inter-Agency Agreement No. EMW-84-E-1506, Project Order No. 1, Amendment No. 4. That work was completed in December 1985. Denominator of Source Scale: 2400-12000.

Source Scale Denominator: 12,000

Type_of_Source_Media: paper

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar Date: 19870601

Source_Currentness_Reference: Effective Date

Source Citation Abbreviation: FIS2

Source_Contribution: Spatial and attribute information, floodplain widths, BFEs, floodplain location.

Source_Information:

Source_Citation:

Citation_Information:

Originator: Federal Emergency Management Agency

Publication Date: 1998

Title: Flood Insurance Study Report, FLOOD COUNTY, USA and Incorporated areas.

Geospatial_Data_Presentation_Form: map

Publication_Information:

Publication_Place: Washington, DC

Publisher: Federal Emergency Management Agency

Other Citation Details: For this countywide FIS, the hydrologic and hydraulic analyses were prepared by USACE for FEMA, under Inter-Agency Agreement No. EMW-94-C-0019. This work was completed in October 1995. Denominator of Source Scale: 2400-12000.

Source Scale Denominator: 12000

Type_of_Source_Media: paper

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar Date: 19980701

Source_Currentness_Reference: Effective Date

Source Citation Abbreviation: FIS3

Source_Contribution: Spatial and attribute information, floodplain widths, BFEs, floodplain location.

Source_Information:

Source_Citation:

Citation_Information:

Originator: Town of Floodville Stormwater Management Department, 126 Royal Oaks Drive, Suite 201, Floodville, USA 99150

Publication Date: 1995

Title: Base map for Floodville, USA

Geospatial Data Presentation Form: vector digital data

Publication Information:

Publication Place: Floodville, USA

Publisher: Town of Floodville Stormwater Management

Other Citation Details: These files were photogrammetrically compiled at scales of 1"=200' (urban areas) and 1"=400' (rural areas) from aerial photographs.

Source Scale Denominator: 4,800

Type of Source Media: CD-ROM

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 19950301

Source Currentness Reference: ground conditions

Source Citation Abbreviation: BASE1

Source Contribution: Location of roads, railroads, bridges, streams and other physical features shown.

Source_Information:

Source_Citation:

Citation_Information:

Originator: Flood County Geographic Information Systems Department, 1110 South Road, Suite 205, Floodville, USA 99150

Publication Date: 1995

Title: Base map for Flood County, USA

Geospatial Data Presentation Form: vector digital data

Publication Information:

Publication Place: Floodville, USA

Publisher: Flood County Geographic Information Systems Department

Other Citation Details: These files were photogrammetrically compiled at scales of 1"=200' (urban areas) and 1"=400' (rural areas) from aerial photographs.

Source Scale Denominator: 4,800

Type of Source Media: CD-ROM

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 19950301

Source Currentness Reference: ground conditions

Source Citation Abbreviation: BASE2

Source Contribution: Location of roads, railroads, bridges, streams and other physical features shown.

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S. Geological Survey

Publication Date: 1998

Title: Digital Orthophoto Quadrangle
Geospatial Data Presentation Form: remote-sensing image
Publication Information:

Publication Place: Reston, VA
Publisher: U.S. Geological Survey

Other Citation Details: The digital orthophoto quadrangle (DOQ) is a 1-meter ground resolution, quarter-quadrangle (3.75-minutes of latitude by 3.75-minutes of longitude) image cast on the Universal Transverse Mercator Projection (UTM) on the North American Datum of 1983 (NAD83). The imagery is based on panchromatic black and white (or color infra-red) NAPP or NAPP-like photography.

Source Scale Denominator: 12,000

Type of Source Media: CD-ROM

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 19970301

Source Currentness Reference: ground conditions

Source Citation Abbreviation: BASE3

Source Contribution: Location of roads, railroads, bridges, streams and other physical features shown:

Process Step:

Process Description: The DFIRM Database is compiled in conjunction with the hardcopy FIRM and the final FIS report. The specifics of the hydrologic and hydraulic analyses performed are detailed in the FIS report. The results of these studies are submitted in digital format to FEMA. These data and unrevised data from effective FIRMs are compiled onto the base map used for DFIRM publication and checked for accuracy and compliance with FEMA standards.

