FLOOD INSURANCE STUDY

KANE COUNTY, ILLINOIS
AND INCORPORATED AREAS

Volume 1 of 5

COMMUNITY NAME	COMMUNITY NUMBER
ALGONQUIN, VILLAGE OF	170474
AURORA, CITY OF	170320
*BARRINGTON HILLS, VILLAGE OF	170058
BARTLETT, VILLAGE OF	170059
BATAVIA, CITY OF	170321
BIG ROCK, VILLAGE OF	171081
BURLINGTON, VILLAGE OF	171077
CAMPTON HILLS, VILLAGE OF	171396
CARPENTERSVILLE, VILLAGE OF	170322
EAST DUNDEE, VILLAGE OF	170323
ELBURN, VILLAGE OF	171026
ELGIN, CITY OF	170087
GENEVA, CITY OF	170325
GILBERTS, VILLAGE OF	170326
HAMPSHIRE, VILLAGE OF	170327
* HOFFMAN ESTATES, VILLAGE OF	170107
HUNTLEY, VILLAGE OF	170480
KANE COUNTY (UNINCORPORATED AREAS)	170896
* KANEVILLE, VILLAGE OF	171388
LILY LAKE, VILLAGE OF	171023
MAPLE PARK, VILLAGE OF	171018
MONTGOMERY, VILLAGE OF	170328
NORTH AURORA, VILLAGE OF	170329
PINGREE GROVE, VILLAGE OF	171078
SLEEPY HOLLOW, VILLAGE OF	170331
SOUTH ELGIN, VILLAGE OF	170332
ST. CHARLES, CITY OF	170330
SUGAR GROVE, VILLAGE OF	170333
VIRGIL, VILLAGE OF	171024
WAYNE, VILLAGE OF	170865
WEST DUNDEE, VILLAGE OF	170335

* NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED IN KANE COUNTY

Kane County

REVISED: July 20, 2021

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER

17089CV001F

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the Community Map Repository. It is advisable to contact the Community Map Repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this FIS report at any time. In addition, FEMA may revise part of this FIS by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the Community Map Repository to obtain the most current FIS components.

Initial Countywide Effective Date:	December 20, 2002
Revised Countywide Effective Dates:	November 16, 2006 August 3, 2009 July 17, 2012 June 2, 2015 July 20, 2021

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FLOOD INSURANCE STUDY
KANE COUNTY, ILLINOIS AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and supersedes the FIS reports and/or Flood Insurance Rate Maps (FIRMs) and/or Flood Hazard Boundary Maps (FHBMs) in the geographic area of Kane County, Illinois, including: the Cities of Aurora, Batavia, Elgin, Geneva and St. Charles; the Villages of Algonquin, Barrington Hills, Bartlett, Big Rock, Burlington, Campton Hills, Carpentersville, East Dundee, Elburn, Gilberts, Hampshire, Hoffman Estates, Huntley, Kaneville, Lily Lake, Maple Park, Montgomery, North Aurora, Pingree Grove, Sleepy Hollow, South Elgin, Sugar Grove, Virgil, Wayne and West Dundee; and the Unincorporated Areas of Kane County (hereinafter referred to collectively as Kane County) and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the county that will be used to establish actuarial flood insurance rates. This information will also be used by Kane County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 C.F.R. § 60.3.

The FIS and FIRMs show the flood-hazard information only for the portions of the Cities of Aurora, Batavia, Elgin and St. Charles, and the Villages of Algonquin, Barrington Hills, Bartlett, East Dundee, Hoffman Estates, Huntley, Maple Park, Montgomery, and Wayne that lie within Kane County. The remaining portions of these communities lie within other counties as indicated in Table 1, "Multi-County Communities." Please see separately published FIS report and FIRM for the portions of the communities that do not lie within Kane County.

Table 1 - Multi-County Communities

Community	Adjacent Counties
Algonquin, Village of	McHenry
Aurora, City of	DuPage
Barrington Hills, Village of	Cook, Lake, McHenry
Bartlett, Village of	DuPage, Cook
Batavia, City of	DuPage
East Dundee, Village of	Cook
Elgin, City of	Cook
Hoffman Estates, Village of	Cook
Huntley, Village of	McHenry

Table 1 - Multi-County Communities *(continued)*

Community	Adjacent Counties
Maple Park, Village of	DeKalb
Montgomery, Village of	Kendall
St. Charles, City of	DuPage
Wayne, Village of	DuPage

Note that the Villages of Barrington Hills, Kaneville and the portion of the Village of Hoffman Estates within Kane County have no Special Flood Hazard Areas (SFHAs) identified. This does not preclude future determinations of SFHAs that could be necessitated by changed conditions affecting the community (i.e., annexation of new lands) or the availability of new scientific or technical data about flood hazards.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The FIS includes the unincorporated areas of, and incorporated communities within, Kane County. Information on the authority and acknowledgments for each jurisdiction included in this FIS, as compiled from their previously printed FIS reports, is shown below.

Pre-Countywide FISs

Village of Algonquin: The hydrologic and hydraulic analyses for the FIS report dated September 16, 1980 (Reference 1) were performed by the U.S. Army Corps of Engineers (USACE), Chicago District, for the Federal Insurance Administration (FIA), under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in October 1979.

City of Aurora:

The hydrologic and hydraulic analyses for the FIS report dated December 1978 (Reference 2) were performed by Harza Engineering Company for the FIA under Contract No. H-3809. This work was completed in October 1976.

The hydraulic analyses for the FIS dated May 15, 1986 (Reference 3) were obtained from the Illinois Department of Transportation (IDOT).

The hydrologic and hydraulic analyses for the FIS dated January 5, 1989 (Reference 4) were taken from the FISs for the City of Aurora and the unincorporated areas of Kane County and DuPage County and from a Soil Conservation Service (SCS) floodplain management study for Indian Creek and tributaries (Reference 4, 5, 6, 7).

The hydrologic and hydraulic analyses for the revised FIS dated March 3, 1997 (Reference 8) were prepared by SCS and IDOT, Division of Water Resources. This work was completed in June 1989.

Village of Bartlett:

The hydrologic and hydraulic analyses for the FIS dated December 15, 1980 (Reference 9) were prepared for the FIA, under Inter-Agency Agreement No. IAA-H-7-76, Project Order No. 19. This work was completed in June 1977.

City of Batavia:

The hydrologic and hydraulic analyses for the FIS report dated March 2, 1981 (Reference 10) were performed by the USACE, Chicago District, for the FIA under Inter-Agency Agreement No. IAA-H-8-78, Project Order No. 13. That work was completed in February 1980.

Village of Carpentersville:

The hydrologic and hydraulic analyses for the FIS report dated February 17, 1981 (Reference 11) were performed by the USACE, Chicago District, for the FIA under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in December 1979.

Village of East Dundee:	The hydrologic and hydraulic analyses for the FIS report dated September 16, 1980 (Reference 12) were performed by the USACE, Chicago District, for the Federal Insurance Administration, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. This study was completed in October 1979.
City of Elgin:	The hydrologic and hydraulic analyses for the FIS report dated 1981 (Reference 13) were performed by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. This study was completed in January 1980.
City of Geneva:	The hydrologic and hydraulic analyses for the FIS report dated February 3, 1981 (Reference 14) were performed by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in December 1979.
Village of Hampshire:	The hydrologic and hydraulic analyses for the FIS report dated September 2, 1980 (Reference 15) and FIRM dated March 2, 1981 (Reference 16), were prepared by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in September 1979. The hydrologic and hydraulic analyses for the FIS report dated November 2, 1995 (Reference 17) for Hampshire Creek and Hampshire Creek South No. 1 were prepared by Engineering Enterprise, Inc. That work was completed in April 1992.
Village of Huntley:	The hydrologic and hydraulic analyses for the FIS report dated December 15, 1992 (Reference 18) were prepared by the USACE, Chicago District for FEMA, under Inter-Agency Agreement No. EMW-99-E-2739, Project Order No. 2. These analyses were then revised by a report prepared by Guillou & Associates, Inc., and Haeger & Associates Inc. (Reference 19).

