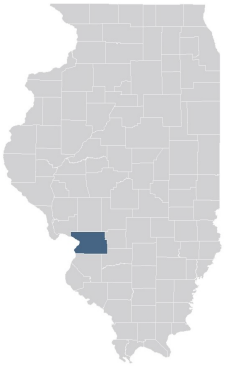
FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 3



MADISON COUNTY, ILLINOIS

AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
ALHAMBRA, VILLAGE OF	170270	MADISON, CITY OF	170446
ALTON, CITY OF	170437	MADISON COUNTY, UNINCORPORATED AREAS	170436
BETHALTO, VILLAGE OF	170438	MARINE, VILLAGE OF	170199
COLLINSVILLE, CITY OF	170439	MARYVILLE, VILLAGE OF	170299
EAST ALTON, VILLAGE OF	170440	NEW DOUGLAS, VILLAGE OF*	170316
EDWARDSVILLE, CITY OF	170441	PIERRON, VILLAGE OF	170317
FAIRMONT CITY, VILLAGE OF	170627	PONTOON BEACH, VILLAGE OF	170447
GLEN CARBON, VILLAGE OF	170442	ROXANA, VILLAGE OF	170448
GODFREY, VILLAGE OF	171031	SOUTH ROXANA, VILLAGE OF	170449
GRANITE CITY, CITY OF	170443	ST. JACOB, VILLAGE OF*	170208
GRANTFORK, VILLAGE OF	170209	TROY, CITY OF	170255
HAMEL, VILLAGE OF	170160	VENICE, CITY OF	170450
HARTFORD, VILLAGE OF	170444	WILLIAMSON, VILLAGE OF	170324
HIGHLAND, CITY OF	170445	WOOD RIVER, CITY OF	170451
LIVINGSTON, VILLAGE OF	170794	WORDEN, VILLAGE OF*	170825

*No Special Flood Hazard Areas Identified

Preliminary:
August 10, 2022

EFFECTIVE:

TBD

FLOOD INSURANCE STUDY NUMBER
17119CV001A
Version Number 2.6.5.0

FEMA

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FLOOD INSURANCE STUDY REPORT
MADISON COUNTY, ILLINOIS

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60, *Criteria for Land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal

Government. Congress also recognized that most of these floodprone buildings were built by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) Report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data that will be used to establish actuarial flood insurance rates and to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community’s regulations.

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of Madison County, Illinois.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the United States Geological Survey (USGS) 8-digit Hydrologic Unit Code (HUC-8) sub-basins affecting each, are shown in Table 1. The FIRM panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

The location of flood hazard data for participating communities in multiple jurisdictions is also indicated in the table.

Jurisdictions that have no identified SFHAs as of the effective date of this study are indicated in the table. Changed conditions in these communities (such as urbanization or annexation) or the availability of new scientific or technical data about flood hazards could make it necessary to determine SFHAs in these jurisdictions in the future.

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Alhambra, Village of	170270	07140204	17119C0138D	
Alton, City of	170437	07110009	17119C0037D, 17119C0039D, 17119C0041D, 17119C0042D, 17119C0043D, 17119C0044D, 17119C0061D, 17119C0062D, 17119C0063D, 17119C0156D, 17119C0157D	
Bethalto, Village of	170438	07110009, 07140101	17119C0062D, 17119C0064D, 17119C0066D, 17119C0067D, 17119C0068D, 17119C0069D, 17119C0181D, 17119C0182D	
Collinsville, City of[1]	170439	07140101	17119C0332D, 17119C0333D, 17119C0334D, 17119C0337D, 17119C0341D, 17119C0342D, 17119C0351D, 17119C0353D, 17119C0354D, 17119C0361D, 17119C0362D	
East Alton, Village of	170440	07110009	17119C0044D, 17119C0061D, 17119C0062D, 17119C0063D, 17119C0064D, 17119C0157D, 17119C0176D	
Edwardsville, City of	170441	07140101, 07140204	17119C0184D, 17119C0187D, 17119C0189D, 17119C0191D, 17119C0192D, 17119C0193D, 17119C0194D, 17119C0203D, 17119C0204D, 17119C0208D, 17119C0211D, 17119C0212D, 17119C0213D, 17119C0214D, 17119C0216D, 17119C0220D	
Fairmont City, Village of[1]	170627	07140101	17119C0336D, 17119C0337D	
Glen Carbon, Village of	170442	07140101, 07140204	17119C0193D, 17119C0194D, 17119C0211D, 17119C0212D, 17119C0213D, 17119C0214D, 17119C0220D, 17119C0331D, 17119C0332D, 17119C0351D, 17119C0352D, 17119C0356D	
Godfrey, Village of	171031	07110009	17119C0007D, 17119C0009D, 17119C0017D, 17119C0026D, 17119C0027D, 17119C0028D, 17119C0029D, 17119C0032D, 17119C0034D, 17119C0035D[2], 17119C0036D, 17119C0037D, 17119C0038D, 17119C0039D, 17119C0041D, 17119C0042D	

[1] Community mapped in both Madison County and St. Clair County

[2] Panel Not Printed

[3] No Special Flood Hazard Areas Identified

[4] Community mapped in both Madison County and Bond County

Table 1: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Granite City, City of	170443	07140101	17119C0167D, 17119C0169D, 17119C0186D, 17119C0187D, 17119C0188D, 17119C0189D, 17119C0304D, 17119C0306D, 17119C0307D, 17119C0308D, 17119C0309D, 17119C0317D, 17119C0326D, 17119C0327D, 17119C0328D, 17119C0329D, 17119C0336D	
Grantfork, Village of	170209	07140204	17119C0258D	
Hamel, Village of	170160	07140204	17119C0115D	
Hartford, Village of	170444	07110009, 07140101	17119C0176D, 17119C0177D, 17119C0178D, 17119C0179D, 17119C0186D, 17119C0187D	
Highland, City of	170445	07140204	17119C0258D, 17119C0262D, 17119C0264D, 17119C0268D, 17119C0270D, 17119C0405D, 17119C0406D, 17119C0410D	
Livingston, Village of	170794	07140204	17119C0109D, 17119C0110D	
Madison, City of[1]	170446	07140101	17119C0167D, 17119C0168D, 17119C0169D, 17119C0186D, 17119C0302D, 17119C0304D, 17119C0306D, 17119C0307D, 17119C0308D, 17119C0309D, 17119C0312D, 17119C0316D, 17119C0317D, 17119C0328D, 17119C0329D, 17119C0336D, 17119C0337D	

[1] Community mapped in both Madison County and St. Clair County

[2] Panel Not Printed

[3] No Special Flood Hazard Areas Identified

[4] Community mapped in both Madison County and Bond County

Table 1: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Madison County, Unincorporated Areas	170436	07110009, 07140101, 07140203, 07140204	17119C0032D, 17119C0034D, 17119C0035D[2], 17119C0041D, 17119C0042D, 17119C0043D, 17119C0044D, 17119C0055D, 17119C0060D, 17119C0061D, 17119C0062D, 17119C0063D, 17119C0064D, 17119C0066D, 17119C0067D, 17119C0068D, 17119C0069D, 17119C0080D, 17119C0085D, 17119C0090D, 17119C0095D, 17119C0105D, 17119C0109D, 17119C0110D, 17119C0115D, 17119C0120D, 17119C0130D, 17119C0135D, 17119C0138D, 17119C0140D, 17119C0145D, 17119C0157D, 17119C0167D, 17119C0168D, 17119C0169D, 17119C0176D, 17119C0178D, 17119C0179D, 17119C0181D, 17119C0182D, 17119C0183D, 17119C0184D, 17119C0186D, 17119C0187D, 17119C0188D, 17119C0189D, 17119C0191D, 17119C0192D, 17119C0193D, 17119C0194D, 17119C0203D, 17119C0204D, 17119C0205D, 17119C0208D, 17119C0210D, 17119C0211D, 17119C0212D, 17119C0213D, 17119C0214D, 17119C0216D, 17119C0220D, 17119C0230D, 17119C0235D, 17119C0240D, 17119C0242D, 17119C0244D, 17119C0245D, 17119C0255D, 17119C0258D, 17119C0260D, 17119C0262D, 17119C0264D, 17119C0265D, 17119C0268D, 17119C0270D, 17119C0280D, 17119C0290D, 17119C0302D, 17119C0304D, 17119C0306D, 17119C0307D, 17119C0308D, 17119C0309D, 17119C0312D, 17119C0316D, 17119C0317D, 17119C0326D, 17119C0327D, 17119C0328D, 17119C0329D, 17119C0331D, 17119C0332D, 17119C0333D, 17119C0334D, 17119C0336D, 17119C0337D, 17119C0341D, 17119C0342D, 17119C0351D, 17119C0352D, 17119C0353D, 17119C0354D, 17119C0356D, 17119C0357D,	

[1] Community mapped in both Madison County and St. Clair County
[2] Panel Not Printed
[3] No Special Flood Hazard Areas Identified
[4] Community mapped in both Madison County and Bond County

Table 1: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Madison County, Unincorporated Areas (continued)	170436	07110009, 07140101, 07140203, 07140204	17119C0358D, 17119C0359D, 17119C0361D, 17119C0362D, 17119C0370D, 17119C0376D, 17119C0378D, 17119C0380D, 17119C0382D, 17119C0385D, 17119C0390D, 17119C0395D, 17119C0405D, 17119C0406D, 17119C0410D, 17119C0415D, 17119C0420D, 17119C0430D, 17119C0440D	
Marine, Village of	170199	07140204	17119C0242D, 17119C0244D, 17119C0245D	
Maryville, Village of	170299	07140101	17119C0332D, 17119C0351D, 17119C0352D, 17119C0353D, 17119C0354D, 17119C0356D, 17119C0358D	
New Douglas, Village of[3]	170316	07140203, 07140204	17119C0135D	
Pierron, Village of[4]	170317	07140204	17119C0290D	
Pontoon Beach, Village of	170447	07140101	17119C0188D, 17119C0189D, 17119C0193D, 17119C0194D, 17119C0327D, 17119C0328D, 17119C0329D, 17119C0331D, 17119C0332D, 17119C0333D, 17119C0334D, 17119C0337D, 17119C0341D	
Roxana, Village of	170448	07110009, 07140101	17119C0177D, 17119C0179D, 17119C0181D, 17119C0182D, 17119C0183D, 17119C0184D, 17119C0191D, 17119C0192D	
South Roxana, Village of	170449	07110009, 07140101	17119C0179D, 17119C0183D, 17119C0187D, 17119C0191D	
St. Jacob, Village of[3]	170208	07140204	17119C0382D, 17119C0385D	
Troy, City of	170255	07140101, 07140204	17119C0356D, 17119C0357D, 17119C0358D, 17119C0359D, 17119C0376D, 17119C0378D	
Venice, City of	170450	07140101	17119C0308D, 17119C0316D	
Williamson, Village of	170324	07140204	17119C0110D	

[1] Community mapped in both Madison County and St. Clair County

[2] Panel Not Printed

[3] No Special Flood Hazard Areas Identified

[4] Community mapped in both Madison County and Bond County

Table 1: Listing of NFIP Jurisdictions (continued)

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Wood River, City of	170451	07110009, 07140101	17119C0063D, 17119C0064D, 17119C0068D, 17119C0176D, 17119C0177D, 17119C0181D, 17119C0182D, 17119C0183D	
Worden, Village of[3]	170825	07140101, 07140204	17119C0105D, 17119C0115D	

[1] Community mapped in both Madison County and St. Clair County

[2] Panel Not Printed

[3] No Special Flood Hazard Areas Identified

[4] Community mapped in both Madison County and Bond County

1.4 Considerations for using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1-percent-annual-chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1-percent-annual-chance and 0.2-percent-annual-chance floodplains; and 1-percent-annual-chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

  It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 30, "Map Repositories," within this FIS Report.

- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

  The initial Countywide FIS Report for Madison County became effective on **TBD**. Refer to Table 27 for information about subsequent revisions to the FIRMs.

- Selected FIRM panels for the community may contain information (such as floodways and cross sections) that was previously shown separately on the corresponding Flood Boundary and Floodway Map (FBFM) panels. In addition, former flood hazard zone designations have been changed as follows:

Old Zone	New Zone
A1 through A30	AE
V1 through V30	VE
B	X (shaded)
C	X (unshaded)

- The Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed

the minimum NFIP requirements. Visit the FEMA Web site at www.fema.gov/flood-insurance/rules-legislation/community-rating-system or contact your appropriate FEMA Regional Office for more information about this program.