Source Used Citation Abbreviation: FIS1-FIS3, BASE1-BASE3

Process Date: 1996

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector and raster

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Point

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: String

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Raster_Object_Information:

Raster Object Type: Pixel

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Planar:

Grid_Coordinate_System:

Grid Coordinate System Name: Universal Transverse Mercator

Universal Transverse Mercator:

UTM Zone Number: 16

Transverse Mercator:

Scale Factor at Central Meridian: 0.9996

Longitude of Central Meridian: -87.0

Latitude of Projection Origin: 0.0

False Easting: 500000

False Northing: 0.0

Planar_Coordinate_Information:

Planar_Coordinate_Encoding_Method: Coordinate Pair

Coordinate_Representation:

Abscissa_Resolution: 0.061

Ordinate_Resolution: 0.061

Planar_Distance_Units: meters

Geodetic_Model:

Horizontal_Datum_Name: North American Datum 1983

Ellipsoid_Name: Geodetic Reference System 80

Semi-major_Axis: 6378206.4

Denominator_of_Flattening_Ratio: 294.98

Vertical_Coordinate_System_Definition:

Altitude_System_Definition:

Altitude_Datum_Name: North American Vertical Datum of 1988

Altitude_Resolution: 0.03

Altitude_Distance_Units: feet

Altitude_Encoding_Method: Attribute Values

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview: The DFIRM Database is made up of several data themes containing both spatial and attribute information. These data together represent the current flood risk for the subject area as identified by FEMA. The attribute tables include SFHA locations, flood zone designations, BFEs, political entities, cross-section locations, FIRM panel information, and other data related to the NFIP.

Entity_and_Attribute_Detail_Citation: Appendix L of FEMA's Guidelines and Specifications for FEMA Flood Hazard Mapping Partners contains a detailed description of each attribute code and a reference to other relevant information.

The following tables are included in this data set:

S_BFE

S_Fld_Haz_Ar

S_Fld_Haz_Ln

S_Gen_Struct

S_LOMR

L_Stn_Start

S_Wtr_Ar

S_Wtr_Ln

S_XS

L_Wtr_Nm

S_Base_Index

S_Perm_Bmk

S_PLSS_AR

S_PLSS_LN

S_Pol_Ar

S_Pol_Ln

S_Quad_Index

S_Label_Ld

S_Trnsport_Ln

S_Label_Pt

Distribution_Information:

Distributor:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: FEMA, Map Service Center

Contact_Address:

Address_Type: mailing address

Address: P.O. Box 1038

City: Jessup

State_or_Province: Maryland

Postal_Code: 20794-1038

Country: USA

Contact_Voice_Telephone: 1-800-358-9616

Contact_Electronic_Mail_Address: www.fema.gov/msc

Contact_Instructions: Data requests must include the full name of the community or county and the FIRM panel number(s) or the 7.5- minute series quadrangle sheet area(s) covered by the request.

Distribution_Liability: No warranty expressed or implied is made by FEMA regarding the utility of the data on any other system nor shall the act of distribution constitute any such warranty. FEMA will warrant the delivery of this product in a computer-readable format, and will offer appropriate adjustment of credit when the product is determined unreadable by correctly adjusted computer input peripherals, or when the physical medium is delivered in damaged condition. Requests for adjustment of credit must be made within 90 days from the date of this shipment from the ordering site.

Standard_Order_Process:

Non-digital_Form: Printed DFIRMs that match this data set are available from FEMA at the Map Service Center, cited above.