For the revised FIS report dated May 19, 1997 (Reference 20), portions of the South Branch Kishwaukee River hydrologic and hydraulic analyses were prepared by Dewberry & Davis using an updated hydraulic analysis prepared by Envirodyne Engineers, Inc., and modified by SDI Consultants, Ltd., for the unincorporated areas of McHenry County FIS (Reference 21). The modified hydraulic analysis was completed in February 1996. Additionally, the hydrologic and hydraulic analyses for Kishwaukee Creek were prepared by Envirodyne Engineers, Inc., for FEMA, under Contract No. EMW-91-C3357. This work was completed in November 1992.

Kane County
(Unincorporated Areas):

The hydrologic and hydraulic analyses for the FIS report dated March 1, 1982 (Reference 5) were prepared by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in June 1980.

The hydrologic and hydraulic analyses for the FIS report dated June 4, 1996 (Reference 22) for Mill Creek were prepared by the USACE, Buffalo District, for FEMA under Inter-Agency Agreement No. EMW-89-E-2994, LMMP No. 89-9. This work was completed in September 1991. Also, the Ferson/Otter Creek watershed hydrologic and hydraulic analyses were performed by Christopher B. Burke Engineering, Ltd., for FEMA under Contract No. EMW-90-C-3904. This work was completed in January 1992.

The hydrologic and hydraulic analyses for Hampshire Creek and its four tributaries were performed by Engineering Enterprises, Inc. That work was completed in April 1992.

Village of Maple Park: The hydrologic and hydraulic analyses for the FIS report dated August 4, 1987 (Reference 23) were obtained from the U.S. Geological Survey (USGS) publication, *Floods in Maple Park Quadrangle, Northeastern Illinois* (Reference 24).

Village of Montgomery: The hydrologic and hydraulic analyses for the FIS report dated February 1979 (Reference 25) were performed by the Illinois State Water Survey for the FIA, under Contract No. H-3825. That work, which was completed in December 1976, covered all significant flooding sources in the village of Montgomery.

Village of North Aurora: The hydrologic and hydraulic analyses for the FIS report dated September 16, 1980 (Reference 26) were performed by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in November 1979.

Village of Sleepy Hollow: The hydrologic and hydraulic analyses for the FIS report dated December 15, 1982 (Reference 27) were performed by the USACE, Chicago District, for FEMA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in August 1979.

Village of South Elgin: The hydrologic and hydraulic analyses for the FIS report dated January 16, 1981 (Reference 28) were performed by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in November 1979.

City of St. Charles: The hydrologic and hydraulic analyses for the FIS report dated March 2, 1981 (Reference 29) were performed by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in March 1980.

Village of Sugar Grove:	The hydrologic and hydraulic analyses for the FIS report dated March 4, 1988 (Reference 30) were performed by the USACE, Chicago District, for FEMA, under Inter-Agency Agreement No. EMW-E-1153, Project Order No. 1. That work was completed in August 1985.
Village of Wayne:	The hydrologic and hydraulic analyses for the FIS report dated June 1, 1981 (Reference 31) were performed by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in February 1980.
Village of West Dundee:	The hydrologic and hydraulic analyses for the FIS report dated June 1, 1981 (Reference 32) were performed by the USACE, Chicago District, for the FIA, under Inter-Agency Agreement No. IAA-H-18-78, Project Order No. 13. That work was completed in October 1979.

The authority and acknowledgements for the villages of Barrington Hills, Big Rock, Burlington, Campton Hills, Elburn, Gilberts, Hoffman Estates, Kaneville, Lily Lake, Pingree Grove, and Virgil are not included because there were no previously printed pre-countywide FISs for those communities.

December 20, 2002
Initial Countywide FIS

For the countywide FIS dated December 20, 2002 (Reference 33), revised hydrologic and hydraulic analyses for a portion of Sandy Creek, Pingree Creek and Tyler Creek upstream of Randall Road were prepared for FEMA by Consoer Townsend Envirodyne Engineers, Inc. The hydrologic and hydraulic analyses for the portion of Tyler Creek downstream of Randall Road were provided by Hey and Associates, Inc. The hydrologic analyses for the two studies for Tyler Creek were combined by the IDNR.

November 16, 2006
Revised Countywide FIS

The revised countywide FIS dated November 16, 2006 (Reference 34) included no new hydrologic and hydraulic analyses. The FIS and FIRM for Kane County, Illinois and incorporated areas were revised to include only information for certain communities within the boundaries of Kane County. Portions of the villages of Algonquin, Barrington Hills, and Huntley are located in other counties. Only the Kane County portions of these communities were included in the revised FIS.

August 3, 2009
Revised Countywide FIS

For the August 3, 2009 revision (Reference 35), the hydrologic and hydraulic analyses for the restudy of Indian Creek watershed (consisting of Indian Creek, Indian Creek Prairie Path Run, Selmarten Creek, South Tributary and Tollway Tributary) were completed by V_3 Companies of Illinois, Ltd. (Reference 36).

The hydrologic and hydraulic analyses for the Blackberry Creek watershed (consisting of Aurora Chain of Lakes, Aurora Chain of Lakes Cherry Hills Diversion, Blackberry Creek, East Run, East Run North Branch, East Run North Loop, Elburn Run, Jericho Lake Diversion, Lake Run, Lake Run Main Street Branch, Lake Run Nelson Lake Branch, Lake Run North of I-88 Overflow, Lake Run North of I-88 Overflow East Branch, Lake Run South of I-88 Diversion, Prestbury Branch, Route 38 Branch, Seavey Road Run, Seavey Road Run Green Road Branch, Seavey Road Run Main Street Branch) were completed by the USGS Contract No. EMC-2001-GR-0048.

Base map information consists of black and white digital orthophotos provided by the Kane County Information Technologies Department, GIS Technologies Division (Reference 37). The digital orthophotos have a 6-inch resolution and were photogrammetrically compiled from aerial photography and obtained during the spring of 2001.

The 2009 countywide FIS was performed under the Cooperating Technical Partners (CTP) Partnership Agreement Nos. EMC-2004-GR-0214, EMC-2005-GR-7026, and EMC-2006-CA-7015 between the Illinois Department of Natural Resources (hereafter referred to as IDNR) and the Federal Emergency Management Agency (FEMA), per the Mapping Activity Statement (MAS) Nos. IDNR04-03, IDNR05-20, and IDNR06-10.

July 17, 2012
Revised Countywide FIS

The hydrologic and hydraulic analyses for the Big Rock and Welch Creek watersheds were performed by the Illinois State Water Survey (ISWS) for Kane County (Reference 38). This study was published January 2009.

Base map information for the 10 affected panels was derived from digital orthophotos provided by the Kane County Information Technologies Department, GIS Technologies Division (Reference 39). Black and White digital orthophotos with a 6-inch pixel resolution were photogrammetrically compiled from aerial photography obtained during the spring of 2008.

The July 17, 2012, Physical Map Revision (PMR) was performed under the Cooperating Technical Partners (CTP) Partnership Agreement No. EMC-2009-CA-7007 between the Illinois State Water Survey and the Federal Emergency Management Agency (FEMA), per the Mapping Activity Statement (MAS) No. ISWS09-07.

The hydrologic and hydraulic models for the studied portion of the Coon Creek watershed were developed by the U.S. Geological Survey (USGS) in cooperation with the Kane County Department of Environmental and Building Management. The results of the analyses were detailed in an unpublished USGS written communication dated September 22, 2010. Analyses of the main stem of Burlington Creek were subsequently revised by Wills Burke Kelsey Associated LTD. These revised analyses were published July 5, 2011 (Reference 40).

For the 16 panels included in the PMR, the base map information was provided in digital format by Kane County GIS Technologies of Kane County, Illinois (Reference 39). Black and white digital orthophotos with a 6-inch pixel resolution were photogrammetrically compiled from aerial photography obtained during the spring of 2008.

The coordinate system used for the production of the digital FIRMs is Universal Transverse Mercator (UTM), North American Datum of 1983 (NAD 83), Geodetic Reference System 1980 (GRS80) spheroid.

The Coon Creek PMR was performed under the Cooperating Technical Partners (CTP) Partnership Agreement No. EMC-2012-CA-7014 between the Illinois State Water Survey and the Federal Emergency Management Agency (FEMA), per the Mapping Activity Statement (MAS) No. ISWS12-04.

This Physical Map Revision

This PMR revises the hydrologic and hydraulic analyses for the entire reaches of 7th Avenue Creek, 7th Avenue Creek Overflow, and 7th Avenue Creek Tributary in the City of St. Charles.