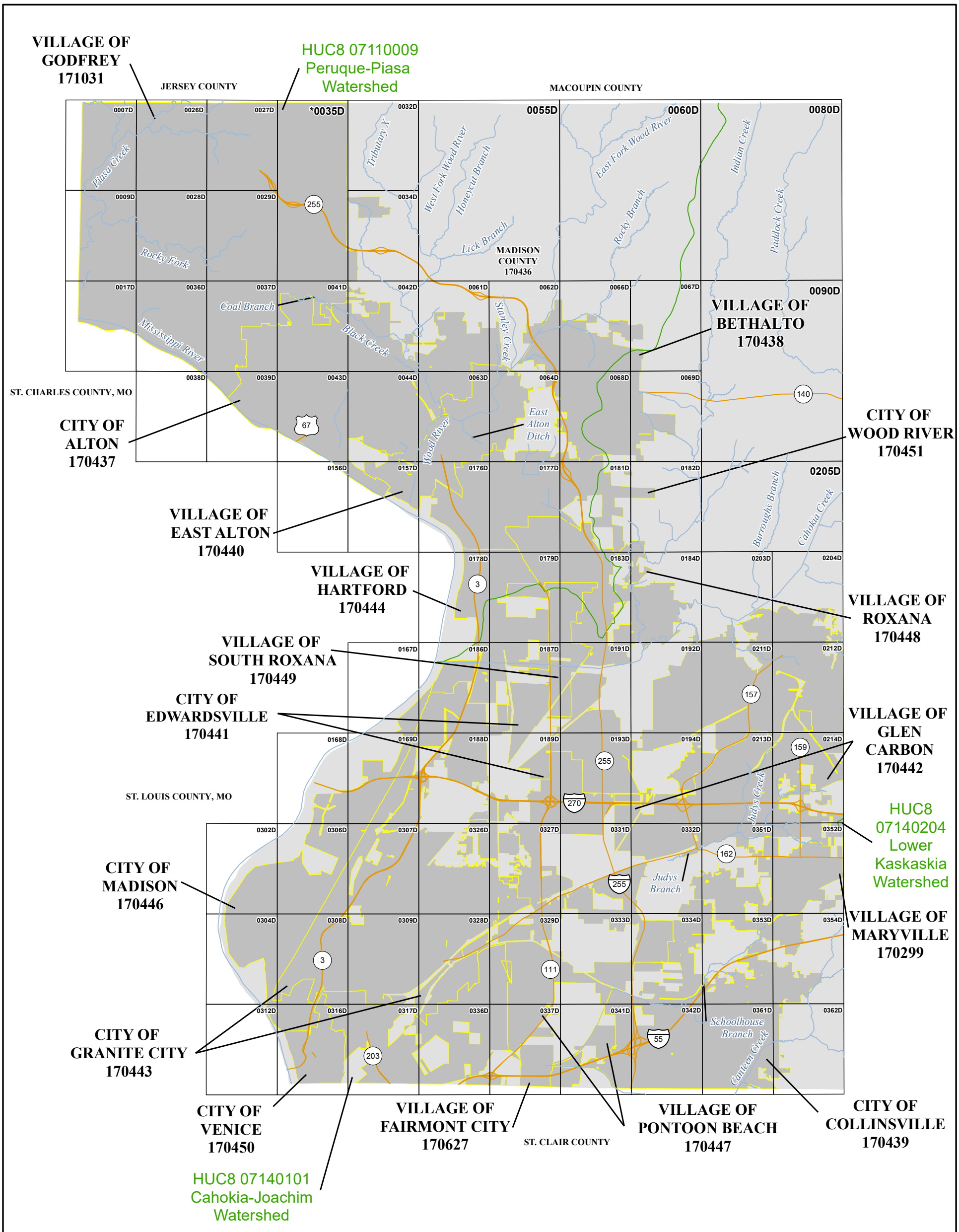
- FEMA does not design, build, inspect, operate, maintain, or certify levees. FEMA is responsible for accurately identifying flood hazards and communicating those hazards and risks to affected stakeholders. FEMA has identified one or more levee systems in this jurisdiction summarized in Table 8 of this FIS Report. For FEMA to accredit the identified levee systems, the levee systems must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled "Mapping of Areas Protected by Levee Systems."

  Information on the levee systems in this jurisdiction can be obtained from the USACE National Levee Database (https://levees.sec.usace.army.mil/). For additional information, the user should contact the appropriate jurisdiction floodplain administrator and the levee owner or sponsor.

- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at www.fema.gov/flood-maps/tutorials.

The FIRM Index in Figure 1 shows the overall FIRM panel layout within Madison County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and USGS HUC-8 codes.

Figure 1: FIRM Index



1 inch = 12,000 feet 1:144,000

N

0 6,000 12,000 24,000 feet

Map Projection:
NAD 1983 StatePlane Illinois West FIPS 1202 Feet; Western Hemisphere; Vertical Datum: NAVD 88

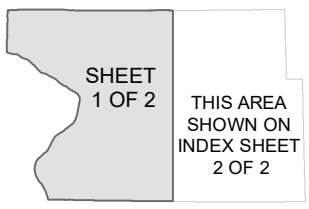
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS

INDEX LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX (SHEET 1 OF 2)

MADISON COUNTY, ILLINOIS and Incorporated Areas

PANELS PRINTED:

0007, 0009, 0017, 0026, 0027, 0028, 0029, 0032, 0034, 0036, 0037, 0038, 0039, 0041, 0042, 0043, 0044, 0055, 0060, 0061, 0062, 0063, 0064, 0066, 0067, 0068, 0069, 0080, 0090, 0156, 0157, 0167, 0168, 0169, 0176, 0177, 0178, 0179, 0181, 0182, 0183, 0184, 0186, 0187, 0188, 0189, 0191, 0192, 0193, 0194, 0203, 0204, 0205, 0211, 0212, 0213, 0214, 0302, 0304, 0306, 0307, 0308, 0309, 0312, 0316, 0317, 0326, 0327, 0328, 0329, 0331, 0332, 0333, 0334, 0336, 0337, 0341, 0342, 0351, 0352, 0353, 0354, 0361, 0362

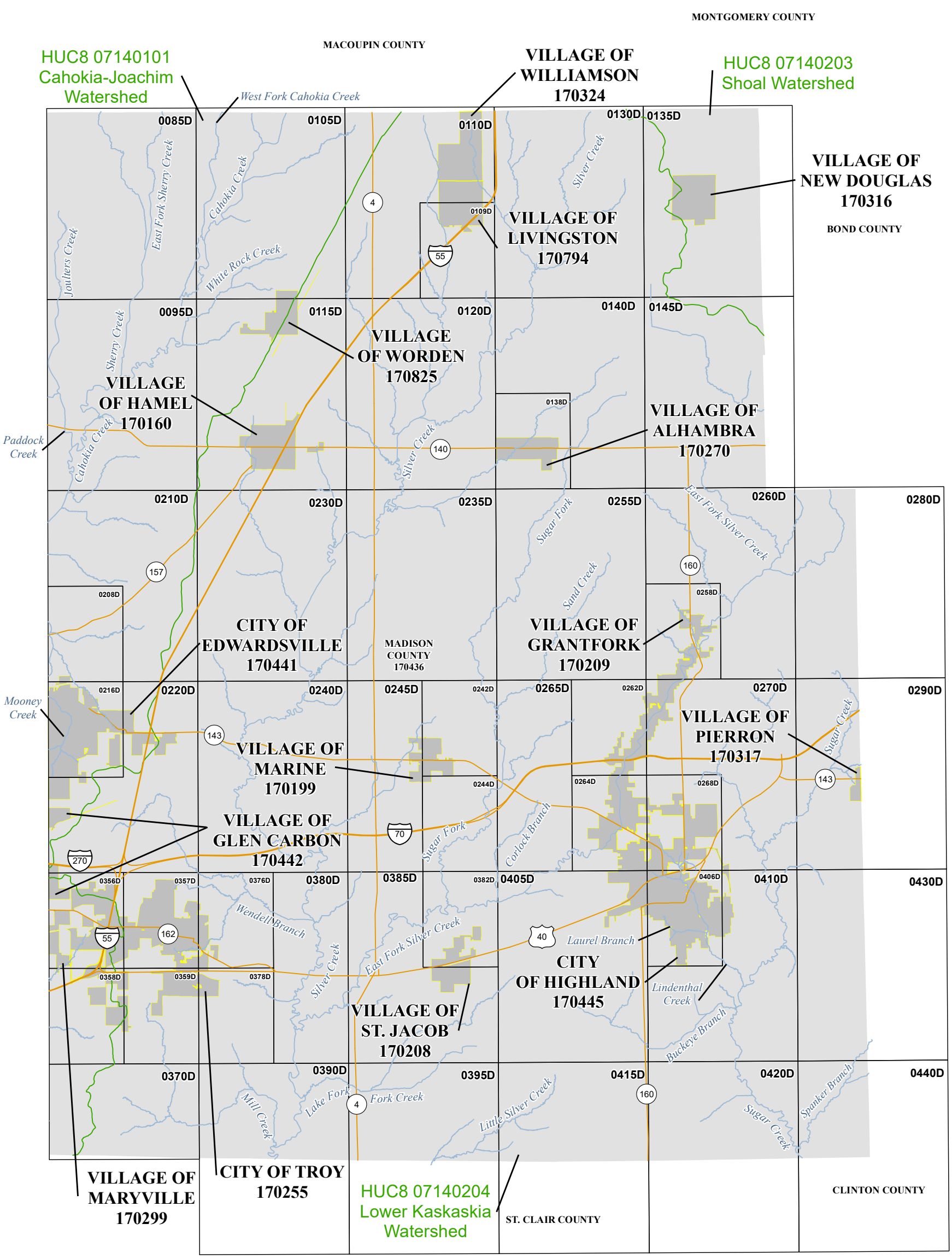
PRELIMINARY 8/10/2022

FEMA

MAP NUMBER
17119CIND1A

EFFECTIVE DATE

Figure 1: FIRM Index (continued)



1 inch = 12,500 feet 1:150,000

N

feet 0 6,250 12,500 25,000

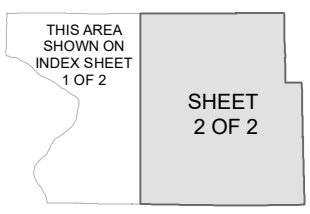
Map Projection:
NAD 1983 StatePlane Illinois West FIPS 1202 Feet; Western Hemisphere; Vertical Datum: NAVD 88

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

INDEX LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX (SHEET 2 OF 2)

MADISON COUNTY, ILLINOIS and Incorporated Areas

PANELS PRINTED:
0085, 0095, 0105, 0109, 0110, 0115, 0120, 0130, 0135, 0138, 0140, 0145, 0208, 0210, 0216, 0220, 0230, 0235, 0240, 0242, 0244, 0245, 0255, 0258, 0260, 0262, 0264, 0265, 0268, 0270, 0280, 0285, 0290, 0356, 0357, 0358, 0359, 0370, 0376, 0378, 0380, 0382, 0385, 0390, 0395, 0405, 0406, 0410, 0415, 0420, 0430, 0440

PRELIMINARY 8/10/2022

FEMA

MAP NUMBER
17119CIND2A

EFFECTIVE DATE

Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on that map. However, the FIRM panel does not contain enough space to show all the notes that may be relevant in helping to better understand the information on the panel. Figure 2 contains the full list of these notes.

Figure 2: FIRM Notes to Users

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Flood Map Service Center website or by calling the FEMA Mapping and Insurance eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 27 in this FIS Report.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting, or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Non-Coastal Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

Figure 2: FIRM Notes to Users (continued)

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may have reduced flood hazards due to flood control structures. Refer to Section 4.3 "Dams and Other Flood Hazard Reduction Measures" of this FIS Report for information on flood control structures for this jurisdiction.

PROJECTION INFORMATION: The projection used in the preparation of the map was State Plane Transverse Mercator, Illinois West Zone 1202. The horizontal datum was the North American Datum of 1983 NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov.

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 30 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM was derived from multiple sources. Transportation line data and municipal boundaries were provided by the Madison County Information Systems Department. Water features including HUC-8 boundaries, water features, and water lines were provided by the United States Geological Survey (USGS) as a part of their National Hydrography Dataset. Aerial imagery was provided by the United States Department of Agriculture (USDA). Source data for levees were provided by the United States Army Corps of Engineers (USACE). Source data for the Professional Land Survey System (PLSS) and the county political boundary were provided by the Illinois State Geological Survey (ISGS). For information about base maps, refer to Section 6.2 “Base Map” in this FIS Report.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Figure 2: FIRM Notes to Users (continued)

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Madison County, Illinois, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 27 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Madison County, Illinois, effective **TBD**.

ACCREDITED LEVEE SYSTEM: Check with your local community to obtain more information on the levee system(s) shown as providing flood hazard reduction on this panel. To mitigate flood hazards in residual risk areas, property owners and residents are encouraged to review the community's emergency preparedness plan and to consider flood insurance and floodproofing or other risk reduction measures. For more information on flood insurance, interested parties should visit www.fema.gov/flood-insurance.

NON-ACCREDITED LEVEE SYSTEM: This panel contains a levee system that has not been accredited and is therefore not recognized as reducing the 1-percent-annual-chance flood hazard.

FLOWAGE EASEMENT AREA: Flowage easement area data was provided by the U.S. Army Corps of Engineers, St. Louis District and is current as of June 2021. For information about the delineation of flowage easement areas in this Flood Risk Project, please contact U.S. Army Corps of Engineers, St. Louis District Levee Safety Program Manager at (314) 331-8425.

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Madison County.

Figure 3: Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.

	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
Zone A99	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
Zone VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.
	Regulatory Floodway determined in Zone AE.

Figure 3: Map Legend for FIRM (continued)

OTHER AREAS OF FLOOD HAZARD

Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.

Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.

Area with Reduced Flood Hazard due to Accredited or Provisionally Accredited Levee System: Area is shown as reduced flood hazard from the 1-percent-annual-chance or greater flood by a levee system. Overtopping or failure of any levee system is possible. See Notes to Users for important information.

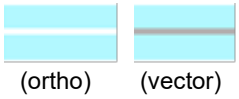
Area with Undetermined Flood Hazard due to Non-Accredited Levee System: Analysis and mapping procedures for non-accredited levee systems were applied resulting in a flood insurance rate zone where flood hazards are undetermined, but possible.

OTHER AREAS

Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

Unshaded Zone X: Areas of minimal flood hazard.