Digital_Form:

Digital_Transfer_Information:

Format_Name: ESRI Shapefile

Format_Version_Number: 1

Digital_Transfer_Option:

Offline_Option:

Offline_Media: CD-ROM

Recording_Format: ISO 9660

Digital_Form:

Digital_Transfer_Information:

Format_Name: MapInfo Interchange file (MIF)

Format_Version_Number: 1

Digital_Transfer_Option:

Offline_Option:

Offline_Media: CD-ROM

Recording_Format: ISO 9660

Digital_Form:

Digital_Transfer_Information:

Format_Name: ARCE

Format_Version_Number: 1

Digital_Transfer_Option:

Offline_Option:

Offline_Media: CD-ROM

Recording_Format: ISO 9660

Fees: Contact Distributor

Metadata_Reference_Information:

Metadata_Date: 19980509

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: Federal Emergency Management Agency

Contact_Position: Federal Insurance and Mitigation Administration

Contact_Address:

Address_Type: mailing address

Address: 500 C Street, S.W.

City: Washington

State_or_Province: District of Columbia

Postal_Code: 20472

Country: USA

Contact_Voice_Telephone: 1-800-358-9616

Contact_Electronic_Mail_Address: www.fema.gov/msc

Metadata_Standard_Name : FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

L.9 Domain Tables

This section contains a list of domain tables for the DFIRM Database. For Preliminary or Final DFIRM Databases, these tables list acceptable values for fields which are referenced to a domain table. For draft DFIRM data that follow the structure defined in Section L.4, these tables provide the contents for the domain tables included in that option.

Note that if pre-existing data are used by the Mapping Partner for S_PLSS_Ar, S_PLSS_Ln, S_Trnsport_Ln, S_Wtr_Ar or S_Wtr_Ln, it is not necessary to limit field values to only the domains defined here for those tables.

Table: D_Area_Units

AREA_LID	AREA_UNITS
1000	ACRES
1010	HECTARES
1020	SQUARE FEET
1030	SQUARE METERS
1040	SQUARE YARDS

Table: D_CBRS_Typ

CBRS_LID	CBRS_TYP
1000	COASTAL BARRIER RESOURCES SYSTEM
1010	OTHERWISE PROTECTED AREA

Table: D_Chan_Rep

CHAN_LID	CHAN_REP
1000	SINGLE
1010	DOUBLE

Table: D_Discharge_Units

DISCH_LID	DISCH_UNIT
1000	CFS
1010	CMS
1020	GPD
1030	GPM

Table: D_Eros_Method

EROS_LID	EROS_METH
1010	NOT APPLIED
1020	REMOVAL
1030	RETREAT

Table: D_Floodway

FLDWAY_LID	FLOODWAY
1000	FLOODWAY
1010	COLORADO RIVER
1020	FLOODWAY CONTAINED IN CHANNEL
1030	FLOWAGE EASEMENT BOUNDARY
1040	STATE ENCROACHMENT
1050	AREA OF SPECIAL CONSIDERATION

Table: D_Frequency

FREQ_LID	FREQUENCY
1001	0.2 PCT
1002	1 PCT
1003	2 PCT
1004	4 PCT
1005	10 PCT
1006	1 PCT LEVEE
1007	1 PCT LEVEE, RIGHT FAILED
1008	1 PCT LEVEE, LEFT FAILED
1009	1 PCT LEVEE, LEFT AND RIGHT FAILED
1010	1 PCT WITH FLOODWAY
1011	1 PCT WITHOUT FLOODWAY

Table: D_Gage

GAGE_LID	GAGE_TYPE
1000	FLOW
1010	FLOW / STAGE
1020	STAGE
1100	FIXED INTERVAL
1110	INSTANTANEOUS
1120	TIPPING
1200	WAVE HEIGHT
1210	WIND DIRECTION
1220	WIND SPEED
1230	WIND SPEED & DIRECTION
1240	TIDE

Table: D_Hydra

HYDRA_LID	HYDRA_MDL
1000	ADVANCED ICPR 2.20 (OCTOBER 2000)
1001	DHM 21 (AUGUST 1987)
1002	FEQ 8.92 (1997)
1003	FEQUTL 4.68 (1997)
1004	FESWMS 2DH 1.1 (JUNE 1995)
1005	FLDWAV (NOVEMBER 1998)
1006	FLDWY (MAY 1989)
1007	FLO-2D V.2000.11 (DECEMBER 2000)
1008	GAGE ANALYSIS
1009	HCSWMM 4.31B (AUGUST 2000)
1010	HEC-2 4.6.2 (MAY 1991)
1011	HEC-RAS 2.2 (SEPTEMBER 1998)
1012	HEC-RAS 3.0.1
1013	HY8 4.1
1014	HY8 6.0
1015	MIKE 11 HD (JUNE 1999)
1016	PSUPRO
1017	QUICK-2 1.0
1018	QUICK-2 2.0
1019	SFD
1020	SHEET 2D 9 (JULY 2000)
1021	SWMM 4.30 (MAY 1994)