The hydrologic and hydraulic analyses for this study were performed by the Strategic Alliance for Risk Reduction (STARRII), for FEMA, under Contract No. HSFEHQ-09-D-0370. The work was initially completed on July 2013 and revised subsequently on October 2019.

Base map information shown on the revised FIRM panels was derived from the U.S. Department of Agriculture, produced at a scale of 1:12:000, from aerial photography dated 2014 or later. The projection used in the preparation of this map is UTM Zone 16, and the horizontal datum used is NAD 83.

1.3 Coordination

Coordination and outreach activities were performed to create a climate of understanding and ownership of the mapping process at the state and local levels. These activities were ongoing throughout the entirety of the project. The purpose of an initial consultation coordination officer (CCO) meeting, or project team meeting, is to discuss the scope of the project. An intermediate CCO meeting, or scoping

meeting, is meant to continue outreach and create a climate of understanding throughout the process. A final CCO meeting, or open house, is held with public officials and the general public to review the results of the study.

Pre-Countywide FISs

The dates of the initial and final CCO meetings held for pre-countywide studies for Kane County's incorporated communities are shown in Table 2, "CCO Meeting Dates for Pre-Countywide FISs."

Table 2 - CCO Meeting Dates for Pre-Countywide FISs

Community	Initial CCO Date	Final CCO Date
Algonquin, Village of	December 1977	April 21, 1980
Aurora, City of	*	April 24, 1994
Bartlett, Village of	January 1976	September 15, 1980
Batavia, City of	December 1977	October 21, 1980
Carpentersville, Village of	December 1977	September 24, 1980
East Dundee, Village of	December 1977	April 28, 1980
Elgin, City of	December 1977	*
Geneva, City of	December 1977	September 9, 1980
Hampshire, Village of	*	October 28, 1994
Huntley, Village of	August 7, 1990	July 20, 1994
Kane County (Unincorporated Areas)	July 1989	*
Maple Park, Village of	*	August 21, 1986
Montgomery, Village of	*	June 28, 1977
North Aurora, Village of	December 1977	April 16, 1980
Sleepy Hollow, Village of	October 1977	May 27, 1981
South Elgin, Village of	December 1977	July 28, 1977
St. Charles, City of	December 1977	October 14, 1980
Sugar Grove, Village of	July 1983	September 11, 1986
Wayne, Village of	December 1977	January 16, 1981
West Dundee, Village of	December 1977	April 9, 1980

* Data not available

December 20, 2002
Initial Countywide FIS

For the initial Kane County countywide FIS dated December 20, 2002, acknowledgment letters were sent on October 14, 1999 and October 19, 1999.

November 16, 2006
Countywide FIS

No coordination meetings were noted for the November 6, 2006 revised Kane County countywide FIS.

August 3, 2009
Revised Countywide FIS

The initial CCO meeting was held on February 7, 2005 and was attended by representatives of FEMA, Kane County, the cities of Aurora, Geneva, Elgin, and St. Charles, the Village of Carpentersville and the study contractor (IDNR). This meeting was intended to discuss various issues and concerns for the study area. An intermediate CCO meeting was held on March 11, 2005 in Geneva, Illinois and was attended by representatives from Kane County, the cities of Aurora, Batavia, Geneva, Elgin, and St. Charles, the villages of Barrington Hills, Burlington, Carpentersville, Huntley, Sugar Grove, and West Dundee and the study contractor (IDNR).

A preliminary FIRM and FIS were prepared by merging effective FIS text, tables, and profiles with new study data. A preliminary Summary of Map Actions (PSOMA) was also prepared for all affected communities. The PSOMA lists pertinent information regarding Letters of Map Change (LOMCs) that will be affected by the issuance of the FIRM (i.e., superseded, incorporated, and revalidated). Preliminary copies of the FIRM, FIS, and SOMA were distributed to community officials for public review and comment.

The results of the study were reviewed at the final CCO meeting held on November 28, 2007 in Elgin and was attended by representatives of Kane County, IDNR, FEMA, and the following communities: Algonquin, Aurora, Barrington Hills, Big Rock, Campton Hills, Carpentersville, East Dundee, Elgin, Geneva, Huntley, Kane County, Maple Park, Montgomery, Pingree Grove, Sleepy Hollow, South Elgin, St. Charles, Virgil, Wayne, West Dundee. Representatives of the non-Kane County communities of Bolingbrook, Darien, Naperville, Oswego, Schaumburg, Waterman and Yorkville were also in attendance. All problems raised at that meeting have been addressed in this study.

July 17, 2012
Revised Countywide FIS

The results of the July 17, 2012, PMR were reviewed at the final CCO meeting held on June 16, 2011 in Big Rock, Illinois, and attended by representatives of Kane County, the villages of Big Rock and Sugar Grove, Illinois State Water Survey (ISWS), and IDNR. All problems raised at that meeting have been addressed in this study.

June 2, 2015
Revised Countywide FIS

The results of the June 2, 2015, PMR were reviewed at the final CCO meeting held on May 15, 2014 in Hampshire, Illinois, and attended by representatives of Kane County, the villages of Burlington and Hampshire, ISWS, and IDNR. All problems raised at that meeting have been addressed in this study.

This Physical Map Revision

The initial meeting was held on May 13, 2011, and attended by representatives of FEMA, STARRII, and the City of St. Charles.

The results of the study were reviewed at the final meeting held on September 8, 2016, attended by representatives of FEMA, STARRII, Illinois NFIP, HR Green, and the City of St. Charles. All issues and/or concerns raised at that meeting have been addressed.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic areas of Kane County including the incorporated areas listed in Section 1.1.

Tables 3a-3d summarize the history of stream name changes that have occurred since the December 20, 2002 initial countywide FIS.

Table 3a - Stream Name Changes (December 20, 2002 FIS)

Community	Old Name	New Name
Kane County		
(Unincorporated Areas)	Unnamed Tributary	Harmony Creek
	Unnamed Tributary	Main Street Ditch
	Tributary B	Indian Creek Prairie Path Run
	Randall Road Tributary	Sandy Creek
City of Elgin	Randall Road Tributary	Sandy Creek
Village of Sugar Grove	Tributary No. 1	Welch Creek Tributary No. 1
	Tributary No. 2	Welch Creek Tributary No. 2

Table 3b - Stream Name Changes (August 3, 2009 FIS)

Community	Old Name	New Name
Kane County (Unincorporated Areas)	Blackberry Creek Tributary A	East Run
	Blackberry Creek Tributary B (Cross sections A to J)	Lake Run
	Blackberry Creek Tributary B (Cross sections K, L, Nelson Lake)	Lake Run Nelson Lake Branch
	Blackberry Creek Tributary C	Seavey Road Run
	Blackberry Creek Tributary D	Elburn Run
	Blackberry Creek Tributary E	Prestbury Branch
	Blackberry Creek Tributary F	Lake Run
	Blackberry Creek Tributary G	Jericho Lake Diversion
	Blackberry Creek Tributary H (Cross sections A to C)	Aurora Chain of Lakes
	Bowes Creek Tributary	Bowes Creek South
	Coon Creek	Burlington Creek
	Eakin Creek Tributary	Eakin Creek South
	East Branch	Anderson Road Run North Branch
	Hampshire Creek Tributary	Hampshire Creek South
	Johnson’s Mound Run	Johnsons Mound Run
	Kendall Road Run	Kendall Run
	Kishwaukee River Tributary	Eakin Creek West
	Main Street Ditch	Lake Run Main Street Branch
	Mill Creek Tributary	Mooseheart Creek
	N. Plato Ditch	North Plato Ditch
	Otter Creek Tributary	Otter Creek West
	Stoney Creek	Stony Creek
	Unnamed Creek	Great Western Run
	Unnamed Tributary	Corron Road Run
	Unnamed Tributary to Tyler Creek	Tyler Creek Unnamed Tributary
	Waubansee Creek	Waubonsee Creek
	West Branch	Anderson Road Run
	Welch Creek	Sugar Grove Branch
	Welch Creek Tributary No. 1	Sugar Grove Branch East
	Young’s Creek	Youngs Creek

Table 3b (continued) - Stream Name Changes (August 3, 2009 FIS)