FLOOD HAZARD AND OTHER BOUNDARY LINES

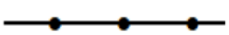


Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)

Limit of Study

Jurisdiction Boundary

Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet



Flowage Easement Area – privately owned land on which the U.S. Army Corps of Engineers has acquired certain perpetual rights

Figure 3: Map Legend for FIRM (continued)

GENERAL STRUCTURES	
Aqueduct *Channel* *Culvert* *Storm Sewer*	Channel, Culvert, Aqueduct, or Storm Sewer
Dam *Jetty* *Weir*	Dam, Jetty, Weir
	Levee, Dike, or Floodwall
Bridge	Bridge
REFERENCE MARKERS	
22.0	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
B 20.2	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
5280 21.1	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
17.5	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
8	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
513	Base Flood Elevation Line
ZONE AE **(EL 16)**	Static Base Flood Elevation value (shown under zone label)
ZONE AO **(DEPTH 2)**	Zone designation with Depth
ZONE AO **(DEPTH 2)** **(VEL 15 FPS)**	Zone designation with Depth and Velocity

Figure 3: Map Legend for FIRM (continued)

BASE MAP FEATURES	
Missouri Creek	River, Stream or Other Hydrographic Feature
234	Interstate Highway
234	U.S. Highway
234	State Highway
234	County Highway
MAPLE LANE	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
RAILROAD	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
$^{42}76^{000m}$E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and Madison County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1-percent-annual-chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 22), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1-percent and 0.2-percent-annual-chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1-percent-annual-chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Madison County, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 12. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1-percent-annual-chance floodplain corresponds to the SFHAs. The 0.2-percent-annual-chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Belt Line Creek	Alton, City of	Approximately 280 feet downstream of Burling Drive	Immediately downstream of Homer M. Adams Parkway	07110009	0.7		Y	AE	July 1978
Black Creek	Alton, City of; Madison County, Unincorporated Areas	Confluence with West Fork Wood River	Immediately downstream of North Rodgers Avenue	07110009	0.4		N	A	N/A
Black Creek	Alton, City of	Immediately downstream of North Rodgers Avenue	Confluence of Coal Branch	07110009	1.3		Y	AE	July 1978
Cahokia Creek	Edwardsville, City of; Hartford, Village of; Madison County, Unincorporated Areas; Roxana, Village of; South Roxana, Village of	Confluence with Mississippi River	Approximately 3.14 miles upstream of State Route 140	07110009, 07140101	20.2		Y	AE	11/17/2019
Cahokia Creek	Madison County, Unincorporated Areas	Approximately 3.14 miles upstream of State Route 140	Approximately 500 feet downstream of confluence of Cahokia Creek Tributary 8 (at XS ‘AB’)	07140101	3.9		Y	AE	June 1979
Cahokia Creek	Madison County, Unincorporated Areas	Approximately 500 feet downstream of confluence of Cahokia Creek Tributary 8 (at XS ‘AB’)	Madison/St. Clair County Boundary	07140101	6.4		Y	AE	June 1979

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Canteen Creek	Collinsville, City of; Madison County, Unincorporated Areas	At Collinsville Road	Madison/St. Clair County Boundary	07140101	0.5		Y	AE	June 1979
Canteen Creek	Collinsville, City of; Madison County, Unincorporated Areas	St. Clair/Madison County Boundary	Approximately 3,100 feet upstream of Interstate 55	07140101	6.0		Y	AE	June 1979
Dentons Branch	Madison County, Unincorporated Areas	Approximately 0.5 miles upstream of confluence with Sherry Creek	Approximately 1.4 miles upstream of confluence with Sherry Creek	07140101	1.4		N	A	June 1979
East Alton Ditch	East Alton, Village of	At Wood River D&LD Lower System	Approximately 100 feet upstream of Douglas Street	07110009	0.8		Y	AE	October 1977
East Fork Sherry Creek	Madison County, Unincorporated Areas	Mouth at Sherry Creek	Immediately upstream of Renken Road	07140101	1.4		Y	AE	June 1979
East Fork Silver Creek	Highland, City of; Madison County, Unincorporated Areas	Confluence with Silver Creek	State Route 143	07140204	14.4		Y	AE	June 1979
East Fork Silver Creek	Highland, City of; Madison County, Unincorporated Areas	State Route 143	Approximately 1,400 feet downstream of State Route 160	07140204	5.0		N	AE	June 1979
East Fork Silver Creek	Grantfork, Village of; Highland, City of; Madison County, Unincorporated Areas	Approximately 1,400 feet downstream of State Route 160	Approximately 300 feet upstream of Ludwig Road	07140204	2.4		Y	AE	June 1979
East Fork Wood River	Alton, City of; East Alton, Village of; Madison County, Unincorporated Areas	Confluence with Wood River and West Fork Wood River	Approximately 1,270 feet upstream of State Route 111	07110009	2.9		Y	AE	11/17/2019

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
East Fork Wood River	Bethalto, Village of; Madison County, Unincorporated Areas	Approximately 1,270 feet upstream of State Route 111	Approximately 2,000 feet upstream of Seiler Road	07110009	6.5		Y	AE	June 1979
Honeycut Branch	Madison County, Unincorporated Areas	Confluence with West Fork Wood River	Approximately 10,600 feet upstream of Seiler Road	07110009	4.5		Y	AE	June 1979
Indian Creek	Madison County, Unincorporated Areas; Roxana, Village of	Confluence with Cahokia Creek	Approximately 1,200 feet upstream of Edwardsville Road	07140101	3.2		Y	AE	11/17/2019
Indian Creek	Madison County, Unincorporated Areas; Roxana, Village of	Approximately 1,200 feet upstream of Edwardsville Road	Approximately 120 feet upstream of Moro Road	07140101	8.7		Y	AE	June 1979
Interior Drainage - Metro East Sanitary District Levee Systems	Fairmont City, Village of; Granite City, City of; Madison, City of; Madison County, Unincorporated Areas; Pontoon Beach, Village of; Venice, City of	N/A	N/A	07140101		2.9	N	A, AE, AH	06/29/2018
Interior Drainage - Wood River Levee System	Hartford, Village of; Madison County, Unincorporated Areas; Roxana, Village of; South Roxana, Village of	N/A	N/A	07110009, 07140101		1.2	N	AE, AH	06/29/2018
Interior Drainage - Wood River Upper Levee System	Alton, City of; East Alton, Village of; Madison County, Unincorporated Areas	N/A	N/A	07110009		0.2	N	AE	03/10/2017

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Joulters Creek	Madison County, Unincorporated Areas	Confluence with Paddock Creek	Holiday Dam Road	07140101	0.3		Y	AE	June 1979
Joulters Creek	Madison County, Unincorporated Areas	Holiday Dam Road	Waikiki Drive	07140101	2.1		N	AE	June 1979
Joulters Creek	Madison County, Unincorporated Areas	Waikiki Drive	Approximately 450 feet upstream of Renken Road	07140101	2.3		Y	AE	June 1979
Judys Branch	Glen Carbon, Village of; Madison County, Unincorporated Areas	Approximately 1,100 feet downstream of State Highway 157	Approximately 4,100 feet upstream of State Route 159	07140101	4.9		N	AE	November 2005
Judys Branch Tributary 5	Glen Carbon, Village of	Confluence with Judys Branch	Confluence with Judys Branch Tributary 5a and 5b	07140101	0.5		N	AE	November 2005
Judys Branch Tributary 5a	Glen Carbon, Village of	Confluence with Judys Branch Tributary 5	Approximately 1,000 feet upstream of State Route 159	07140101	0.7		N	AE	November 2005
Judys Branch Tributary 5b	Glen Carbon, Village of; Madison County, Unincorporated Areas; Maryville, Village of	Confluence with Judys Branch Tributary 5	Approximately 4,090 feet upstream of State Route 159	07140101	1.4		N	AE	November 2005
Judys Branch Tributary 9	Glen Carbon, Village of; Madison County, Unincorporated Areas	Confluence with Judys Branch	Approximately 610 feet upstream of East Ingle Drive	07140101	0.2		N	AE	November 2005
Judys Branch Tributary 9a	Glen Carbon, Village of; Madison County, Unincorporated Areas	Confluence with Judys Branch Tributary 9	Approximately 160 feet upstream of Ash Road	07140101	0.4		N	AE	November 2005

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Judys Branch Tributary 9b	Madison County, Unincorporated Areas	Confluence with Judys Branch Tributary 9	Approximately 445 feet upstream of confluence with Judys Branch Tributary 9	07140101	0.1		N	AE	November 2005
Judys Branch Tributary 10	Glen Carbon, Village of	Confluence with Judys Branch	Approximately 450 feet upstream of abandoned railroad	07140101	0.1		N	AE	November 2005
Judys Creek	Glen Carbon, Village of; Madison County, Unincorporated Areas	Confluence with Judys Branch	Approximately 1,350 feet upstream of Norfolk & Western Railroad	07140101	2.8		N	AE	November 2005
Judys Creek Tributary B	Glen Carbon, Village of; Madison County, Unincorporated Areas	Confluence with Judys Creek	Approximately 1,000 feet upstream of Timberwolfe Drive	07140101	0.4		N	AE	November 2005
Laurel Branch	Highland, City of; Madison County, Unincorporated Areas	Confluence with Lindenthal Creek	Approximately 3,190 feet upstream of confluence with Laurel Branch Tributary 1	07140204	1.4		Y	AE	November 2021
Laurel Branch Tributary 1	Highland, City of; Madison County, Unincorporated Areas	Confluence with Laurel Branch	Approximately 945 feet upstream of Willow Creek Drive	07140204	0.3		Y	AE	November 2021
Lindenthal Creek	Highland, City of; Madison County, Unincorporated Areas	Approximately 2,440 feet upstream of confluence with Sugar Fork	Approximately 970 feet upstream of US Highway 40	07140204	3.6		Y	AE	November 2021
Lindenthal Creek Tributary 1	Highland, City of; Madison County, Unincorporated Areas	Confluence with Lindenthal Creek	Approximately 1,400 feet upstream of Troxler Avenue	07140204	1.3		Y	AE	November 2021

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Lindenthal Creek Tributary 2	Highland, City of; Madison County, Unincorporated Areas	Confluence with Lindenthal Creek Tributary 1	Approximately 410 feet upstream of US Highway 40	07140204	0.6		Y	AE	November 2021
Lindenthal Creek Tributary 3	Highland, City of; Madison County, Unincorporated Areas	Confluence with Lindenthal Creek Tributary 2	Approximately 1,350 feet upstream of confluence with Lindenthal Creek Tributary 2	07140204	0.3		Y	AE	November 2021
Lindenthal Creek Tributary 4	Highland, City of; Madison County, Unincorporated Areas	Confluence with Lindenthal Creek Tributary 1	Approximately 1,820 feet upstream of confluence with Lindenthal Creek Tributary 1	07140204	0.3		Y	AE	November 2021
Mississippi River	Alton, City of; East Alton, Village of; Godfrey, Village of; Granite City, City of; Hartford, Village of; Madison, City of; Madison County, Unincorporated Areas; Venice, City of; Wood River, City of	Madison/Jersey County Boundary	Madison/St. Clair County Boundary	07110009, 07140101	26.3		Y	AE	2004
Mooney Creek	Madison County, Unincorporated Areas	Confluence with Cahokia Creek	Approximately 440 feet downstream of Marine Road	07140101	2.8		Y	AE	June 1979
Mooney Creek	Edwardsville, City of; Madison County, Unincorporated Areas	Approximately 440 feet downstream of Marine Road	Immediately upstream of dam	07140101	0.7		Y	AE	May 2003

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Mooney Creek	Edwardsville, City of; Madison County, Unincorporated Areas	Immediately upstream of dam	Approximately 130 feet downstream of East Lake Drive	07140101	1.5		N	AE	May 2003
Mooney Creek	Edwardsville, City of	Approximately 130 feet downstream of East Lake Drive	Immediately downstream of Goshen Road	07140101	0.9		Y	AE	May 2003
Mooney Creek Tributary 1	Edwardsville, City of	Confluence with Mooney Creek	Approximately 800 feet upstream of Stonebrooke Drive	07140101	0.4		Y	AE	May 2003
Mooney Creek Tributary 2	Edwardsville, City of	Confluence with Mooney Creek	Approximately 1,900 feet upstream of Alderwood Court	07140101	0.5		Y	AE	May 2003
Paddock Creek	Madison County, Unincorporated Areas	Mouth at Cahokia Creek	Approximately 1,600 feet upstream of Stieglitz Road	07140101	10.8		Y	AE	June 1979
Sherry Creek	Madison County, Unincorporated Areas	Confluence with Cahokia Creek	Immediately downstream of Sherry Creek Road	07140101	2.0		Y	AE	June 1979
Sherry Creek	Madison County, Unincorporated Areas	Immediately downstream of Sherry Creek Road	Confluence of East Fork Sherry Creek	07140101	1.2		Y	AE	June 1979
Silver Creek	Madison County, Unincorporated Areas	Approximately 10,000 feet downstream of Lebanon Road at county boundary	Approximately 3,000 feet upstream of Silver Creek Road	07140204	38.1		Y	AE	June 1979
Silver Creek Tributary No. 1	Madison County, Unincorporated Areas	Confluence with Silver Creek	Approximately 4,800 feet upstream of Conn Road	07140204	3.2		Y	AE	June 1979

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Silver Creek Tributary No. 2	Livingston, Village of; Madison County, Unincorporated Areas	Confluence with Silver Creek	Missouri Pacific Railroad	07140204	5.4		Y	AE	June 1979
Smith Lake Tributary	Madison County, Unincorporated Areas; Roxana, Village of; Wood River, City of	Immediately upstream of East Edwardsville Road	Approximately 1,150 feet upstream of Wesley Drive	07110009	0.8		N	AE	March 1999
Smith Lake Tributary No. 2	Wood River, City of	Confluence with Smith Lake Tributary	Approximately 2,200 feet upstream of confluence with Smith Lake Tributary	07110009	0.4		N	N/A	02/09/2018
Stanley Creek	Madison County, Unincorporated Areas	Confluence with East Fork Wood River	Approximately 3,420 feet upstream of 14th Street	07110009	1.9		Y	AE	June 1979
Sugar Fork	Madison County, Unincorporated Areas	Confluence with East Fork Silver Creek	Approximately 4,750 feet upstream of Mayer Road	07140204	6.6		Y	AE	June 1979
Tributary E	Madison County, Unincorporated Areas; Wood River, City of	Approximately 4,100 feet downstream of Valley Drive	Approximately 50 feet upstream of East Rosedale Drive	07110009	1.5		Y	AE	June 1979
Tributary F	Madison County, Unincorporated Areas; Wood River, City of	Approximately 1,600 feet downstream of confluence of Tributary G	Approximately 1,100 feet upstream of confluence of Tributary G	07110009	0.7		Y	AE	June 1979
Tributary G	Madison County, Unincorporated Areas; Wood River, City of	Confluence with Tributary F	Approximately 50 feet upstream of Sitze Street	07110009	0.3		Y	AE	June 1979