HYDRA_LID	HYDRA_MDL
1022	SWMM 4.31 (JANUARY 1997)
1023	TABS-RMA2 V.4.3 (OCTOBER 1996)
1024	TABS-RMA4 V.4.5 (JULY 2000)
1025	UNET 4.0 (APRIL 2001)
1026	WSPGW 12.96 (OCTOBER 2000)
1027	WSPRO (JUNE 1988)

Table: D_Hydro

HYDRO_LID	HYDRO_MDL
2000	AHYMO 97 (AUGUST 1997)
2001	CUHPF/PC (MAY 1996)
2002	DBRM 3.0 (1993)
2003	DR3M (OCTOBER 1993)
2004	FAN
2005	HEC-FFA 3.1
2006	HEC-1 4.0.1
2007	HEC-1 4.1
2008	HEC-HMS 1.1
2009	HEC-HMS 2.0
2010	HEC-HMS 2.0.3
2011	HEC-HMS 2.1.1
2012	HEC-HMS 2.1.2
2013	HEC-HMS 2.1.3
2014	HEC-IFH 1.03
2015	HEC-IFH 1.04
2016	HEC-IFH 2.0
2017	HEC-IFH 2.01
2018	HSPF 10.10
2019	HSPF 10.11
2020	HSPF 11.0
2021	HYMO

HYDRO_LID	HYDRO_MDL
2022	MIKE 11 RR (JUNE 1999)
2023	MIKE 11 UHM (JUNE 1999)
2024	PEAKFQ 2.4 (APRIL 1998)
2025	PEAKFQ 2.5
2026	PEAKFQ 3.0
2027	PEAKFQ 4.0
2028	RATIONAL METHOD
2029	REGRESSION EQUATIONS
2030	SNYDER METHOD
2031	SWMM (RUNOFF) 4.30 (MAY 1994)
2032	SWMM (RUNOFF) 4.31 (JANUARY 1997)
2033	TR-20 (FEBRUARY 1992)
2034	TR-55 (JUNE 1986)

Table: D_Label_Typ

LABEL_LID	LABEL_TYPE
1000	DOQ-TRANSPORTATION
1010	DOQ-WATER
1020	S_TRANSPORT_LN
1030	S_WTR_AR
1040	S_WTR_LN

Table: D_Length_Units

LEN_LID	LEN_UNIT
1000	CENTIMETERS
1010	FEET
1020	INCHES
1030	KILOMETERS
1040	METERS
1050	MILES
1060	MILLIMETERS

Table: D_Ln_Typ

Some lines may have multiple values. For the S_Pol_Ln table, the following precedence should apply: INTERNATIONAL, STATE, COUNTY, CORPORATE, EXTRATERRITORIAL JURISDICTION, URBAN GROWTH BOUNDARY, MUNICIPAL URBAN DRAINAGE DISTRICT, LEVEE IMPROVEMENT DISTRICT, AREA NOT INCLUDED, RESERVATION, FOREST, and PARK.

For the S_Fld_Haz_Ln table, the following precedence should apply: LIMIT OF DETAILED STUDY, LIMIT OF STUDY, LIMIT OF FLOODWAY, FLOODWAY, 1 PCT ANNUAL-CHANCE FLOOD HAZARD, ZONE BREAK, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD, FLOWAGE EASEMENT BOUNDARY, and STATE ENCHROACHMENT LINE.

For the S_PLSS_Ln table, the following precedence should apply: TOWNSHIP, RANGE, SECTION, QUARTER SECTION, and MEANDER.