Community	Old Name	New Name
City of Aurora	Blackberry Creek Tributary A	East Run
	Blackberry Creek Tributary H (Cross sections A to C)	Aurora Chain of Lakes
	Blackberry Creek Tributary H (Cross sections D to I)	Aurora Chain of Lakes Cherry Hills Diversion
	Indian Creek Tributary B	Indian Creek Prairie Path Run
	Waubansee Creek	Waubonsee Creek
Village of Campton Hills	Otter Creek Tributary	Otter Creek West
	Silver Glen Road Run	Silver Glen Run
	Stoney Creek	Stony Creek
Village of Elburn	Blackberry Creek Tributary D	Elburn Run
City of Elgin	Otter Creek Tributary	Otter Creek West
	Stoney Creek	Stony Creek
Village of Hampshire	Hampshire Creek Tributary	Hampshire Creek South
	Kishwaukee River Tributary	Eakin Creek West
Village of Huntley	Eakin Creek Tributary	Eakin Creek South
	Kishwaukee River Tributary	Eakin Creek West
Village of Huntley	Eakin Creek Tributary	Eakin Creek South
	Kishwaukee River Tributary	Eakin Creek West
Village of Montgomery	Blackberry Creek Tributary G	Jericho Lake Diversion
	Waubansee Creek	Waubonsee Creek
Village of North Aurora	Blackberry Creek Tributary A	East Run
Village of Pingree Grove	Unnamed Tributary to Tyler Creek	Tyler Creek Unnamed Tributary
Village of South Elgin	Stoney Creek	Stony Creek
	Unnamed Tributary to Fox River	Fox River Unnamed Tributary
Village of Sugar Grove	Blackberry Creek Tributary E	Prestbury Branch
	Welch Creek	Sugar Grove Branch
	Welch Creek Tributary No. 1	Sugar Grove Branch East
	Welch Creek Tributary No. 2	Sugar Grove Branch North

Table 3c - Stream Name Changes (July 17, 2012 FIS)

Community	Old Name	New Name
Village of Big Rock, Kane County (Unincorporated Areas)	Unnamed	Duffin Drain Tributary 2
	Unnamed	Welch Creek Tributary 1
	Unnamed	Welch Creek Tributary 2
Kane County (Unincorporated Areas)	Unnamed	Welch Creek Tributary 3
	Unnamed	Welch Creek Tributary 4
	Unnamed	Welch Creek Tributary 5
	Unnamed Tributary to Welch Creek	Welch Creek Tributary 6
	Unnamed	Youngs Creek Tributary 1
	Unnamed	Youngs Creek Tributary 2
	Unnamed	Youngs Creek Tributary 3

Table 3d - Stream Name Changes (June 2, 2015 FIS)

Community	Old Name	New Name
Village of Burlington, Kane County (Unincorporated Areas)	South Branch Coon Creek	Burlington Creek West Branch
Village of Hampshire, Kane County (Unincorporated Areas)	Unnamed	Burlington Creek Tributary A
	Unnamed	Hampshire Creek Tributary A
	Unnamed	Hampshire Creek Tributary AA
	Unnamed	Hampshire Creek Tributary AB
	Unnamed Tributary to Hampshire Creek	Hampshire Creek Tributary B
Village of Hampshire	Unnamed	Hampshire Creek Tributary AC
	Unnamed	Hampshire Creek Tributary AD
Village of Hampshire, Village of Huntley, Kane County (Unincorporated Areas)	Unnamed	Eakin Creek Tributary B
Kane County (Unincorporated Areas)	Unnamed	Eakin Creek Tributary D
	Unnamed	Hampshire Creek Tributary AE

The streams, or portions of streams, listed in Table 4, "Limits of Revised or New Zone AE Study," have new or revised hydrologic and hydraulic analyses for the July 17, 2012 PMR.

Table 4 - Limits of Revised or New Zone AE Study

Stream	Limits of Revised or New Zone AE Study
Burlington Creek	From approximately 8,238 feet above confluence with Coon Creek (Kane-DeKalb County Boundary) to approximately 32,879 feet upstream of confluence with Coon Creek, approximately 700 feet upstream of French Road
Burlington Creek Tributary A	From confluence with Burlington Creek to approximately 14,875 feet upstream of confluence with Burlington Creek, just upstream of Romke Road
Burlington Creek West Branch	From approximately 11,827 feet above confluence with Burlington Creek (Kane-DeKalb County Boundary) to approximately 29,388 feet upstream of confluence with Burlington Creek, approximately 60 feet upstream of Burlington Road
Hampshire Creek	From approximately 85 feet above confluence with Burlington Creek (Kane-DeKalb County Boundary) to approximately 35,985 feet upstream of confluence with Burlington Creek, approximately 1,325 feet upstream of Railroad[1]
Hampshire Creek South	From confluence with Hampshire Creek to approximately 17,275 feet upstream of confluence with Hampshire Creek, approximately 225 feet upstream of Romke Road
Hampshire Creek Tributary A	From confluence with Hampshire Creek to approximately 16,660 feet upstream of confluence with Hampshire Creek, approximately 3,185 feet upstream of Big Timber Road
Hampshire Creek Tributary AA	From confluence with Hampshire Creek Tributary A to approximately 2,604 feet upstream of confluence with Hampshire Creek Tributary A
Hampshire Creek Tributary AB	From confluence with Hampshire Creek Tributary A to approximately 1,699 feet upstream of confluence with Hampshire Creek Tributary A
Hampshire Creek Tributary AC	From confluence with Hampshire Creek Tributary A to approximately 943 feet upstream of confluence with Hampshire Creek Tributary A
Hampshire Creek Tributary AD	From confluence with Hampshire Creek Tributary A to approximately 1,600 feet upstream of confluence with Hampshire Creek Tributary A
Hampshire Creek Tributary AE	From confluence with Hampshire Creek Tributary A to approximately 2,826 feet upstream of confluence with Hampshire Creek Tributary A

[1] Revised by new study with the exception of the reach associated with Letter of Map Revision (LOMR) 09-05-1214P.

Table 4 - Limits of Revised or New Zone AE Study (continued)

Stream	Limits of Revised or New Zone AE Study
Hampshire Creek Tributary B	From confluence with Hampshire Creek to approximately 14,055 feet upstream of confluence with Hampshire Creek, approximately 50 feet upstream of Widmayer Road[2]
Hampshire Creek Tributary No. 2	From confluence with Hampshire Creek to approximately 6,400 feet upstream of confluence with Hampshire Creek, approximately 435 feet upstream of Prairie Farm Road

[2] Revised by new study with the exception of the reach associated with LOMR 09-05-2792P

The limits of streams studied by Zone AE methods and incorporated into this FIS and FIRM are listed in Table 5, "Limits of Zone AE Study."

Table 5 - Limits of Zone AE Study

Flooding Source	Limits of Zone AE Study
7th Avenue Creek	From the confluence with Fox River to 10,400 feet above the confluence with Fox River (approximately 2,400 feet above 13th Avenue)
7th Avenue Creek Overflow	From the divergence from 7th Avenue Creek to the convergence with 7th Avenue Creek
7th Avenue Creek Tributary	From the confluence with 7th Avenue Creek to 1,280 feet above the confluence with 7th Avenue Creek (approximately 325 feet above State Avenue)
Anderson Road Run	From confluence with Blackberry Creek to 5,575 feet above confluence with Blackberry Creek
Anderson Road Run North Branch	From the confluence with West Branch to about 5,050 feet above confluence with West Branch
Aurora Chain of Lakes	From the confluence with Blackberry Creek to 18,525 feet above confluence with Blackberry Creek (Indian Trail Road)
Aurora Chain of Lakes Cherry Hills Diversion	From the confluence with Aurora Chain of Lakes to 4,763 feet above confluence with overflow from East Run (approximately 3,510 feet above bridge on Gilman Natural Trail)
Big Rock Creek	From approximately 43,730 feet upstream of the confluence with Fox River, the Kane/Kendall County Boundary; to approximately 75,030 feet upstream of the confluence with Fox River, approximately the confluence of West Branch Big Rock Creek and East Branch Big Rock Creek
Blackberry Creek	From 63,510 feet above the confluence with Fox River (Route 30) to 185,436 feet above confluence with Fox River (approximately 1,225 feet above Route 38)

Table 5 - Limits of Zone AE Study (continued)