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Tributary X	Madison County, Unincorporated Areas	Confluence with West Fork Wood River	Madison/Macoupin County Boundary	07110009	3.5		Y	AE	June 1979
Tributary Z	Madison County, Unincorporated Areas	Confluence with Indian Creek	Approximately 200 feet upstream of Melody Lane	07140101	1.3		Y	AE	June 1979
West Fork Wood River	Alton, City of; East Alton, Village of; Madison County, Unincorporated Areas	Confluence with Wood River and East Fork Wood River	Approximately 800 feet upstream of State Route 255	07110009	5.9		Y	AE	11/17/2019
West Fork Wood River	Madison County, Unincorporated Areas	Approximately 800 feet upstream of State Route 255	Approximately 2,200 feet upstream of Straube Lane	07110009	4.7		Y	AE	June 1979
Wood River	Alton, City of; East Alton, Village of; Madison County, Unincorporated Areas	Confluence with Mississippi River	Confluence of East Fork Wood River and West Fork Wood River	07110009	2.4		Y	AE	11/17/2019
Various Zone A Ponding Areas	Fairmont City, Village of; Granite City, City of; Hartford, Village of; Madison, City of; Madison County, Unincorporated Areas; Pontoon Beach, Village of; Venice, City of	N/A	N/A	07110009, 07140101			N	A	Various

Table 2: Flooding Sources Included in this FIS Report (continued)

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (ac) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Various Zone AH Areas not included in Interior Drainage Studies otherwise listed	Fairmont City, Village of; Granite City, City of; Hartford, Village of; Madison, City of; Madison County, Unincorporated Areas; Pontoon Beach, Village of; Venice, City of	N/A	N/A	07110009, 07140101			N	AH	Various
Zone A Reaches within Madison County	Alhambra, Village of; Alton, City of; Bethalto, Village of; Collinsville, City of; East Alton, Village of; Edwardsville, City of; Fairmont City, Village of; Glen Carbon, Village of; Godfrey, Village of; Granite City, City of; Grantfork, Village of; Hamel, Village of; Hartford, Village of; Highland, City of; Livington, Village of; Madison, City of; Madison County, Unincorporated Areas; Marine, Village of; Maryville, Village of; Pierron, Village of; Pontoon Beach, Village of; Roxana, Village of; Troy, City of; Williamson, Village of; Wood River, City of	Various	Various	07110009. 07140101, 07140204	352.8		N	A	December 2015

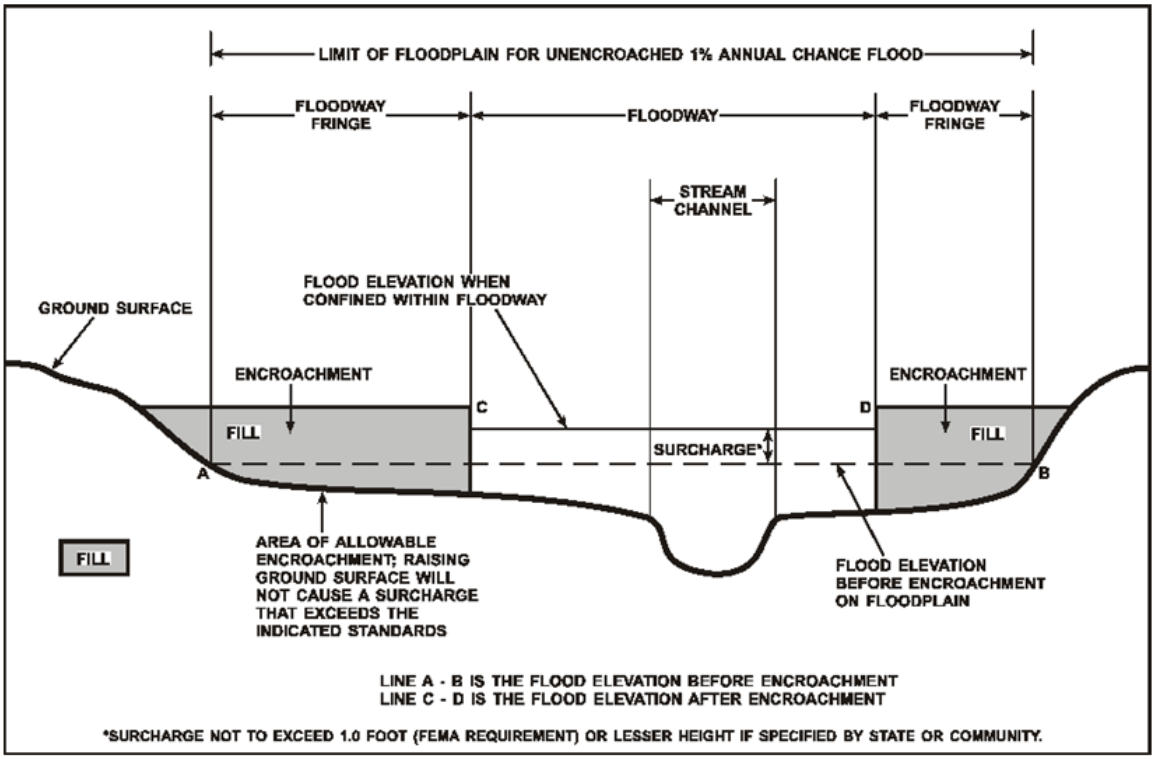
2.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard.

For purposes of the NFIP, a floodway is used as a tool to assist local communities in balancing floodplain development against increasing flood hazard. With this approach, the area of the 1-percent-annual-chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1-percent-annual-chance flood. The floodway fringe is the area between the floodway and the 1-percent-annual-chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water surface elevation of the 1-percent-annual-chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 4.

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. Regulations for Illinois require communities in Madison County to limit increases caused by encroachment to 0.1 foot, maintain at least 90% of the storage volume of the 1-percent-annual-chance floodplain and limit increases in velocities to 10%. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 23, “Floodway Data.”

All floodways that were developed for this Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

All flowage easement areas relevant to this Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. This data was provided by the U.S. Army Corps of Engineers, St. Louis District and is current as of June 2021. For information about the delineation of flowage easement areas in this Flood Risk Project, please contact U.S. Army Corps of Engineers, St. Louis District Levee Safety Program Manager at (314) 331-8425.

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The BFE is the elevation of the 1-percent-annual-chance flood. These BFEs are most commonly rounded to the whole

foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

BFEs are primarily intended for flood insurance rating purposes. Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. For example, the user may use the FIRM to determine the stream station of a location of interest and then use the profile to determine the 1-percent annual chance elevation at that location. Because only selected cross sections may be shown on the FIRM for riverine areas, the profile should be used to obtain the flood elevation between mapped cross sections. Additionally, for riverine areas, whole-foot elevations shown on the FIRM may not exactly reflect the elevations derived from the hydraulic analyses; therefore, elevations obtained from the profile may more accurately reflect the results of the hydraulic analysis.

2.4 Non-Encroachment Zones

This section is not applicable to this Flood Risk Project.

2.5 Coastal Flood Hazard Areas

This section is not applicable to this Flood Risk Project.

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this Flood Risk Project.

Figure 5: Wave Runup Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this Flood Risk Project.

2.5.3 Coastal High Hazard Areas

This section is not applicable to this Flood Risk Project.

Figure 6: Coastal Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this Flood Risk Project.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Figure 3, "Map Legend for FIRM." Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

The 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood insurance zones in Madison County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Alhambra, Village of	A, X
Alton, City of	A, AE, AH, X
Bethalto, Village of	A, AE, X
Collinsville, City of	A, AE, AH, X
East Alton, Village of	A, AE, AH, X
Edwardsville, City of	A, AE, AH, X
Fairmont City, Village of	A, AH, X
Glen Carbon, Village of	A, AE, AH, X
Godfrey, Village of	A, AE, X
Granite City, City of	A, AE, AH, X
Grantfork, Village of	A, AE, X
Hamel, Village of	A, X
Hartford, Village of	A, AE, AH, X
Highland, City of	A, AE, X
Livingston, Village of	A, AE, X
Madison, City of	A, AE, AH, X
Madison County, Unincorporated Areas	A, AE, AH, X
Marine, Village of	A, X
Maryville, Village of	A, AE, X
New Douglas, Village of	X
Pierron, Village of	A, X
Pontoon Beach, Village of	A, AE, AH, X
Roxana, Village of	A, AE, AH, X
South Roxana, Village of	AE, AH, X
St. Jacob, Village of	X
Troy, City of	A, X

Table 3: Flood Zone Designations by Community (continued)

Community	Flood Zone(s)
Venice, City of	A, AE, AH, X
Williamson, Village of	A, X
Wood River, City of	A, AE, AH, X
Worden, Village of	X

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 4 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Cahokia-Joachim	07140101	Mississippi River	The western portion of Madison County is contained in this watershed.	1,646
Lower Kaskaskia	07140204	Silver Creek	The eastern portion of Madison County is contained in this watershed.	1,606
Peruque-Piasa	07110009	Peruque Creek	The northwestern corner of Madison County is contained in this watershed.	669
Shoal	07140203	Shoal Creek	The northeastern corner of Madison County is contained in this watershed.	917

4.2 Principal Flood Problems

Table 5 contains a description of the principal flood problems that have been noted for Madison County by flooding source.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
Belt Line Creek	Flooding occurs periodically as a result of heavy local rainfall.
Black Creek	Flooding occurs periodically as a result of heavy local rainfall.
Canteen Creek	Flooding occurs periodically as a result of heavy local rainfall.

Table 5: Principal Flood Problems (continued)

Flooding Source	Description of Flood Problems
East Alton Ditch	Lack of topographical relief encourages internal ponding behind the levee.
East Fork Wood River	Flooding occurs periodically as a result of heavy local rainfall.
Mississippi River	Areas landward of the levees are subject to flooding due to interior drainage. Floods have occurred on the Mississippi River in all seasons. However, an analysis of the dominant seasonal characteristics of floods indicate that the flood season is April through June, with 75 percent of floods occurring during this period. Some of the most serious floods were associated with spring thaws. Major floods from the Mississippi River have occurred in 1785, 1844, 1903, 1927, 1943, 1944, 1951, 1969, 1973, 1982, 1983, 1993, 1994, 1995, 1996, 2001, 2003, 2013, 2016, 2017 and 2019.

Table 6 contains information about historic flood elevations in the communities within Madison County.

Table 6: Historic Flooding Elevations

Flooding Source	Location	Historic Peak (Feet NAVD88)	Event Date	Approximate Recurrence Interval (years)	Source of Data
Mississippi River	Industrial and commercial areas near the City of Alton	432.2	1973	35	US Geological Survey, Water Data Report

4.3 Dams and Other Flood Hazard Reduction Measures

Table 7 contains information about non-levee flood hazard reduction measures within Madison County such as dams or jetties. Levee systems are addressed in Section 4.4 of this FIS Report.

Table 7: Dams and Other Flood Hazard Reduction Measures

[Not Applicable to this Flood Risk Project]

4.4 Levee Systems

For purposes of the NFIP, FEMA only recognizes levee systems that meet, and continue to meet, minimum design, operation, and maintenance standards that are consistent with comprehensive floodplain management criteria. The Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10) describes the information needed for FEMA to determine if a levee system reduces the flood hazard from the 1-percent-annual-chance flood. This information must be supplied to FEMA by the community or other party when a flood risk study or restudy is conducted, when FIRMs are revised, or upon FEMA request. FEMA reviews the information for the purpose of establishing the appropriate flood hazard zone.

Levee systems that are determined to reduce the hazard from the 1-percent-annual-chance flood are accredited by FEMA. FEMA can also grant provisional accreditation to a levee system that was previously accredited on an effective FIRM and for which FEMA is awaiting data and/or documentation to demonstrate compliance with 44 CFR 65.10. These levee systems are referred to as Provisionally Accredited Levees, or PALs. Provisional accreditation provides communities and levee owners with a specified timeframe to obtain the necessary data to confirm the levee system's accreditation status. Accredited levee systems and PALs are shown on the FIRM using the symbology shown in Figure 3. If the required information for a PAL is not submitted within the required timeframe, or if information indicates that a levee system no longer meets 44 CFR 65.10, FEMA will consider the levee system as non-accredited and issue an effective FIRM showing the levee-impacted area as a SFHA or Zone D.

FEMA coordinated with USACE, local communities, and other organizations to compile a list of levee systems that exist within Madison County. Table 8, "Levee Systems," lists all accredited levee systems, PALs, and non-accredited levee systems shown on the FIRM for this FIS Report. Other categories of levees may also be included in the table. Levee systems identified in the table are displayed on the FIRM with notes to users to indicate their flood hazard mapping status.

Please note that the information presented in Table 8 is subject to change at any time. For that reason, the latest information regarding the levee systems presented in the table may be obtained by accessing the National Levee Database. For additional information, contact the levee owner/sponsor or the local community shown in Table 30.