LN_LID	LN_TYP
1010	AREA NOT INCLUDED
1020	CORPORATE
1021	EXTRATERRITORIAL JURISDICTION
1022	LEVEE IMPROVEMENT DISTRICT
1023	MUNICIPAL UTILITY DISTRICT
1024	UTILITY DISTRICT
1025	MISCELLANEOUS JURISDICTIONAL LAND
1026	MISCELLANEOUS PUBLIC LAND BOUNDARY
1030	COUNTY
1040	FOREST
1041	PARK
1042	RESERVATION
1050	INTERNATIONAL
1060	STATE
1070	URBAN GROWTH BOUNDARY

LN_LID	LN_TYP
1080	MUNICIPAL URBAN DRAINAGE DISTRICT
2000	0.2 PCT ANNUAL CHANCE FLOOD HAZARD
2001	1 PCT ANNUAL CHANCE FLOOD HAZARD
2002	ZONE D
2030	APPARENT LIMIT
2031	LIMIT OF DETAILED STUDY
2032	LIMIT OF FLOODWAY
2033	LIMIT OF STUDY
2040	FLOODWAY
2050	FLOWAGE EASEMENT BOUNDARY
2051	STATE ENCROACHMENT LINE
2052	ZONE BREAK
3000	QUARTER SECTION
3010	RANGE
3020	TOWNSHIP
3030	SECTION
3040	MEANDER
4000	SOURCE BOUNDARY
9000	END OF SPATIAL EXTENT

Table: D_Method

METH_LID	METHOD
1010	CUT FROM TOPO
1020	DIGITIZED FROM FIRM
1030	FIELD SURVEY

Table: D_Nm_Typ

NM_LID	NM_TYP
1000	ALLEY
1001	ARCADE
1002	AVENIDA
1003	AVENUE
1004	BOULEVARD
1005	BYPASS
1006	CALLE
1007	CAUSEWAY
1008	CENTER
1009	CIRCLE
1010	COUNTY HIGHWAY
1011	COURT
1012	COVE
1013	CRESCENT
1014	CROSSING
1015	DRIVE
1016	ESTE
1017	EXPRESSO
1018	EXPRESSWAY
1019	FREEWAY
1020	HIGHWAY
1021	INTERSTATE HIGHWAY

NM_LID	NM_TYP
1022	LANE
1023	LOOP
1024	MOTORWAY
1025	NORTE
1026	OESTE
1027	PARKWAY
1028	PASEO
1029	PASS
1030	PATH
1031	PIKE
1032	PLACE
1033	PLAZA
1034	ROAD
1035	ROW
1036	RUE
1037	SQUARE
1038	STATE HIGHWAY
1039	STREET
1040	SUR
1041	TERRACE
1042	THROUGHWAY
1043	TRAFFICWAY
1044	TRAIL

NM_LID	NM_TYP
1045	TURNPIKE
1046	WAY

Table: D_Nodes

NODE_LID	NODE_TYPE
1000	DIVERSION
1010	JUNCTION
1020	RESERVOIR
1030	STRUCTURE

Table: D_Panel_Typ

PANEL_LID	PANEL_TYP
1000	COUNTYWIDE, PANEL PRINTED
1010	COUNTYWIDE, NOT PRINTED
1020	COMMUNITY BASED, PANEL PRINTED
1030	COMMUNITY BASED, NOT PRINTED
1040	UNMAPPED COMMUNITY

Table: D_Rd_Stat

RD_S_LID	RD_STAT
1000	PAVED
1010	PROPOSED
1020	UNDER CONSTRUCTION
1030	UNIMPROVED

Table: D_Runup_Mdl

RUNUP_LID	RUNUP_MDL
1010	ACES 1.07 (1992)
1020	CHAMP (1.0) (2001)
1030	EROSION (1998)
1040	GLWRM (1992)
1050	RUNUP 2.0 (1990)