Flooding Source	Limits of Zone AE Study
Bowes Creek	From the confluence with Stony Creek to 31,575 feet above the confluence with Stony Creek (approximately 200 feet above Dittman Road)
Bowes Creek South	From confluence with Bowes Creek to 2,650 feet above confluence with Bowes Creek (approximately 180 feet above Dittman Road)
Brewster Creek	From the confluence with Fox River to 4,400 feet above the confluence with Fox River (approximately 580 feet above Private Nursery Road)
Burlington Creek	From approximately 8,238 feet above the confluence with Coon Creek (Kane-DeKalb County Boundary) to approximately 32,879 feet upstream of the confluence with Coon Creek, approximately 700 feet upstream of French Road
Burlington Creek Tributary A	From the confluence with Burlington Creek to approximately 14,875 feet upstream of the confluence with Burlington Creek, just upstream of Romke Road
Burlington Creek West Branch	From approximately 11,827 feet above the confluence with Burlington Creek (Kane-DeKalb County Boundary) to approximately 29,388 feet upstream of the confluence with Burlington Creek, approximately 60 feet upstream of Burlington Road
Carpenter Creek	From the confluence with Fox River to 2,000 feet above the confluence with Fox River (approximately 25 feet above Spring Street)
Duffin Drain	From the confluence with Sugar Grove Branch to approximately 12,750 feet upstream of the confluence with Sugar Grove Branch, approximately the downstream side of Wheeler Road
Eakin Creek	From the confluence with South Branch Kishwaukee River to 3,425 feet above the confluence with South Branch Kishwaukee River (approximately 2,055 feet above county boundary) **AND** From approximately 18,350 feet upstream of the confluence with South Branch Kishwaukee River (approximately 460 feet downstream of Huntley Automall Drive) to approximately 34,100 feet upstream of the confluence with South Branch Kishwaukee River (approximately 5,400 feet upstream of the confluence with Eakin Creek Tributary D)[1]
Eakin Creek South	From approximately 590 feet upstream of the confluence with Eakin Creek (approximately 1,350 feet downstream of Freeman Road) to approximately 7,510 feet upstream of the confluence with Eakin Creek (approximately 4,210 feet upstream of I-90)[2]

[1]This reach studied in detail as part of LOMR 10-05-2793P
[2]Stream studied in detail as part of LOMR 10-05-2793P

Table 5 - Limits of Zone AE Study (continued)

Flooding Source	Limits of Zone AE Study
Eakin Creek Tributary B	From approximately 500 feet upstream of the confluence with Eakin Creek (approximately 790 feet downstream of Canary Lane) to approximately 10,000 feet upstream of the confluence with Eakin Creek (approximately 50 feet upstream of Big Timber Road) [1]
Eakin Creek Tributary D	From the confluence with Eakin Creek to approximately 3,500 feet upstream of the confluence with Eakin Creek [1]
East Branch Big Rock Creek	Downstream Reach: From the confluence with Big Rock Creek to approximately 10,810 feet upstream of the confluence with Big Rock Creek (approximately the confluence with Malgren Drain) **AND** Upstream Reach: From approximately 55,525 feet upstream of the confluence with Big Rock Creek (approximately the downstream side of Owens Road) to approximately 73,350 feet upstream of the confluence with Big Rock Creek (approximately the confluence with East Branch Big Rock Creek Tributary 2)
East Branch Big Rock Creek Tributary 2	From the confluence with East Branch Big Rock Creek to approximately 8,090 feet upstream of the confluence with East Branch Big Rock Creek (approximately 2,450 feet upstream of Keslinger Road)
East Run	From the confluence with Blackberry Creek to 20,950 feet above the confluence with Blackberry Creek (approximately 100 feet above Oak Street)
East Run North Branch	From confluence with East Run to 4,622 feet above the confluence with East Run (approximately 1,175 feet above inlet structure)
East Run North Loop	From the confluence with East Run to 2,800 feet above the confluence with East Run (approximately 1,100 feet above Orchard Road)
Elburn Run	From the confluence with Blackberry Creek to 16,525 feet above the confluence with Blackberry Creek (approximately 3,950 feet above Keslinger Road)
Ferson Creek	From confluence with Fox River to 74,750 feet above confluence with Fox River (approximately 75 feet above North Avenue)
Fitchie Creek	From the confluence with Otter Creek to 26,300 feet above confluence with Otter Creek (approximately 175 feet above Russell Road)
Four Winds Way Creek	From the confluence with Fox River to 2,200 feet above the confluence with Fox River (approximately 70 feet above State Route 31)

[1]Stream studied in detail as part of LOMR 10-05-2793P

Table 5 - Limits of Zone AE Study (continued)

Flooding Source	Limits of Zone AE Study
Fox River	From 242,000 feet above the confluence with Illinois River to 431,300 feet above the confluence with Illinois River (approximately 21,400 feet above Main Street)
Fox River East Channel	From 253,000 feet above the confluence with Fox River to 258,900 feet above the confluence with Fox River (approximately 400 feet above New York Street)
Fox River Tributary	From 875 feet above the confluence with Fox River Tributary East Branch to 2,440 feet above the confluence with Fox River Tributary East Branch (approximately 100 feet above Aucutt Road)
Fox River Tributary (East Branch)	From the confluence with Fox River Tributary to 2,725 feet above the confluence with Fox River Tributary (950 feet above Aucutt Road)
Geneva Creek	From the confluence with Fox River to 4,130 feet above the confluence with Fox River (approximately 60 feet above South Street)
Hampshire Creek	From approximately 85 feet abovethe confluence with Burlington Creek (Kane-DeKalb County Boundary) to approximately 35,985 feet upstream of the confluence with Burlington Creek (approximately 1,325 feet upstream of Railroad) [1]
Hampshire Creek South	From the confluence with Hampshire Creek to approximately 17,275 feet upstream of the confluence with Hampshire Creek (approximately 225 feet upstream of Romke Road)
Hampshire Creek Tributary A	From the confluence with Hampshire Creek to approximately 16,660 feet upstream of the confluence with Hampshire Creek (approximately 3,185 feet upstream of Big Timber Road)
Hampshire Creek Tributary AA	From the confluence with Hampshire Creek Tributary A to approximately 2,604 feet upstream of the confluence with Hampshire Creek Tributary A
Hampshire Creek Tributary AB	From the confluence with Hampshire Creek Tributary A to approximately 1,699 feet upstream of the confluence with Hampshire Creek Tributary A
Hampshire Creek Tributary AC	From the confluence with Hampshire Creek Tributary A to approximately 943 feet upstream of the confluence with Hampshire Creek Tributary A
Hampshire Creek Tributary AD	From the confluence with Hampshire Creek Tributary A to approximately 1,600 feet upstream of the confluence with Hampshire Creek Tributary A

[1] Revised by new study with the exception of the reach associated with LOMR 09-05-1214P

Table 5 - Limits of Zone AE Study (continued)

Flooding Source	Limits of Zone AE Study
Hampshire Creek Tributary AE	From the confluence with Hampshire Creek Tributary A to approximately 2,826 feet upstream of the confluence with Hampshire Creek Tributary A
Hampshire Creek Tributary B	From the confluence with Hampshire Creek to approximately 14,055 feet upstream of the confluence with Hampshire Creek (approximately 50 feet upstream of Widmayer Road) [1]
Hampshire Creek Tributary No. 1	From the confluence with Hampshire Creek to 1,400 feet above the confluence with Hampshire Creek (approximately 740 feet above Industrial Drive)
Hampshire Creek Tributary No. 2	From the confluence with Hampshire Creek to approximately 6,400 feet upstream of the confluence with Hampshire Creek (approximately 435 feet upstream of Prairie Farm Road)
Hampshire Creek Tributary No. 3	From the confluence with Tributary No. 2 to 1,285 feet above the confluence with Tributary No. 2.
Hampshire Creek Tributary No. 4	From the confluence with Hampshire Creek to 3,430 feet above the confluence with Hampshire Creek
Indian Creek	From the confluence with Fox River to 33,350 feet above the confluence with Fox River (Fermi Lab Berm)
Indian Creek Prairie Path Run	From the confluence with Indian Creek to 4,580 feet above confluence with Indian Creek (approximately 860 feet above Loreen Drive)
Jelkes Creek	From the confluence with Fox River to 20,260 feet above the confluence with Fox River (Sleepy Hollow Road)
Jericho Lake Diversion	From 130 feet below Route 30 to 9,230 feet above Route 30 (approximately 1,560 feet above Jericho Road)
Lake Run	From the confluence with Blackberry Creek to 43,000 feet above the confluence with Blackberry Creek (approximately 100 feet above Hughes Road)
Lake Run Main Street Branch	From the confluence with Lake Run to 6,100 feet above the confluence with Lake Run (approximately 2,900 feet above Main Street)
Lake Run Nelson Lake Branch	From the confluence with Lake Run to 7,850 feet above the confluence with Lake Run (approximately 7,550 above Private Farm Road)