Table 8: Levee Systems

Community	Flooding Source(s)	NLD Levee System ID	NLD Levee System Name	Levee System Status on Effective FIRM	FIRM Panel(s)	Levee Owner(s) / Sponsor(s)
Madison County, Unincorporated Areas; Roxana, Village of	Cahokia Creek	1505000803	Private Levee on Cahokia Creek	Non-Accredited	17119C0191D, 17119C0192D	Wood River Levee and Drainage District
Granite City, City of; Hartford, Village of; Madison County, Unincorporated Areas; Madison, City of; South Roxana, Village of; Venice, City of	Mississippi River, Cahokia Creek	5605300001	MESD / Chain of Rocks East Levee System	Accredited	17119C0169D, 17119C0186D, 17119C0187D, 17119C0188D, 17119C0191D, 17119C0192D, 17119C0306D, 17119C0307D, 17119C0308D, 17119C0316D	Metro East Sanitary District, USACE – St. Louis District
Alton, City of; East Alton, Village of; Hartford, Village of; Madison County, Unincorporated Areas; Roxana, Village of; South Roxana, Village of; Wood River, City of	Mississippi River, Wood River, East Fork Wood River, Cahokia Creek, Indian Creek	5605470001	Wood River D&LD Lower System	Accredited	17119C0044D, 17119C0063D, 17119C0157D, 17119C0176D, 17119C0178D, 17119C0183D, 17119C0186D, 17119C0187D, 17119C0191D	Wood River Drainage & Levee District, Union Pacific
Alton, City of; East Alton, Village of; Madison County, Unincorporated Areas	Mississippi River, Wood River	5605470002	Wood River D&LD Upper System	Accredited	17119C0043D, 17119C0044D, 17119C0063D, 17119C0157D	Wood River Drainage & Levee District
Alton, City of; East Alton, Village of	East Fork Wood River, West Fork Wood River	5605470003	Wood River D&LD East and West System	Accredited	17119C0063D, 17119C0064D	Wood River Drainage & Levee District

Table 8: Levee Systems (continued)

Community	Flooding Source(s)	NLD Levee System ID	NLD Levee System Name	Levee System Status on Effective FIRM	FIRM Panel(s)	Levee Owner(s) / Sponsor(s)
Madison, City of; Madison County, Unincorporated Areas	Mississippi River	5605920001	Chouteau Island / Chain of Rocks West Levee System	Non-Accredited	17119C0167D, 17119C0168D, 17119C0169D, 17119C0186D, 17119C0304D, 17119C0306D, 17119C0307D, 17119C0308D	USACE – St. Louis District, Chouteau Island Levee District

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

In addition to these flood events, the “1-percent-plus”, or “1%+”, annual chance flood elevation has been modeled for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% “plus”). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

The engineering analyses described here incorporate the results of previously issued Letters of Map Change (LOMCs) listed in Table 26, “Incorporated Letters of Map Change”, which include Letters of Map Revision (LOMRs). For more information about LOMRs, refer to Section 6.5, “FIRM Revisions.”

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for

each stream is provided in Table 12. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 9. Frequency Discharge-Drainage Area A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 10. Stream gage information is provided in Table 11. Discharges for riverine flooding sources designated as Zone A on the FIRM are not shown in Table 9 of this FIS report, however discharge values are included in the FIRM database in the S_Nodes and L_Summary_Discharges feature classes.

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Belt Line Creek	At mouth	1.16	722	*	1,169	1,300	1,513
Belt Line Creek	At Burling Drive	0.99	1,041	*	1,437	1,587	1,883
Black Creek	At mouth	5.25	2,456	*	3,584	3,954	4,589
Black Creek	Immediately upstream of confluence of Coal Branch	0.83	816	*	1,162	1,285	1,490
Cahokia Creek	At US Route 255	260.5	11,937	14,559	16,539	18,614	23,628
Cahokia Creek	Immediately below confluence with Indian Creek	260.2	11,996	14,643	16,643	18,739	23,807
Cahokia Creek	Approximately 8,125 feet above confluence with Indian Creek	217.5	10,679	12,591	14,067	15,605	19,396
Cahokia Creek	At USGS Gage 05587900: Cahokia Creek at Edwardsville, IL	212.0	10,448	12,170	13,501	14,876	18,294
Cahokia Creek	Immediately above confluence with Mooney Creek	205.2	10,046	11,850	13,243	14,695	18,274
Cahokia Creek	Immediately below confluence with Sherry Creek	145.8	7,658	9,590	11,042	12,569	16,234
Cahokia Creek	Immediately above confluence with Sherry Creek	117.6	6,592	8,421	9,783	11,214	14,614
Cahokia Creek	At Madison County line	78.3	10,300	*	16,300	19,700	24,100

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Canteen Creek	At State Route 157 (In St Clair County)	22.6	4,300	*	7,000	8,400	11,000
Canteen Creek	At State Route 159 (In St Clair County)	20.1	4,500	*	7,100	8,600	11,100
Canteen Creek	At South Mulberry Road	16.2	4,100	*	6,600	8,000	10,300
Canteen Creek	At Lebanon Road	10.3	3,900	*	6,300	7,500	9,600
East Alton Ditch	At mouth	0.48	350	*	502	612	780
East Fork Silver Creek	At mouth	98.2	7,000	*	12,500	15,200	19,200
East Fork Silver Creek	Immediately downstream of confluence of Sugar Fork	88.0	7,300	*	12,950	15,500	19,500
East Fork Silver Creek	At Highland Silver Lake Dam	47.5	4,500	*	7,450	9,000	11,300
East Fork Wood River	At Winchester Access Road	62.1	6,777	9,094	10,822	12,674	17,980
East Fork Wood River	Approximately 1,505 feet below West MacArthur Boulevard	59.6	6,668	8,870	10,512	12,285	17,660
East Fork Wood River	Immediately below confluence with Stanley Creek	58	6,529	8,656	10,223	11,961	17,451
East Fork Wood River	At McCoy Road	44.8	7,500	*	11,600	14,200	18,800
Honeycut Branch	At mouth	17.5	2,900	*	4,700	5,700	7,700
Indian Creek	At USGS Gage 05588000: Indian Creek at Wanda, IL	36.7	4,604	6,361	7,840	9,465	13,869

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Indian Creek	East Roosevelt Drive	18.1	3,100	*	4,900	6,000	7,300
Joulters Creek	At mouth	6.3	500	*	900	1,100	1,400
Judys Branch	Immediately downstream of State Highway 157	7.75	2,245	*	3,623	4,736	6,847
Judys Branch	Immediately downstream of confluence of Judys Creek	7.00	2,229	*	3,604	4,706	6,719
Judys Branch	Immediately upstream of Collinsville Street	4.45	1,540	*	2,504	3,264	4,539
Judys Branch	Immediately downstream of confluence of Judys Branch Tributary 5	4.05	1,489	*	2,410	3,139	4,292
Judys Branch	Immediately upstream of Glen Crossing Road	2.72	1,078	*	1,744	2,256	3,021
Judys Branch	Immediately upstream of I-270	2.09	957	*	1,559	1,857	2,459
Judys Branch	Immediately downstream of confluence of Judys Branch Tributary 9	1.99	886	*	1,438	1,858	2,465
Judys Branch	Immediately downstream of confluence of Judys Branch Tributary 10	1.67	732	*	1,194	1,545	2,036
Judys Branch	At State Route 159	1.43	608	*	1,001	1,299	1,724
Judys Branch	Approximately 1,550 feet upstream of State Route 159	0.34	177	*	289	372	487
Judys Branch Tributary 10	At mouth	0.24	126	*	195	247	321

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Judys Branch Tributary 5	At mouth	1.01	393	*	643	842	1,129
Judys Branch Tributary 5a	Approximately 1,000 feet upstream of State Route 159	0.29	126	*	208	270	359
Judys Branch Tributary 5b	Approximately 750 feet upstream of State Route 159	0.21	98	*	162	211	278
Judys Branch Tributary 5b	Approximately 4,200 feet upstream of State Route 159	0.05	31	*	49	63	81
Judys Branch Tributary 9	At mouth	0.32	124	*	197	254	338
Judys Branch Tributary 9a	Immediately upstream of confluence with Judys Creek Tributary 9	0.16	80	*	125	158	206
Judys Branch Tributary 9b	Immediately upstream of confluence with Judys Creek Tributary 9	0.05	16	*	29	39	53
Judys Creek	Approximately 440 feet downstream of I-270	1.85	714	*	1,142	1,477	1,987
Judys Creek	Approximately 2,100 feet upstream of I-270	1.31	546	*	874	1,129	1,503
Judys Creek	Immediately downstream of confluence of Judys Creek Tributary B	1.12	498	*	801	1,029	1,356
Judys Creek	Approximately 2,520 feet upstream of confluence of Judys Creek Tributary B	0.73	326	*	527	681	895
Judys Creek	At upstream Limit of Study	0.08	26	*	43	56	77

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Judys Creek Tributary B	At mouth	0.31	163	*	260	332	433
Laurel Branch	Immediately downstream of Parkhill Drive	1.83	1,045[1]	1,546[1]	1,920[1]	2,243[1]	3,148[1]
Laurel Branch	Immediately upstream of Willow Creek Drive	1.65	1,071[1]	1,453[1]	1,940[1]	2,269[1]	3,238[1]
Laurel Branch	Approximately 3,190 feet upstream of confluence of Laurel Branch Tributary 1	1.33	835[1]	1,246[1]	1,620[1]	2,043[1]	2,757[1]
Laurel Branch Tributary 1	Immediately downstream of Willow Creek Drive	0.052	39[1]	62[1]	79[1]	31[1]	47[1]
Laurel Branch Tributary 1	Approximately 940 feet upstream of Willow Creek Drive	0.028	37[1]	58[1]	77[1]	101[1]	143[1]
Lindenthal Creek	Approximately 2,580 feet upstream of confluence with Sugar Creek	5.864	2,029[1]	2,725[1]	3,394[1]	4,101[1]	5,569[1]
Lindenthal Creek	Approximately 250 feet downstream of confluence of Laurel Branch	5.194	2,056[1]	2,777[1]	3,441[1]	4,201[1]	5,647[1]
Lindenthal Creek	Approximately 660 feet upstream of confluence of Laurel Branch	3.364	1,040[1]	1,271[1]	1,588[1]	1,863[1]	2,429[1]
Lindenthal Creek	Approximately 170 feet upstream of Broadway	2.844	925[1]	1,127[1]	1,353[1]	1,465[1]	2,144[1]
Lindenthal Creek	Approximately 100 feet downstream of Broadway	2.844	917[1]	1,113[1]	1,327[1]	1,185[1]	2,004[1]

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Lindenthal Creek	Immediately downstream of Main Street	2.414	788[1]	905[1]	1,028[1]	996[1]	1,383[1]
Lindenthal Creek	Immediately upstream of Sycamore Street	2.364	782[1]	889[1]	991[1]	1,101[1]	1,306[1]
Lindenthal Creek	Approximately 110 feet downstream of confluence of Lindenthal Creek Tributary 1	2.069	667[1]	745[1]	794[1]	834[1]	909[1]
Lindenthal Creek	Approximately 100 feet upstream of Pine Street	0.958	661[1]	423[1]	400[1]	351[1]	212[1]
Lindenthal Creek	Immediately downstream of Walnut Street	0.87	592[1]	740[1]	628[1]	498[1]	184[1]
Lindenthal Creek	Approximately 940 feet upstream of US Highway 40	0.821	564[1]	751[1]	855[1]	1,202[1]	1,778[1]
Lindenthal Creek Tributary 1	Immediately upstream of US Highway 40	1.049	355[1]	392[1]	481[1]	484[1]	777[1]
Lindenthal Creek Tributary 1	Approximately 1,000 feet downstream of Troxler Avenue	0.52	365[1]	562[1]	252[1]	248[1]	757[1]
Lindenthal Creek Tributary 1	Approximately 850 feet downstream of Troxler Avenue	0.516	365[1]	563[1]	788[1]	598[1]	773[1]
Lindenthal Creek Tributary 1	Approximately 1,400 feet upstream of Troxler Avenue	0.22	400[1]	584[1]	745[1]	957[1]	1,271[1]
Lindenthal Creek Tributary 2	Immediately upstream of confluence with Lindenthal Creek	0.268	197	233	269	303	379

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Lindenthal Creek Tributary 2	Immediately downstream of confluence of Lindenthal Creek Tributary 3	0.238	215	306	387	479	634
Lindenthal Creek Tributary 2	Immediately downstream of State Route 160	0.238	176	208	242	271	347
Lindenthal Creek Tributary 2	Immediately upstream of confluence of Lindenthal Creek Tributary 3	0.073	57	81	102	127	170
Lindenthal Creek Tributary 2	Immediately upstream of US Highway 40 East	0.013	15	21	26	32	42
Lindenthal Creek Tributary 2	Immediately downstream of US Highway 40 East	0.013	8	9	10	10	12
Lindenthal Creek Tributary 3	Immediately upstream of confluence with Lindenthal Creek Tributary 2	0.165	158	227	287	355	468
Lindenthal Creek Tributary 4	Approximately 960 feet upstream of confluence with Lindenthal Creek Tributary 1	0.027	26[1]	35[1]	43[1]	19[1]	32[1]
Lindenthal Creek Tributary 4	Approximately 1,820 feet upstream of confluence with Lindenthal Creek Tributary 1	0.007	26[1]	35[1]	43[1]	52[1]	67[1]
Mississippi River	River Mile 179.6 St. Louis Gage	697,000	670,000	*	850,000	910,000	1,120,000
Mississippi River	Crossover with Missouri River	171,500	360,000	*	486,000	610,000	720,000
Mississippi River	River Mile 218.0 Grafton Gage	171,300	360,000	*	446,000	488,000	585,000