Table: D_Scale

SCALE_LID	SCALE
1000	6000
1010	12000
1020	24000

Table: D_Shr_Rough

SHR_LID	SHR_ROUGH
1001	VERY LOW
1002	LOW
1003	MODERATE
1004	HIGH
1005	VERY HIGH

Table: D_Shr_Typ

SHRTYP_LID	SHRLN_TYP
1001	ZERO FOOT CONTOUR FIELD SURVEY
1002	ZERO FOOT CONTOUR LIDAR/SOALS

Table: D_Storms

STORM_LID	STORM_TYPE
1000	CHICAGO
1010	DDF
1020	HUFF
1030	IDF
1040	SANTA BARBARA
1050	SCS TYPE I
1060	SCS TYPE II
1070	SCS TYPE IIA
1080	SCS TYPE III
1090	TRIANGULAR
1100	UNIFORM

Table: D_Struct_Typ

STRUCT_LID	STRUCT_TYP
1000	AQUEDUCT
1001	BRIDGE
1002	CANAL
1003	CHANNEL
1004	CHANNEL CONTAINS 0.2 PCT FLOOD EVENT
1005	CHANNEL CONTAINS 1 PCT FLOOD EVENT
1006	CONTROL STRUCTURE
1007	CULVERT
1008	CULVERT CONTAINS 0.2 PCT FLOOD EVENT
1009	CULVERT CONTAINS 1 PCT FLOOD EVENT
1010	DAM
1011	DIKE
1012	DOCK
1013	DROP STRUCTURE
1014	ENERGY DISSIPATER
1015	FISH LADDER
1016	FLOODWAY CONTAINED IN CHANNEL
1017	FLUME
1018	FOOTBRIDGE
1019	GATE
1020	JETTY
1021	LEVEE

STRUCT_LID	STRUCT_TYP
1022	LOCK
1023	PENSTOCK
1024	PIER
1025	PUMP STATION
1026	SEAWALL
1027	SIDE WEIR STRUCTURE
1028	STORM SEWER
1029	UTILITY CROSSING
1030	WEIR
1031	WING WALL
1032	STRUCTURE CONTAINS 1 PCT FLOOD EVENT

Table: D_Surge_Mdl

SURGE_LID	SURGE_MDL
1010	DYNLET
1020	FEMA SURGE (1988)
1030	FLOW2D (1975)
1040	MIKE 21 HD/NHD
1050	NEW ENGLAND TIDE PROFILE
1060	NORTHEASTER MODEL (1978)
1070	ODISTIM (1975)
1080	TABS RMA2 V.4.3 (OCTOBER 1996)
1090	USACE GREAT LAKES TIDE PROFILE (1998)

Table: D_Time_Units

TIME_LID	TIME_UNIT
1000	DAYS
1010	HOURS
1020	MINUTES
1030	MONTHS
1040	SECONDS
1050	WEEKS
1060	YEARS

Table: D_Trans_Typ

TRANS_LID	TRANS_TYP
1000	UNDEFINED ROAD
1001	PRIMARY ROAD
1002	SECONDARY ROAD
1003	TRAIL
1010	ROAD TUNNEL
1020	FORD
2000	UNDEFINED RAILROAD
2001	ACTIVE RAILROAD
2002	ABANDONED RAILROAD
2003	DISMANTLED RAILROAD
2010	RAILROAD TUNNEL
3000	AIRPORT
4000	FERRY

Table: D_V_Datum

V_DATM_LID	V_DATUM
1000	MSL
1010	NAVD88
1020	NGVD29

Table: D_Velocity_Units

VEL_LID	VEL_UNIT
1000	CENTIMETERS / DAY
1010	CENTIMETERS / HOUR
1020	FEET / SECOND
1030	INCHES / DAY
1040	INCHES / HOUR
1050	METERS / SECOND
1060	MICROMETERS / SECOND
1070	MILLIMETERS / DAY
1080	MILLIMETERS / HOUR

Table: D_Volume_Units

VOL_LID	VOL_UNIT
1000	ACRE-FEET
1010	CUBIC FEET
1020	CUBIC METERS
1030	CUBIC YARDS
1040	GALLONS
1050	LITERS
1060	MILLION GALLONS