[1] Revised by new study with the exception of the reach associated with LOMR 09-05-2792P

Table 5 - Limits of Zone AE Study (continued)

Flooding Source	Limits of Zone AE Study
Lake Run North of I-88 Overflow	From the confluence with Lake Run to 4,500 feet above the confluence with Lake Run
Lake Run North of I-88 Overflow East Branch	From the confluence with Lake Run North of I-88 Overflow to 1,875 feet above the confluence with Lake Run North of I-88 Overflow
Lake Run South of I-88 Diversion	From the confluence with Lake Run to 7,400 feet above the confluence with Lake Run
Lords Park Tributary	From the confluence with Poplar Creek to 5,000 feet above confluence with Poplar Creek (approximately 750 feet above Laurel Street)
Mahoney Creek	From the confluence with Fox River to 12,320 feet above the confluence with Fox River (approximately 2,320 feet above Wilson Street)
Malgren Drain	From the confluence with East Branch Big Rock Creek to approximately 12,425 feet upstream of the confluence with East Branch Big Rock Creek (approximately the downstream side of Swan Road)
McKee Road Tributary	From the confluence with Mill Creek to 15,900 feet above the confluence with Mill Creek (approximately 4,670 feet above Fabyan Parkway)
Mill Creek	From the confluence with Fox River to 72,190 feet above the confluence with Fox River (approximately 210 feet above State Route 64)
Mill Creek Tributary No. 2	From the confluence with Mill Creek to 2,500 feet above the confluence with Mill Creek (approximately 1,375 feet above Bridle Creek Drive)
North Arm Brewster Creek	From the confluence with Brewster Creek to 510 feet above the confluence with Brewster Creek
Norton Creek	From the confluence with Fox River to 18,800 feet above the confluence with Fox River (approximately 2,800 above Dunham Road)
Norton Creek Tributary	From the confluence with Norton Creek to 500 feet above the confluence with Norton Creek (County Boundary)
Otter Creek	From the confluence with Ferson Creek to 29,750 feet above the confluence with Ferson Creek (approximately 0 feet above Randall Road)
Otter Creek West	From the confluence with Otter Creek to 13,897 feet above confluence with Otter Creek (approximately 1,775 feet above Unnamed Road)

Table 5 - Limits of Zone AE Study (continued)

Flooding Source	Limits of Zone AE Study
Pingree Creek	From confluence with Tyler Creek to 14,506 feet above confluence with Tyler Creek (approximately 276 feet above U.S. Route 20)
Poplar Creek	From confluence with Fox River to 5,200 feet above the confluence with Fox River (approximately 1,700 feet above Saint Charles Street)
Prestbury Branch	From confluence with Blackberry Creek to 8,500 feet above confluence with Blackberry Creek (approximately 5,600 feet above Winthrop Road)
Route 38 Branch	From confluence with Blackberry Creek to 4,500 feet above confluence with Blackberry Creek (approximately 2,550 feet above Route 38)
Sandy Creek	From the confluence with Tyler Creek to 17,925 feet above confluence with Tyler Creek (approximately 6,925 feet above Farmers Crossing)
Seavey Road Run	From confluence with Blackberry Creek to 24,200 feet above confluence with Blackberry Creek (approximately 900 feet above Main Street)
Seavey Road Run Green Road Branch	From confluence with Seavey Road Run to 3,150 feet above confluence with Seavey Road Run (approximately 150 feet above Green Road)
Seavey Road Run Main Street Branch	From confluence with Seavey Road Run to 6,100 feet above the confluence with Seavey Road Run (approximately 150 feet above Main Street)
Selmarten Creek	From confluence with Indian Creek to 4,900 feet above confluence with Indian Creek (approximately 1,350 feet above I-88)
Sleepy Creek	From confluence with Fox River to 12,625 feet above confluence with Fox River (State Route 72)
South Tributary	From confluence with Indian Creek to 6,150 feet above confluence with Indian Creek (approximately 3,300 feet above McClure Road)
State Street Creek	From confluence with Fox River to 4,500 feet above confluence with Fox River (approximately 220 feet above 12th Street)
State Street Creek Tributary	From confluence with State Street Creek to 1,650 feet above State Street Creek (approximately 220 feet above 15th Street)
Stony Creek	From confluence with Otter Creek to 27,531 feet above confluence with Otter Creek (approximately 5,256 feet above Crawford Road)
Sugar Grove Branch	From the confluence with Welch Creek to 17,115 feet upstream of the confluence with Welch Creek (approximately 3,350 feet upstream of Wheeler Road)

Table 5 - Limits of Zone AE Study (continued)

Flooding Source	Limits of Zone AE Study
Sugar Grove Branch East	From the confluence with Sugar Grove Branch to 5,300 feet above the confluence with Sugar Grove Branch (approximately 3,700 feet above North-South Runway)
Sugar Grove Branch North	From the confluence with Sugar Grove Branch to 2,900 feet above the confluence with Sugar Grove Branch (approximately 0 feet above U.S. Route 30/Granart Road)
Tollway Tributary	From the confluence with Indian Creek to 2,100 feet above the confluence with Indian Creek (approximately 700 feet above Molitor Road)
Tyler Creek	From the confluence with Fox River to 71,400 feet above confluence with Fox River (approximately 220 feet above State Route 72)
Tyler Creek Unnamed Tributary	From the confluence with Tyler Creek to 8,550 feet above the confluence with Tyler Creek (approximately 4,550 feet above Reinking Road)
Union Ditch No. 2	From County Line road to 2,625 feet above County Line Road
Waubonsee Creek	From 25,810 feet above the confluence with Fox River to 38,100 feet above the confluence with Fox River (approximately 580 feet above Montgomery Road)
Welch Creek	From the confluence with Big Rock Creek to approximately 89,160 feet upstream of the confluence with Big Rock Creek (approximately the downstream side of Keslinger Road)
West Branch Big Rock Creek	From the confluence with Big Rock Creek to approximately 14,390 feet upstream of the confluence with Big Rock Creek (approximately the downstream side of U.S. Highway 30)

July 17, 2012
Revised Countywide FIS

The 2012 PMR incorporated new studies of the Big Rock Creek and Welch Creek watersheds within Kane County. Detailed flood study with limited survey was conducted and supersedes previous studies within the limits provided in Table 4 for the following streams: Welch Creek, Duffin Drain, Sugar Grove Branch (downstream of the existing detailed study), Big Rock Creek, West Branch Big Rock Creek, East Branch Big Rock Creek, and Malgren Drain.

In addition, new or revised Zone A studies were incorporated for the following streams: Duffin Drain, Duffin Drain West, Duffin Drain Tributary 2; downstream, middle, and upstream reaches of East Branch Big Rock Creek; Malgren Drain, Swan Drain, Welch Creek, Welch Creek Tributaries 1, 2, 4, and 6; Youngs Creek, and Youngs Creek Tributaries 1 and 3.

June 2, 2015
Revised Countywide FIS

The June 2, 2015, PMR incorporated new studies for a portion of the Coon Creek watershed. Detailed studies were conducted for the following streams: Burlington Creek, Burlington Creek Tributary A, Burlington Creek West Branch, Hampshire Creek, Hampshire Creek South, Hampshire Creek Tributaries A, AA, AB, AC, AD, AD, B, and Hampshire Creek Tributary No. 2.

This Physical Map Revision

This PMR incorporates new studies for a portion of the Lower Fox River watershed. Revised flood hazard analyses were conducted for 7th Avenue Creek, 7th Avenue Creek Overflow and 7th Avenue Creek Tributary.

Letters of Map Revision

Incorporated Letters of Map Revision (LOMR) issued by FEMA are summarized in Tables 6a-d, "Incorporated Letters of Map Change." These LOMRs resulted in map changes since the December 20, 2002 initial countywide FIS. It should be noted that all or portions of a given map change may be superseded by subsequent LOMRs or restudies.