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mooney Creek	At N State Route 157	12.3	3,700	*	5,600	6,200	7,300
Mooney Creek	At Marine Road	5.05	1,053	*	1,822	2,244	3,605
Mooney Creek	Immediately upstream of confluence of Mooney Creek Tributary 1	2.06	434	*	751	925	1,487
Mooney Creek	Immediately upstream of confluence of Mooney Creek Tributary 2	1.79	366	*	641	793	1,280
Mooney Creek Tributary 1	At mouth	0.67	157	*	261	318	501
Mooney Creek Tributary 2	At mouth	0.26	60	*	101	123	195
Paddock Creek	At mouth	25.6	3,600	*	5,400	6,800	8,500
Paddock Creek	Immediately upstream of Yorkville Road	14.3	3,300	*	5,000	5,900	7,300
Sherry Creek	At mouth	28.1	5,600	*	8,900	11,200	13,700
Silver Creek	At St. Clair County Line	284	16,900	*	28,900	33,700	43,500
Silver Creek	Downstream of confluence of East Fork Silver Creek	256.9	17,000	*	28,900	33,700	43,400
Silver Creek	Immediately downstream of confluence of Silver Creek Tributary No. 1	79.9	13,100	*	20,600	23,700	30,000
Silver Creek	Immediately downstream of confluence of Silver Creek Tributary No. 2	58.2	12,200	*	17,300	19,400	24,100

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Silver Creek Tributary No. 1	At mouth	9.9	2,860	*	4,170	4,800	5,900
Silver Creek Tributary No. 2	At mouth	11.7	2,930	*	4,290	4,950	6,120
Smith Lake Tributary	Immediately upstream of E Edwardsville Road	2.42	82	*	130	165	871
Smith Lake Tributary	Approximately 2,265 feet upstream of E Edwardsville Road	2.05	234	*	391	506	847
Smith Lake Tributary	Downstream of confluence of Smith Lake Tributary No. 2	1.72	90	*	147	188	739
Smith Lake Tributary	At Bonita Street	0.35	56	*	97	128	159
Smith Lake Tributary No. 2	At confluence with Smith Lake Tributary	1.28	29[2]	*	29[2]	83[2]	132[2]
Stanley Creek	At mouth	1.7	1,300	*	1,900	2,300	2,700
Sugar Fork	At mouth	30.2	4,500	*	6,700	7,600	9,050
Tributary E	Approximately 2,950 feet downstream of Valley Drive	0.9	1,020	*	1,540	1,880	2,240
Tributary E	At Oakwood Avenue	0.5	780	*	1,120	1,290	1,450
Tributary F	Immediately downstream of confluence of Tributary G	0.5	1,070	*	1,460	1,640	1,820
Tributary F	Immediately upstream of confluence with Tributary G	0.3	650	*	850	940	1,030
Tributary G	At mouth	0.2	470	*	650	740	810
Tributary X	At mouth	7.7	3,400	*	5,000	5,900	7,200

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Table 9 : Summary of Discharges (continued)

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Tributary Z	At mouth	2.4	1,200	*	1,800	2,100	2,600
West Fork Wood River	Immediately below confluence with Black Creek	51.7	4,362	6,044	7,617	9,427	13,883
West Fork Wood River	Approximately 985 feet above Harris Lane	44.1	4,021	5,669	7,119	8,714	12,992
West Fork Wood River	Approximately 300 feet below confluence with Lick Branch	37.8	3,700	5,139	6,325	7,657	12,331
West Fork Wood River	Immediately downstream of confluence of Honeycut Branch	36.8	7,900	*	12,500	15,300	19,900
West Fork Wood River	Immediately downstream of confluence of Tributary X	17.4	5,900	*	8,900	10,700	13,400
Wood River	At mouth	123.0	11,351	15,395	18,845	22,661	32,750
Wood River	Immediately below confluence of East Fork Wood River and West Fork Wood River	119.6	11,207	15,150	18,542	22,381	32,371

*Not calculated for this Flood Risk Project

[1]Peak discharge is a result of HEC-RAS 1D unsteady-state model used to determine discharges for steady-state regulatory elevations. These discharge values represent the peak discharge in the specific model run conducted for this study. These discharges should not be used in isolation and should only be applied in consideration of the overall hydrologic and hydraulic behavior represented in the model.

[2]Discharge contained within storm sewer

Figure 7: Frequency Discharge-Drainage Area Curves

[Not Applicable to this Flood Risk Project]

Table 10: Summary of Non-Coastal Stillwater Elevations

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cahokia Diversion Channel Drainage 1[3]	Approximately 2,625 feet east of Lewis and Clark Boulevard along Canal Road	*	*	*	426.9	*
Cahokia Diversion Channel Drainage 2[3]	Approximately 4,280 feet east of Lewis and Clark Boulevard along Canal Road	*	*	*	425.4	*
Cahokia Diversion Channel Drainage 3[3]	Approximately 2,095 feet west of State Route 111 along Canal Road	*	*	*	425.6	*
Cahokia Diversion Channel Drainage 5[3]	Approximately 100 feet south of the intersection of Wagon Wheel Road and Missouri Pacific Railroad	*	*	*	424.7	*
Cahokia Diversion Channel Drainage 5[3]	Approximately 3,350 feet east of State Route 111 along Canal Road	*	*	*	420.9	*
Ditch at Granite City WWTP[1]	Granite City Wastewater Treatment Plant gravity drain along E Street	*	*	*	416.0	*
Ditch at Granite City WWTP[1]	Granite City Wastewater Treatment Plant Pump Station No.1	*	*	*	413.4	*
Drainage 1 to Indian Creek[3]	Approximately 825 feet south-southwest of Old Alton Edwardsville Road Bridge at Indian Creek	*	*	*	440.5	*
Drainage 2 to Indian Creek[3]	Approximately 500 feet west-northwest of Old Alton Edwardsville Road Bridge at Indian Creek	*	*	*	437.1	*
Drainage Path 1 to Venice Pump Station[1]	Venice Pump Station gravity drain at Bremen Street	*	*	*	406.9	*
East Fork Silver Creek	Highland Silver Lake	*	*	*	505.3	*
East Fork Wood River Drainage 2[3]	Approximately 1,150 feet west-northwest of Powder Mill Road Bridge at East Fork Wood River	*	*	*	427.9	*

*Not calculated for this Flood Risk Project

[1] Interior Drainage – MESD/Chain of Rocks East Levee System

[2] Interior Drainage - Wood River D&LD East and West System

[3] Interior Drainage - Wood River D&LD Lower System

[4] Interior Drainage - Wood River D&LD Upper System

Table 10 : Summary of Non-Coastal Stillwater Elevations (continued)

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
East Fork Wood River Drainage 4[2]	Approximately 1,000 feet northeast of Wood River and East Fork Wood River confluence	*	*	*	428.2	*
East Fork Wood River Drainage 5[2]	Approximately 2,000 feet northeast of Powder Mill Road across East Fork Wood River	*	*	*	438.3	*
East Fork Wood River Drainage 6[2]	Approximately 4,350 feet east-northeast of Powder Mill Road across East Fork Wood River	*	*	*	431.9	*
East Fork Wood River Drainage 7[2]	Approximately 3,150 feet southeast of Powder Mill Road and College Avenue intersection	*	*	*	439.9	*
Granite City Pump Station[1]	Granite City Regional Wastewater Facility	*	*	*	411.6	*
Horseshoe Lake[1]	Outfall of Horseshoe Lake at Alton & Southern Railroad and State Route 111	*	*	*	406.5	*
Joulters Creek	Holiday Lake	*	*	*	507.9	*
Levee Road Drainage 1[3]	Approximately 500 feet south of Lewis and Clark Confluence Tower along Levee Road	*	*	*	428.9	*
Levee Road Drainage 6[3]	Wood River Pump Station at intersection of Lewis and Clark Boulevard and Amoco Cutoff	*	*	*	425.0	*
Levee Road Drainage 7[3]	Southwest corner of Lewis and Clark Boulevard and River Heritage Parkway interchange	*	*	*	427.8	*
Long Lake	Centered near the intersection of Pontoon Road and Lake Drive within Village of Pontoon Beach	415.4	*	415.9	416.4	416.6
Shields Branch[4]	East and northwest of Cpl Belchik Memorial Expressway and River Heritage Parkway intersection	*	*	*	415.0	*
Wood River Drainage 3[3]	Approximately 590 feet west of the intersection of Center Street and Niagara Street	*	*	*	430.0	*
Wood River Drainage 8[2]	Approximately 2,415 feet west of Powder Mill Road Bridge at East Fork Wood River	*	*	*	436.2	*

*Not calculated for this Flood Risk Project

[1] Interior Drainage - MESD/Chain of Rocks East Levee System

[2] Interior Drainage - Wood River D&LD East and West Levee System

[3] Interior Drainage - Wood River D&LD Lower System

[4] Interior Drainage - Wood River D&LD Upper System

Table 11: Stream Gage Information used to Determine Discharges

Flooding Source	Gage Identifier	Agency that Maintains Gage	Site Name	Drainage Area (Square Miles)	Period of Record	
					From	To
Cahokia Creek	05587900	USGS	Cahokia Creek at Edwardsville, IL	212	9/17/1969	5/1/2017
Canteen Creek	05589500	USGS	Canteen Creek at Caseyville, IL	22.6	1939	1975
Indian Creek	05588000	USGS	Indian Creek at Wanda, IL	36.7	4/19/1941	4/30/2017
Mississippi River	07010000	USGS	Mississippi River at St. Louis, MO	697,000	1898	1998

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed in Table 23, “Floodway Data.”

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 12. Roughness coefficients are provided in Table 13. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 12: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Belt Line Creek	Approximately 280 feet downstream of Burling Drive	Immediately downstream of Homer M. Adams Parkway	HEC-1 (USACE 1973)	HEC-2 (USACE 1972)	July 1978	AE w/ Floodway	Starting water-surface elevations determined by normal depth calculations. Redelineated in 2017 by STARR for **TBD** FIS.
Black Creek	Confluence with West Fork Wood River	Immediately downstream of North Rodgers Avenue	N/A	N/A	N/A	A	Previously called Coal Branch Creek. Delineated to tie-in between West Fork Wood River and Black Creek Zone AE.
Black Creek	Immediately downstream of North Rodgers Avenue	Confluence of Coal Branch	HEC-1 (USACE 1973)	HEC-2 (USACE 1972)	July 1978	AE w/ Floodway	Previously called Coal Branch Creek. Starting water-surface elevations determined by normal depth calculations. Redelineated in 2017 by STARR for **TBD** FIS.
Cahokia Creek	Confluence with Mississippi River	Approximately 3.14 miles upstream of State Route 140	HEC-SSP 2.1.1 (USACE 2017b)	HEC-RAS 4.1 (USACE 2010b)	11/17/2019	AE w/ Floodway	Floodway width reported is the width of shaded floodway region on the FIRM. Variation from modeled floodway width is due to extension of floodway to landward toe of levee or at confluence locations.
Cahokia Creek	Approximately 3.14 miles upstream of State Route 140	Approximately 500 feet downstream of confluence of Cahokia Creek Tributary 8 (at XS 'AB')	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS. Stream stationing from 10/15/1981 FIS increased by 1,064 feet to obtain continuous stationing.
Cahokia Creek	Approximately 500 feet downstream of confluence of Cahokia Creek Tributary 8 (at XS 'AB')	Madison/St. Clair County Boundary	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Flood hazards were digitized from 04/15/1982 FIRMs for Madison County, Unincorporated Areas. Stream stationing from 10/15/1981 FIS increased by 1,064 feet to obtain continuous stationing.
Canteen Creek	At Collinsville Road	Madison/St. Clair County Boundary	HEC-1 (USACE 1973)	HEC-2 (USACE 1972)	June 1979	AE w/ Floodway	The HEC-1 model frequency curve was adjusted to closely match a frequency curve derived from a log-Pearson Type III statistical gage analysis. (FEMA 1981) Redelineated in 2017 by STARR for **TBD** FIS.