Table: D_VZone

VZONE_LID	VZONE_EXT
1010	30 FOOT SPLASH ZONE BEHIND STRUCTURE
1020	PFD
1030	RUNUP EXTENT
1040	WHAFIS

Table: D_Water_Typ

WATER_LID	WATER_TYP
1000	AREA OF COMPLEX CHANNELS
1001	ARTIFICIAL PATH
1002	BAY / INLET
1003	BAYOU
1004	BOG
1005	BYPASS / DIVERSION
1006	CANAL / DITCH
1007	CHANNEL
1008	CONCRETE / EARTHEN CHANNEL
1009	CONCRETE / EARTHEN DITCH
1010	CONCRETE CHANNEL
1011	CONCRETE DITCH
1012	CONNECTOR
1013	CREEK
1014	CREVASSE FIELD
1015	DETENTION POND
1016	EARTHEN CHANNEL
1017	EARTHEN DITCH
1018	ESTUARY
1019	FISH LADDER
1020	FLUME
1021	GULCH

WATER_LID	WATER_TYP
1022	HATCHERY
1023	ICE MASS / GLACIER
1024	INTERMITTENT RIVER / STREAM
1025	LAKE / POND
1026	LOCK CHAMBER
1027	MUD POT
1028	NONEARTHEN SHORE
1029	OVERFLOW
1030	PERENNIAL RIVER / STREAM
1031	PLAYA
1032	PROFILE BASELINE
1033	RACE
1034	RESERVOIR
1035	RETENTION POND
1036	SAND PIT
1037	SEA / OCEAN
1038	SHORELINE / COASTLINE
1039	SPILLWAY
1040	STREAM / RIVER
1041	SUBMERGED STREAM
1042	SWAMP / MARSH
1043	TAILINGS POND
1044	UNDERPASS

WATER_LID	WATER_TYP
1045	WASH
1046	WASTE WATER LAGOON / POND
1047	WATER SEPARATION LINE
1048	WATERFALL
1049	WATERWAY
1050	WETLANDS
1051	NAVIGABLE WATERWAY
1052	SOUND
1053	ISLAND
1054	CHANNEL CONTAINS 1 PCT FLOOD EVENT
1055	HYDROLOGIC LINK
1056	PROFILE BASELINE AND STREAM CENTERLINE
1057	STREAM CENTERLINE

Table: D_Wave_Mdl

WAVEHT_LID	WAVEHT_MDL
1010	CHAMP 1.0 (2001)
1020	MIKE 21 (OSW)
1030	MIKE 21 (NSW)
1040	RCPWAVE (1986)
1050	WHAFIS 3.0 (1988)
1060	WHAFIS 3.0 GL (1993)

Table: D_Zone

Where the 1-percent-annual-chance flood or the 0.2-percent-annual-chance flood is contained in a culvert or channel, a corresponding feature appears in the S_Fld_Haz_Ar table only if an SFHA or 0.2-percent-annual-chance flood zone is shown on the FIRM in this area. In general, these culverts and channels are to be represented in the general structure table regardless of how the flood insurance risk zones are depicted. So, if these structures are shown on the FIRM as a dashed line passing through a Zone X, no corresponding flood insurance risk zone is shown in S_Fld_Haz_Ar table in the DFIRM database. If a narrow SFHA or 0.2-percent-annual-chance flood zone is shown on the FIRM, then a narrow polygon must be included in the DFIRM database. If the width of this flood insurance risk zone is accurately known and represented in the spatial data, the normal flood insurance risk zone is applied. If the width of the flood insurance risk zone is not accurately known and represented because of scale limitations, then the zone is designated as 1-percent-annual-chance flood contained in channel or 0.2-percent-annual-chance flood contained in channel as appropriate.

ZONE_LID	FLD_ZONE
1000	A
1001	AE
1002	AH
1003	AO
1004	AR
1005	1 PCT ANNUAL CHANCE FLOOD HAZARD CONTAINED IN CHANNEL
1006	1 PCT FUTURE CONDITIONS
1007	A99
1008	V
1009	VE
2000	0.2 PCT ANNUAL CHANCE FLOOD HAZARD
2001	0.2 PCT ANNUAL CHANCE FLOOD HAZARD CONTAINED IN CHANNEL
3000	AREA NOT INCLUDED
4000	D

ZONE_LID	FLD_ZONE
4001	X PROTECTED BY LEVEE
4002	X
5000	OPEN WATER