Table 6a - Incorporated Letters of Map Change (December 20, 2002)

LOMC Type	Case Number	Date Issued	Community	Flooding Source	Project Identifier
LOMR	97-05-153P	7/9/1997	Aurora	Indian Creek	Savannah Subdivision
LOMR	97-05-230P	4/21/1997	Batavia	Mills Creek Tributary	Robert's Lane Subdivision
LOMR	94-05-159P	5/20/1994	Batavia	Mills Creek Tributary	Correction of streamline & Zone A
LOMR	92-05-135P	12/22/1992	Batavia	McKee Road Tributary	Requestor: Leder
LOMR	*	5/22/1990	Batavia	*	Requestor: Bergeson
LOMR	*	7/28/2000	Geneva	McKee Road Tributary	Eaglebrook Subdivision
LOMR	02-05-447P	6/12/2002	Geneva	Geneva Creek	Herrington's Trail Subdivision
LOMR-F	98-05-4378A	7/31/1998	Hampshire	Hampshire Creek	Illinois Route 72 at Getzelman Road
LOMR	96-05-165P	6/5/1996	Hampshire	Hampshire Creek South	Hampshire Prairie Subdivision
LOMR	99-05-103P	7/27/1999	Hampshire	Hampshire Creek	Lunt Manufacturing/ Hampshire Creek
LOMR	98-05-203P	8/27/1998	Huntley	Eakin Creek	Eakin Creek Relocation
LOMR	99-05-157P	6/29/2000	Huntley	South Branch of Kishwaukee River	Del Webb's Sun City
LOMR	00-05-061P	6/15/2000	Huntley	Eakin Creek & Eakin Creek Tributary 3	Neighborhood 8 of Del Webb's Sun City
LOMR	98-05-245P	2/19/1999	Kane County (Unincorporated Areas)	Mill Creek Main Channel	Fox Mill Subdivision
LOMR	98-05-203P	8/27/1998	Kane County (Unincorporated Areas)	Eakin Creek	Eakin Creek Relocation

* Data not available

Table 6a (continued) - Incorporated Letters of Map Change (December 20, 2002)

LOMC Type	Case Number	Date Issued	Community	Flooding Source	Project Identifier
LOMR	97-05-3596P	4/29/1998	Kane County (Unincorporated Areas)	Unnamed Tributary to Ferson Creek	Deer Run Creek Subdivision
LOMR	97-05-067P	7/17/1997	Kane County (Unincorporated Areas)	Mill Creek Tributary No. 2	Fox Mill Subdivision, Unit 4
LOMR-F	96-05-311A	9/25/1996	Kane County (Unincorporated Areas)	Mill Creek Tributary No. 2	Foxmill lots Unit 3, 93-95, 102 & 104-107
LOMA	95-05-2366A	11/8/1995	Kane County (Unincorporated Areas)	Fox River	Lots 1, 2, 3, 4, 5 & 6, Block 15 - Algonquin Shores
LOMR-F	96-05-1862A	5/22/1996	Kane County (Unincorporated Areas)	Blackberry Creek Tributary	Lots 19 & 40-43 Victoria Park Subdivision
LOMR	00-05-027P	8/12/2000	Kane County (Unincorporated Areas)	Woods Creek	Boyer Road
LOMR	*	1/6/1986	Kane County (Unincorporated Areas)	Sleepy Creek	*
LOMR	01-05-2373P	12/18/2001	Kane County (Unincorporated Areas)	Fitchie Creek	Russinwood Subdivision
LOMR	01-05-2948P	12/6/2001	Kane County (Unincorporated Areas)	Unnamed Tributary to Ferson Creek	Gilmore Property/ Pinehave Subdivision
LOMR	96-05-113P	5/15/1996	Montgomery	Fox River Tributary, East Branch	Schaffers Green house
LOMR	95-05-279P	1/11/1996	Montgomery	Unnamed Ponding area near Fox River Tributary / Unnamed Wetland	Montgomery Business Park

* Data not available

Table 6a (continued) - Incorporated Letters of Map Change (December 20, 2002)

LOMC Type	Case Number	Date Issued	Community	Flooding Source	Project Identifier
LOMR-F	96-05-1862A	5/22/1996	North Aurora	Blackberry Creek Tributary	Lots 19 & 40-43 Victoria Park Subdivision
LOMR	00-05-047P	7/10/2001	South Elgin	Otter Creek	Thornwood Development
LOMR-F	96-05-594A	6/13/1996	St. Charles	Fox River	Lots 22 & 21 Fox River Townhomes of the Willowgate
LOMR-F	94-05-086A	5/19/1994	St. Charles	Fox River	Lots 3-6 of Fox River Townhomes (Units 252,1258,1260 & 1266 Willowgate Lane)
LOMR-F	93-05-074A	6/14/1993	St. Charles	Fox River	Units 7,8 and 15-18, Fox River Townhomes

Table 6b - Incorporated Letters of Map Change (November 16, 2006 Revision)

LOMC Type	Case Number	Date Issued	Community	Flooding Source	Project Identifier
LOMR	06-05-B010P	5/18/2006	Kane County (Unincorporated Areas) Carpentersville	South Branch Kishwaukee River	Winchester Heights
LOMR	04-05-4080P	8/6/2005	Kane County (Unincorporated Areas) Huntley	Kishwaukee River Tributary	Primepointe Business Park

Table 6c - Incorporated Letters of Map Change (August 3, 2009 Revision)

LOMC Type	Case Number	Date Issued	Community	Flooding Source	Project Identifier
LOMA	96-05-2038A	*	*	*	*
LOMR-F	02-05-0693A	*	*	*	*
LOMR-F	01-05-1170A	3/23/2001	Aurora	Blackberry Creek Tributary H	The Lindens
LOMR-F	01-05-2918A	9/28/2001	Aurora	Blackberry Creek Tributary H	The Lindens, Parcels 1 and 2
LOMR-F	03-05-1227A	1/24/2003	Aurora	Blackberry Creek	The Lindens
LOMR	07-05-5849P	6/27/2008	Elgin	Sandy Creek	Tuscan Woods Subdivision
LOMR	03-05-1473P	7/30/2003	Geneva	McKee Road Tributary	FEMA Initiated - Reissuance
LOMR	06-05-BC30P	12/28/2006	Hampshire	Hampshire Creek Tributary No. 4	Pasquinelli Development
LOMR	08-05-3393P	8/26/2008	Hampshire	Eakin Creek West	Hampshire High School
LOMR	98-05-203P	8/27/1998	Huntley	Eakin Creek and Tributary 3	Eakin Creek Relocation
LOMR	00-05-061P	6/15/2000	Huntley	Eakin Creek and Tributary 3	Del Webb's Sun City, Neighborhood 8
LOMR	99-05-157P	6/29/2000	Huntley	South Branch Kishwaukee River	Del Webb's Sun City
LOMR	02-05-3575P	10/16/2002	Kane County (Unincorporated Areas)	Unnamed Tributary to Ferson Creek	Oak Shadows Subdivision
LOMR	02-05-3913P	12/31/2002	Kane County (Unincorporated Areas)	West Branch East Branch	Anderson Road Project
LOMR-F	03-05-3972A	6/20/2003	Kane County (Unincorporated Areas)	Mill Creek Tributary No. 2	Fox Mill, Unit No. 3
LOMA	96-05-2038A	6/12/96	Kane County (Unincorporated Areas)	Mill Creek Tributary No. 2	Fox Mill Subdivision
LOMR-F	02-05-0693A	1/09/02	Kane County (Unincorporated Areas)	Mill Creek Tributary No. 2	Lots 93-95; 102; 104-107 – Unit 3 Fox Mill

*Data not available

Table 6c (continued) - Incorporated Letters of Map Change (August 3, 2009 Revision)