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Canteen Creek	St. Clair/Madison County Boundary	Approximately 3,100 feet upstream of Interstate 55	HEC-1 (USACE 1973)	HEC-2 (USACE 1972)	June 1979	AE w/ Floodway	The HEC-1 model frequency curve was adjusted to closely match a frequency curve derived from a log-Pearson Type III statistical gage analysis. (FEMA 1981b) Redelineated in 2017 by STARR for **TBD** FIS.
Dentons Branch	Approximately 0.5 miles upstream of confluence with Sherry Creek	Approximately 1.4 miles upstream of confluence with Sherry Creek	N/A	N/A	June 1979	A	Flood hazards were digitized from 04/15/1982 FIRMs for Madison County, Unincorporated Areas. For the 1981 Madison County, Unincorporated Areas FIS four sources of information were used to delineate Zone A flood hazards. These were the Flood Hazard Boundary Map, USGS Flood Prone Area Maps, Southwester Illinois Metropolitan Regional Planning Commission 100-Year Flood Plain Maps and the USGS Publication “Depth and Frequency of Floods in Illinois”. (FEMA 1981b)
East Alton Ditch	At Wood River D&LD Lower System	Approximately 100 feet upstream of Douglas Street	Synthetic Unit Hydrographs for Small Watersheds (ASCE 1961)	HEC-2 (USACE 1973)	October 1977	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
East Fork Sherry Creek	Mouth at Sherry Creek	Immediately upstream of Renken Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Flood hazards were digitized from 04/15/1982 FIRMs for Madison County, Unincorporated Areas. Included on Sherry Creek flood profile.
East Fork Silver Creek	Confluence with Silver Creek	State Route 143	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
East Fork Silver Creek	State Route 143	Approximately 1,400 feet downstream of State Route 160	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE	Area known as Highland Silver Lake. Redelineated in 2017 by STARR for **TBD** FIS.
East Fork Silver Creek	Approximately 1,400 feet downstream of State Route 160	Approximately 300 feet upstream of Ludwig Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
East Fork Wood River	Confluence with Wood River and West Fork Wood River	Approximately 1,270 feet upstream of State Route 111	HEC-HMS (USACE 2017a)	HEC-RAS 4.1 (USACE 2010b)	11/17/2019	AE w/ Floodway	Floodway width reported is the width of shaded floodway region on the FIRM. Variation from modeled floodway width is due to extension of floodway to landward toe of levee or combined floodway
East Fork Wood River	Approximately 1,270 feet upstream of State Route 111	Approximately 2,000 feet upstream of Seiler Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS. Stream stationing from 10/15/1981 FIS increased by 568 feet to obtain continuous stationing.
Honeycut Branch	Confluence with West Fork Wood River	Approximately 10,600 feet upstream of Seiler Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Indian Creek	Confluence with Cahokia Creek	Approximately 1,200 feet upstream of Edwardsville Road	HEC-SSP2.1.1 (USACE 2017b)	HEC-RAS 4.1 (USACE 2010b)	11/17/2019	AE w/ Floodway	Floodway width reported is the width of shaded floodway region on the FIRM. Variation from modeled floodway width is due to extension of floodway to landward toe of levee or combined floodway with Cahokia Creek.
Indian Creek	Approximately 1,200 feet upstream of Edwardsville Road	Approximately 120 feet upstream of Moro Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS. Stream stationing from 10/15/1981 FIS decreased by 51 feet to obtain continuous stationing.
Interior Drainage - Metro East Sanitary District Levee Systems	N/A	N/A	SWMM 5 Version 5.0.018 (USEPA 2009)	SWMM 5 Version 5.0.018 (USEPA 2009)	06/29/2018	A, AE, AH	See Section 5.1, Table 10 for interior ponding elevations.
Interior Drainage - Wood River Levee System	N/A	N/A	SWMM 5 Version 5.0.018	SWMM 5 Version 5.0.018	06/29/2018	AE, AH	See Section 5.1, Table 10 for interior ponding elevations.
Interior Drainage - Wood River Upper Levee System	N/A	N/A	SWMM 5 Version 5.0.018	SWMM 5 Version 5.0.018	03/10/2017	AE	See Section 5.1, Table 10 for interior ponding elevations.
Joulters Creek	Confluence with Paddock Creek	Holiday Dam Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Joulters Creek	Holiday Dam Road	Waikiki Drive	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE	Area known as Holiday Lake. Redelineated in 2017 by STARR for **TBD** FIS.
Joulters Creek	Waikiki Drive	Approximately 450 feet upstream of Renken Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Judys Branch	Approximately 1,100 feet downstream of State Highway 157	Approximately 4,100 feet upstream of State Route 159	HEC-HMS 2.2.2 (USACE 2003b)	HEC-RAS 3.1 (USACE 2003c)	November 2005	AE	
Judys Branch Tributary 5	Confluence with Judys Branch	Confluence with Judys Branch Tributary 5a and 5b	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Judys Branch Tributary 5a	Confluence with Judys Branch Tributary 5	Approximately 1,000 feet upstream of State Route 159	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Judys Branch Tributary 5b	Confluence with Judys Branch Tributary 5	Approximately 4,090 feet upstream of State Route 159	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Judys Branch Tributary 9	Confluence with Judys Branch	Approximately 610 feet upstream of East Ingle Drive	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Judys Branch Tributary 9a	Confluence with Judys Branch Tributary 9	Approximately 160 feet upstream of Ash Road	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Judys Branch Tributary 9b	Confluence with Judys Branch Tributary 9	Approximately 445 feet upstream of confluence with Judys Branch Tributary 9	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Judys Branch Tributary 10	Confluence with Judys Branch	Approximately 450 feet upstream of abandoned railroad	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Judys Creek	Confluence with Judys Branch	Approximately 1,350 feet upstream of Norfolk & Western Railroad	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations determined by normal depth calculations.
Judys Creek Tributary B	Confluence with Judys Creek	Approximately 1,000 feet upstream of Timberwolfe Drive	HEC-HMS 2.2.2	HEC-RAS 3.1	November 2005	AE	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Laurel Branch	Confluence with Lindenthal Creek	Approximately 3,190 feet upstream of confluence with Laurel Branch Tributary 1	HEC-HMS 3.5 (USACE 2010a)	HEC-RAS 5.0.7 (USACE 2019)	November 2021	AE w/ Floodway	HEC-RAS 1D unsteady-state model utilized to develop discharges used for regulatory elevations. Downstream boundary condition modeled as a junction which uses receiving stream water surface elevation.
Laurel Branch Tributary 1	Confluence with Laurel Branch	Approximately 945 feet upstream of Willow Creek Drive	HEC-HMS 3.5	HEC-RAS 5.0.7	November 2021	AE w/ Floodway	HEC-RAS 1D unsteady-state model utilized to develop discharges used for regulatory elevations. Downstream boundary condition modeled as a junction which uses receiving stream water surface elevation.
Lindenthal Creek	Approximately 2,440 feet upstream of confluence with Sugar Fork	Approximately 970 feet upstream of US Highway 40	HEC-HMS 3.5	HEC-RAS 5.0.7	November 2021	AE w/ Floodway	HEC-RAS 1D unsteady-state model utilized to develop discharges used for regulatory elevations.
Lindenthal Creek Tributary 1	Confluence with Lindenthal Creek	Approximately 1,400 feet upstream of Troxler Avenue	HEC-HMS 3.5	HEC-RAS 5.0.7	November 2021	AE w/ Floodway	HEC-RAS 1D unsteady-state model utilized to develop discharges used for regulatory elevations. Downstream boundary condition modeled as a junction which uses receiving stream water surface elevation.
Lindenthal Creek Tributary 2	Confluence with Lindenthal Creek Tributary 1	Approximately 410 feet upstream of US Highway 40	HEC-HMS 3.5	HEC-RAS 5.0.7	November 2021	AE w/ Floodway	Peak discharges from HEC-HMS model are utilized. Downstream boundary condition modeled as a junction which uses receiving stream water surface elevation.

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Lindenthal Creek Tributary 3	Confluence with Lindenthal Creek Tributary 2	Approximately 1,350 feet upstream of confluence with Lindenthal Creek Tributary 2	HEC-HMS 3.5	HEC-RAS 5.0.7	November 2021	AE w/ Floodway	Peak discharges from HEC-HMS model are utilized. Downstream boundary condition modeled as a junction which uses receiving stream water surface elevation.
Lindenthal Creek Tributary 4	Confluence with Lindenthal Creek Tributary 1	Approximately 1,820 feet upstream of confluence with Lindenthal Creek Tributary 1	HEC-HMS 3.5	HEC-RAS 5.0.7	November 2021	AE w/ Floodway	HEC-RAS 1D unsteady-state model utilized to develop discharges used for regulatory elevations Downstream boundary condition modeled as a junction which uses receiving stream water surface elevation.
Mississippi River	Madison/Jersey County Boundary	Madison/St. Clair County Boundary	Log-Pearson Type III (USWRC 1976)	UNET 4.0 (USACE 2001)	2004	AE w/ Floodway	Redelineated for **TBD** FIS using 2014 LiDAR data. See Section 6.1 for information on the vertical datum conversion. See Section 8 for additional information related to Mississippi River floodway.
Mooney Creek	Confluence with Cahokia Creek	Approximately 440 feet downstream of Marine Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	June 1979 HEC-2 output only had output data for the 1% event upstream of River Station (RS) 4,171. A graphical tie-in was made on the flood profile from RS 0 to RS 4,171 using the slope between the two most downstream modeled cross-sections and extending it downstream to RS 0, corresponding to the elevation from Cahokia Creek. Redelineated in 2017 by STARR for **TBD** FIS.
Mooney Creek	Approximately 440 feet downstream of Marine Road	Immediately upstream of dam	HEC-HMS 3.5	HEC-RAS 3.0.1 (USACE 2001a)	May 2003	AE w/ Floodway	
Mooney Creek	Immediately upstream of dam	Approximately 130 feet downstream of East Lake Drive	HEC-HMS 3.5	HEC-RAS 3.0.1	May 2003	AE	Area known as Dunlap Lake.
Mooney Creek	Approximately 130 feet downstream of East Lake Drive	Immediately downstream of Goshen Road	HEC-HMS 3.5	HEC-RAS 3.0.1	May 2003	AE w/ Floodway	

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Mooney Creek Tributary 1	Confluence with Mooney Creek	Approximately 800 feet upstream of Stonebrooke Drive	HEC-HMS 3.5	HEC-RAS 3.0.1	May 2003	AE w/ Floodway	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Mooney Creek Tributary 2	Confluence with Mooney Creek	Approximately 1,900 feet upstream of Alderwood Court	HEC-HMS 3.5	HEC-RAS 3.0.1	May 2003	AE w/ Floodway	Starting water-surface elevations were corresponding stage of receiving stream for each recurrence interval.
Paddock Creek	Mouth at Cahokia Creek	Approximately 1,600 feet upstream of Stieglitz Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Sherry Creek	Confluence with Cahokia Creek	Immediately downstream of Sherry Creek Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Sherry Creek	Immediately downstream of Sherry Creek Road	Confluence of East Fork Sherry Creek	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Flood hazards were digitized from 04/15/1982 FIRMs for Madison County, Unincorporated Areas.
Silver Creek	Approximately 10,000 feet downstream of Lebanon Road at county boundary	Approximately 3,000 feet upstream of Silver Creek Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Starting water-surface elevation was a known water-surface elevation taken from the St. Clair County study effective at the time of analysis. Redelineated in 2017 by STARR for **TBD** FIS.
Silver Creek Tributary No. 1	Confluence with Silver Creek	Approximately 4,800 feet upstream of Conn Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Silver Creek Tributary No. 2	Confluence with Silver Creek	Missouri Pacific Railroad	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Smith Lake Tributary	Immediately upstream of East Edwardsville Road	Approximately 1,150 feet upstream of Wesley Drive	HEC-1 (USACE n.d.)	HEC-2 (USACE n.d.)	March 1999	AE	Entire reach updated by LOMR's 99-05-149P-170436 (Madison County, Unincorporated Areas) and 99-05-149P-170451(Wood River, City of).

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Smith Lake Tributary No. 2	Confluence with Smith Lake Tributary	Approximately 2,200 feet upstream of confluence with Smith Lake Tributary	HEC-1	StormCAD V8i (Bentley 2015)	02/09/2018	N/A	LOMR 17-05-1811P resulted in all recurrence intervals being fully contained in a culvert, therefore no SFHA's appear on FIRM. Discharges were maintained from LOMR 99-05-149P-170451.
Stanley Creek	Confluence with East Fork Wood River	Approximately 3,420 feet upstream of 14th Street	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Sugar Fork	Confluence with East Fork Silver Creek	Approximately 4,750 feet upstream of Mayer Road	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Tributary E	Approximately 4,100 feet downstream of Valley Drive	Approximately 50 feet upstream of East Rosedale Drive	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Starting water-surface elevations determined by normal depth calculations. Redelineated in 2017 by STARR for **TBD** FIS.
Tributary F	Approximately 1,600 feet downstream of confluence of Tributary G	Approximately 1,100 feet upstream of confluence of Tributary G	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Starting water-surface elevations determined by normal depth calculations. Redelineated in 2017 by STARR for **TBD** FIS.
Tributary G	Confluence with Tributary F	Approximately 50 feet upstream of Sitze Street	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Tributary X	Confluence with West Fork Wood River	Madison/Macoupin County Boundary	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
Tributary Z	Confluence with Indian Creek	Approximately 200 feet upstream of Melody Lane	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS.
West Fork Wood River	Confluence with Wood River and East Fork Wood River	Approximately 800 feet upstream of State Route 255	HEC-HMS (USACE 2017a)	HEC-RAS 4.1 (USACE 2010b)	11/17/2019	AE w/ Floodway	Floodway width reported is the width of shaded floodway region on the FIRM. Variation from modeled floodway width is due to extension of floodway to landward toe of levee.

Table 12: Summary of Hydrologic and Hydraulic Analyses (continued)

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
West Fork Wood River	Approximately 800 feet upstream of State Route 255	Approximately 2,200 feet upstream of Straube Lane	HEC-1 (USACE 1973)	HEC-2 (USACE 1977)	June 1979	AE w/ Floodway	Redelineated in 2017 by STARR for **TBD** FIS. Stream stationing from 10/15/1981 FIS increased by 1,604 feet to obtain continuous stationing.
Wood River	Confluence with Mississippi River	Confluence of East Fork Wood River and West Fork Wood River	HEC-HMS (USACE 2017a)	HEC-RAS 4.1 (USACE 2010b)	11/17/2019	AE w/ Floodway	Floodway width reported is the width of shaded floodway region on the FIRM. Variation from modeled floodway width is due to extension of floodway to landward toe of levee or at confluence with Mississippi River.
Various Zone A Ponding Areas	N/A	N/A	N/A	N/A	Various	A	Flood hazards were digitized from pre-countywide FIRMs.
Various Zone AH Areas not included in Interior Drainage Studies otherwise listed	N/A	N/A	N/A	N/A	Various	AH	Flood hazards were digitized from pre-countywide FIRMs. Includes LOMR 915059.
Zone A Reaches within Madison County	Various	Various	Regression Equations (USGS 2004)	HEC-RAS 4.1 (USACE 2010b)	December 2015	A	Effects of hydraulic structures were not considered in the models.

Table 13: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
Belt Line Creek	0.040 - 0.065	0.035 - 0.080
Black Creek	0.040 - 0.065	0.035 - 0.080
Cahokia Creek (lower)	0.035 - 0.065	0.070 - 0.120
Cahokia Creek	0.035 - 0.070	0.050 - 0.140
Canteen Creek	0.035 - 0.070	0.035 - 0.140
East Alton Ditch	0.045 - 0.060	0.045 - 0.100
East Fork Sherry Creek	0.035 - 0.070	0.050 - 0.140
East Fork Silver Creek	0.035 - 0.070	0.050 - 0.140
East Fork Wood River (lower)	0.045 - 0.100	0.070 - 0.150
East Fork Wood River	0.035 - 0.070	0.045 - 0.140
Honeycut Branch	0.035 - 0.070	0.050 - 0.140
Indian Creek (lower)	0.045 - 0.055	0.015 - 0.120
Indian Creek	0.035 - 0.070	0.050 - 0.140
Joulters Creek	0.035 - 0.070	0.050 - 0.140
Judys Branch	0.060 - 0.109	0.030 - 0.100
Judys Branch Tributary 5	0.075	0.030 - 0.100
Judys Branch Tributary 5a	0.075	0.030 - 0.100
Judys Branch Tributary 5b	0.064	0.030 - 0.100
Judys Branch Tributary 9	0.072	0.030 - 0.100
Judys Branch Tributary 9a	0.072	0.030 - 0.100
Judys Branch Tributary 9b	0.063	0.030 - 0.035
Judys Branch Tributary 10	0.063	0.030 - 0.100
Judys Creek	0.050 - 0.100	0.010 - 0.100
Judys Creek Tributary B	0.082	0.070 - 0.100
Laurel Branch	0.025 - 0.045	0.037 - 0.100
Laurel Branch Tributary 1	0.030 - 0.040	0.030 - 0.080
Lick Branch	0.050	0.060 - 0.120
Lindenthal Creek	0.025 - 0.050	0.035 - 0.100
Lindenthal Creek Tributary 1	0.030 - 0.040	0.035 - 0.095
Lindenthal Creek Tributary 2	0.030 - 0.045	0.035 - 0.120
Lindenthal Creek Tributary 3	0.030	0.030 - 0.050
Lindenthal Creek Tributary 4	0.035	0.037 - 0.045
Mississippi River	0.050 – 0.140	0.035 – 0.070
Mooney Creek	0.030 - 0.035	0.030 - 0.075
Mooney Creek Tributary 1	0.030 - 0.035	0.030 - 0.075
Mooney Creek Tributary 2	0.030 - 0.035	0.030 - 0.075
Paddock Creek	0.035 - 0.070	0.050 - 0.140
Sherry Creek	0.035 - 0.070	0.050 - 0.140
Silver Creek	0.035 - 0.070	0.050 - 0.140
Silver Creek Tributary No. 1	0.035 - 0.070	0.050 - 0.140
Silver Creek Tributary No. 2	0.035 - 0.070	0.050 - 0.140

*Data not available

Table 13 : Roughness Coefficients (continued)

Flooding Source	Channel “n”	Overbank “n”
Smith Lake Tributary	*	*
Smith Lake Tributary 2	*	*
Stanley Creek	0.035 - 0.070	0.050 - 0.140
Sugar Fork	0.035 - 0.070	0.050 - 0.140
Tributary E	0.035 - 0.070	0.050 - 0.140
Tributary F	0.035 - 0.070	0.050 - 0.140
Tributary G	0.035 - 0.070	0.050 - 0.140
Tributary X	0.035 - 0.070	0.050 - 0.140
Tributary Z	0.035 - 0.070	0.050 - 0.140
West Fork Wood River (lower)	0.045	0.070 - 0.090
West Fork Wood River	0.035 - 0.070	0.050 - 0.140
Wood River	0.045	0.070 - 0.090
Zone A Riverine Studies	0.050	0.030 - 0.120

*Data not available

5.3 Coastal Analyses

This section is not applicable to this Flood Risk Project.

Table 14: Summary of Coastal Analyses

[Not Applicable to this Flood Risk Project]

5.3.1 Total Stillwater Elevations

This section is not applicable to this Flood Risk Project.

Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas

[Not Applicable to this Flood Risk Project]

Table 15: Tide Gage Analysis Specifics

[Not Applicable to this Flood Risk Project]

5.3.2 Waves

This section is not applicable to this Flood Risk Project.

5.3.3 Coastal Erosion

This section is not applicable to this Flood Risk Project.

5.3.4 Wave Hazard Analyses

This section is not applicable to this Flood Risk Project.

Table 16: Coastal Transect Parameters

[Not Applicable to this Flood Risk Project]

Figure 9: Transect Location Map

[Not Applicable to this Flood Risk Project]

5.4 Alluvial Fan Analyses

This section is not applicable to this Flood Risk Project.

Table 17: Summary of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

Table 18: Results of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

All FIS Reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS Reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the completion of the North American Vertical Datum of 1988 (NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

Flood elevations shown in this FIS Report and on the FIRMs are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at www.ngs.noaa.gov.

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the archived project documentation associated with the FIS Report and the FIRMs for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks in the area, please visit the NGS website at www.ngs.noaa.gov.

The datum conversion locations and values that were calculated for Madison County are provided in Table 19.

Table 19: Countywide Vertical Datum Conversion

[Not Applicable to this Flood Risk Project]

A countywide conversion factor could not be generated for Madison County because the maximum variance from average exceeds 0.25 feet. The studied reach of the Mississippi River spans multiple states and the river forms the actual border between adjacent counties. The Upper Mississippi River System Flow Frequency Study (UMRFFS) (USACE 2004) was originally performed using the NGVD vertical datum. Applying an average countywide datum shift to convert to NAVD88 would have resulted in a mismatch of elevations between counties. Therefore, in order to perform the most accurate vertical datum conversion possible and to maintain consistency in approach across county lines, the datum conversion for the Mississippi River was performed on a cross-section by cross-section basis, rather than by applying an average county-wide or stream-wide value. These calculations and the calculations for the vertical offsets for other reaches on a stream by stream basis are depicted in Table 20.

Table 20: Stream-Based Vertical Datum Conversion

Flooding Source	Average Vertical Datum Conversion Factor (feet)
Belt Line Creek	-0.056
Black Creek	-0.154
Cahokia Creek	-0.390
Canteen Creek	-0.479
East Alton Ditch	0.060
East Fork Sherry Creek	-0.371
East Fork Silver Creek	-0.467
East Fork Wood River	-0.133
Honeycut Branch	-0.370
Indian Creek	-0.180
Joulters Creek	-0.339
Judys Branch	-0.547
Judys Branch Tributary 5	-0.558
Judys Branch Tributary 5a	-0.558
Judys Branch Tributary 5b	-0.554
Judys Branch Tributary 9	-0.531
Judys Branch Tributary 9a	-0.520
Judys Branch Tributary 9b	-0.526
Judys Branch Tributary 10	-0.535
Judys Creek	-0.513
Judys Creek Tributary B	-0.482
Mississippi River (Rm 181.90)	-0.138
Mississippi River (Rm 182.44)	-0.105
Mississippi River (Rm 182.5)	-0.092
Mississippi River (Rm 182.52)	-0.092
Mississippi River (Rm 182.53)	-0.092

Table 20 : Stream-Based Vertical Datum Conversion (continued)

Flooding Source	Average Vertical Datum Conversion Factor (feet)
Mississippi River (Rm 182.9)	-0.089
Mississippi River (Rm 183.26)	-0.049
Mississippi River (Rm 183.27)	-0.056
Mississippi River (Rm 183.28)	-0.056
Mississippi River (Rm 183.3)	-0.052
Mississippi River (Rm 183.38)	-0.082
Mississippi River (Rm 183.98)	0.010
Mississippi River (Rm 184.56)	0.098
Mississippi River (Rm 185.18)	0.125
Mississippi River (Rm 185.76)	0.131
Mississippi River (Rm 186.36)	0.128
Mississippi River (Rm 186.82)	0.105
Mississippi River (Rm 187.41)	0.092
Mississippi River (Rm 188)	0.079
Mississippi River (Rm 188.43)	0.072
Mississippi River (Rm 188.88)	0.066
Mississippi River (Rm 189.47)	0.059
Mississippi River (Rm 190.29)	0.092
Mississippi River (Rm 190.32)	0.092
Mississippi River (Rm 190.37)	0.095
Mississippi River (Rm 190.46)	0.098
Mississippi River (Rm 190.47)	0.098
Mississippi River (Rm 190.48)	0.098
Mississippi River (Rm 190.5)	0.098
Mississippi River (Rm 190.64)	0.098
Mississippi River (Rm 190.79)	0.102
Mississippi River (Rm 190.81)	0.098
Mississippi River (Rm 190.82)	0.098
Mississippi River (Rm 190.85)	0.102
Mississippi River (Rm 191.36)	0.115
Mississippi River (Rm 191.92)	0.128
Mississippi River (Rm 192.41)	0.141
Mississippi River (Rm 192.91)	0.154
Mississippi River (Rm 193.28)	0.164
Mississippi River (Rm 193.79)	0.167
Mississippi River (Rm 194.16)	0.171
Mississippi River (Rm 194.63)	0.167
Mississippi River (Rm 194.97)	0.164
Mississippi River (Rm 195.56)	0.164
Mississippi River (Rm 196.09)	0.161
Mississippi River (Rm 196.48)	0.164
Mississippi River (Rm 196.82)	0.164

Table 20 : Stream-Based Vertical Datum Conversion (continued)

Flooding Source	Average Vertical Datum Conversion Factor (feet)
Mississippi River (Rm 197.31)	0.171
Mississippi River (Rm 197.71)	0.174
Mississippi River (Rm 198.28)	0.177
Mississippi River (Rm 198.81)	0.187
Mississippi River (Rm 199.34)	0.203
Mississippi River (Rm 199.83)	0.200
Mississippi River (Rm 200.31)	0.210
Mississippi River (Rm 200.54)	0.223
Mississippi River (Rm 200.7)	0.223
Mississippi River (Rm 200.85)	0.217
Mississippi River (Rm 201.29)	0.226
Mississippi River (Rm 201.85)	0.226
Mississippi River (Rm 202.5)	0.194
Mississippi River (Rm 202.63)	0.128
Mississippi River (Rm 202.66)	0.128
Mississippi River (Rm 202.68)	0.128
Mississippi River (Rm 203.04)	0.112
Mississippi River (Rm 203.36)	0.105
Mississippi River (Rm 203.86)	0.069
Mississippi River (Rm 204.38)	0.033
Mississippi River (Rm 204.96)	-0.007
Mississippi River (Rm 205.48)	-0.036
Mississippi River (Rm 206.07)	-0.075
Mississippi River (Rm 206.6)	-0.118
Mississippi River (Rm 207.12)	-0.154
Mississippi River (Rm 207.72)	-0.187
Mississippi River (Rm 208.29)	-0.220
Mississippi River (Rm 208.89)	-0.253
Mooney Creek	-0.439
Paddock Creek	-0.344
Sherry Creek	-0.369
Silver Creek	-0.465
Silver Creek Tributary No. 1	-0.469
Silver Creek Tributary No. 2	-0.441
Smith Lake Tributary	0.049
Smith Lake Tributary No. 2	0.049
Stanley Creek	-0.118
Sugar Fork	-0.494
Tributary E	0.038
Tributary F	0.049
Tributary G	0.043
Tributary X	-0.405

Table 20 : Stream-Based Vertical Datum Conversion (continued)

Flooding Source	Average Vertical Datum Conversion Factor (feet)
Tributary Z	-0.143
West Fork Wood River	-0.257
Wood River	0.101

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM Database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA's *Guidelines and Standards for Flood Risk Analysis and Mapping*, www.fema.gov/flood-maps/guidance-partners/guidelines-standards.

Base map information shown on the FIRM was derived from the sources described in Table 21.

Table 21: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
Aerial Imagery	USDA FSA APFO Aerial Photography Field Office	2019	*	Source data for Imagery (USDA 2019)
Municipal Boundaries and Transportation Features	Madison County Information Systems	2016	*	Source data for Municipal Boundaries and Transportation features (ITMCG 2016a)
National Hydrography Dataset basic features	United States Geological Survey	2020	1:24,000	Source data for Water Features (USGS 2020)
National Levee Database	U.S. Army Corps of Engineers	2021	*	Source data for levees (USACE 2021)
Public Land Survey System and County Boundary	Illinois State Geological Survey	2003	*	Source data for PLSS and County Boundary (ISGS 2003)
Railroads	Madison County Information Systems	1995	*	Source data for Railroads (MCIS 1995)

*Data not available

6.3 Floodplain and Floodway Delineation

The FIRM shows tints, screens, and symbols to indicate floodplains and floodways as well as the locations of selected cross sections used in the hydraulic analyses and floodway computations.

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 22.

In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 23, “Floodway Data.”

Table 22: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Vertical Accuracy	Horizontal Accuracy	Citation
Alhambra, Village of; Alton, City of; Bethalto, Village of; Collinsville, City of; East Alton, Village of; Edwardsville, City of; Fairmont City, Village of; Glen Carbon, Village of; Godfrey, Village of; Granite City, City of; Grantfork, Village of; Hamel, Village of; Hartford, Village of; Highland, City of; Livingston, Village of; Madison County; Madison, City of; Marine, Village of; Maryville, Village of; New Douglas, Village of; Pierron, Village of; Pontoon Beach, Village of; Roxana, Village of; South Roxana, Village of; St. Jacob, Village of; Troy, City of; Venice, City of; Williamson, Village of; Wood River, City of; Worden, Village of	All mapped flooding sources in Madison County not otherwise listed	LiDAR data for Madison County, IL	RMSE < 9.25cm	Not Provided	IGDC 2014
Roxana, Village of; Wood River, City of	Smith Lake Tributary	Topographic Maps: 1" = 200', 2-foot contours	*	*	FEMA 1999; FEMA 2000

*Data not available

BFEs shown at cross sections on the FIRM represent the 1-percent-annual-chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in areas of ponding, and other areas with static base flood elevations.