LOMC Type	Case Number	Date Issued	Community	Flooding Source	Project Identifier
LOMR	03-05-3385P	6/14/2004	Kane County (Unincorporated Areas)	Mill Creek	Woodside Creek Subdivision
LOMR	05-05-0232P	3/15/2005	Kane County (Unincorporated Areas)	Welch Creek	AE Fraesz Property
LOMR	05-05-0235P	3/15/2005	Kane County (Unincorporated Areas)	Unnamed Tributary to Ferson Creek	Patrick Hunter
LOMR	07-05-0508P	11/28/2006	Kane County (Unincorporated Areas)	Unnamed Depressional Area	Fox Creek Subdivision
LOMR	06-05-BP93P	5/16/2007	Kane County Batavia	McKee Road Tributary	McKee Road Tributary Flood Control Project
LOMR	03-05-3985P	12/15/2003	Kane County Elgin	Lord's Park Tributary Poplar Creek	FEMA Initiated - Reissuance
LOMR	03-05-1837P	9/29/2003	Kane County Gilberts	Tyler Creek	Timber Trails
LOMR	06-05BT15P	1/18/2007	Kane County Hampshire	Hampshire Creek South	Hampshire Creek South LOMR
LOMR	03-05-3994P	6/24/2004	Kane County Maple Park	Union Ditch No. 2	The Settlement Subdivision
LOMR	02-05-2627P	12/31/2002	Kane County St. Charles	Norton Creek	Woods of Fox Glen Subdivision
LOMR	05-05-0119P	10/26/2005	Pingree Grove	Tyler Creek Unnamed Tributary	Cambridge Grove
LOMR	02-05-3595P	8/1/2002	Sleepy Hollow West Dundee	Sleepy Creek	Holze Property
LOMR	03-05-1474P	4/17/2003	South Elgin	Otter Creek	Reissuance
LOMR-F	05-05-5511A	2/2/2006	South Elgin	Fox River	River Place
LOMR	07-05-0398P	8/30/2007	St. Charles	Fox River	First Street Redevelopment
LOMR	07-05-0178P	5/1/2008	Sugar Grove	Sugar Grove Branch	Aurora Municipal Airport Master Drainage Study

Table 6d - Incorporated Letters of Map Change (June 2, 2015)

LOMC Type	Case Number	Date Issued	Community	Flooding Source	Project Identifier
LOMR	08-05-5074P	1/23/2009	Kane County (Unincorporated Areas)	Burlington Creek Tributary A1A[1] Burlington Creek Tributary A[2]	Landmarks Subdivision
LOMR	09-05-1214P	8/13/2009	Village of Hampshire	Hampshire Creek	Prairie Ridge Neighborhoods CC & P
LOMR	09-05-2792P	4/28/2010	Village of Hampshire Kane County (Unincorporated Areas)	Hampshire Creek Tributary B[3]	Prairie Ridge LOMR
LOMR	10-05-2275P	10/4/2010	Village of Hampshire Kane County (Unincorporated Areas)	Eakin Creek Eakin Creek Tributary E	Oakstead Subdivision
LOMR	10-05-2793P[4]	12/28/2010	Village of Hampshire Village of Huntley Kane County (Unincorporated Areas)	Eakin Creek Eakin Creek South Eakin Creek Tributary B Eakin Creek Tributary D	Eakin Creek Watershed

[1]Identified as Unnamed Tributary No. 1 to Coon Creek in LOMR documentation.

[2]Identified as Unnamed Tributary No. 2 to Coon Creek in LOMR documentation.

[3]Identified as Unnamed Tributary to Hampshire Creek in LOMR documentation.

[4]Although a portion of LOMR 10-05-2793P falls within the scope of this map revision, only panels 17089C0126J and 17089C0130J were revised. Therefore, users must continue to refer to the annotated FIRM attachment for this LOMR for FIRM panels 17089C0040H, 17089C0045H, and 17089C0135H.

2.2 Community Description

Kane County is located in northeastern Illinois approximately 50 miles directly west of downtown Chicago. The county is bordered by Cook and DuPage Counties to the east, Kendall County to the south, DeKalb County to the west, and McHenry County to the north.

According to the U.S. Census Bureau, Kane County encompasses 520.44 square miles and had a population of 534,216 in 2018, 515,269 in 2010, 404,119 in 2000, 317,471 in 1990, and 251,005 in 1970. Geneva, the county seat, had a population of 21,861 in 2018. Aurora, the largest city, had a population of 199, 602 in 2018 (Reference 41). Population is denser in the east, along the Fox River, with more rural/agricultural land uses in the west (Reference 42).

The climate of the area is characterized as humid continental, typified by warm summers and moderately cold winters. The seasons are markedly distinct and generally lag three to five weeks behind the solstices. The proximity of Lake Michigan to the study area has a moderating effect on this climate.

At the Aurora climate station, the average annual temperature is about 59 degrees Fahrenheit (°F) with high temperatures averaging about 82°F and low temperatures averaging about 41°F. January is typically the coldest month and July the warmest month, with average temperatures of 16°F and 84°F, respectively. The lowest temperature on record is -26°F and was recorded in Aurora on January 20, 1985. The highest recorded temperature is 111°F, which occurred in Aurora on June 14, 1936 (Reference 43).

Precipitation within the county occurs as rain, sleet, snow, and hail with an average annual precipitation of 37.69 inches (Reference 43). Approximately sixty percent of annual rainfall occurs from April to September; the annual runoff being approximately 24 inches (Reference 44).

The Fox River basin is the one major drainage basin in Kane County. About sixty percent of the county lies in this drainage basin. The Fox River runs from north to south along eastern Kane County. The topography of the Fox River basin is characterized by rolling morainal hills, marking the northern and western portions of the basin. The land, east of these hills, forms a gently rolling plateau from the Fox River to the eastern boundary of the watershed. These differing landforms produce an asymmetrical topography with the western portion of the basin attaining greater elevations than the eastern portion. Elevation ranges from 630 feet above sea level in the City of Montgomery to 1,065 feet above sea level in Plato Township, on Tower Road. Johnson's Mound in the central part of the county, has an elevation of 898 feet (Reference 42).

The basin's topography is controlled by both subsurface geology and glacial erosion and deposition. The asymmetrical character of the basin is due to the gentle slope of the bedrock units from their highest elevations along the western boundary down to the eastern boundary. With the recession of the last glacial

sheet, large blocks of ice melted to form the Fox Chain of Lakes and other smaller lakes. Few topographical changes in the basin have occurred since glacial time due to low gradients within the basin (Reference 45).

From the northern Illinois state line south to southern Kane County, the terrain is relatively flat and abounds in lakes and low-lying wetlands. The river falls about 110 feet in this 70-mile stretch and the abundant lakes and wetlands obscure the channel between low banks and wide floodplains. Within this 70-mile reach but some distance from the river, topography usually changes to gently undulating prairie and hilly areas with maximum elevations of the basin found at the western boundary of this stretch (Reference 45).

The Blackberry Creek watershed is a 71.2 square mile watershed located in both Kane and Kendall Counties. While the watershed is primarily agricultural, it is experiencing rapid growth in both population and proportion of urban land area. By 2020, both are expected to double from the 1990 condition (Reference 46). Flood damages have increased in the urban areas of the watershed.

The Coon Creek watershed is a tributary to the Kishwaukee River. Located within four Illinois counties, it covers approximately 158 square miles (Reference 47). A portion of the Coon Creek watershed is located in northwestern Kane County and includes parts of the municipalities of Burlington and Hampshire.

The Indian Creek watershed is a 14.7 square mile watershed located mostly in the City of Aurora. Over fifty percent of the watershed has undergone urbanization. A large portion of the open space and wooded area is associated with Fermi Lab, and the remaining agricultural use is now less than twenty percent of the watershed's total land area (Reference 36).

The Big Rock and Welch Creek watershed drains to the Fox River. Welch Creek joins Big Rock Creek 10.3 miles above its confluence with the Fox River. Big Rock Creek joins Fox River at 31 miles above the confluence with the Illinois River, south of the Kane–Kendall County boundary. The Big Rock and Welch Creek watershed is located in Kane, DeKalb, and Kendall counties in northeastern Illinois, and covers a drainage area of 108 square miles at the southwestern Kane County boundary (Reference 38). Within the watershed, 78 percent of the acreage is in row crops. The remainder of the area is made up of rural grassland (11 percent), forest (5 percent), surface water (1 percent), and urban areas (5 percent) (Reference 48). The watershed area includes a small portion of the Village of Elburn as well as the villages of Sugar Grove, Big Rock, and Kaneville, and the area is expected to experience development in the coming years (Reference 38).

2.3 Principal Flood Problems

Flood peaks may increase as urbanization continues to replace agricultural and wooded lands within the watershed. Flooding is sometimes caused (or intensified) by ice jams, which form at bridges and narrow reaches of the river. Flooding has usually resulted either from heavy thunderstorms following a period of prolonged

rainfall that has saturated the ground or from a severe storm during snowmelt conditions.

Overbank flood damage generally occurs along the Fox River as well as along some of the smaller creeks in the county. Floods have occurred in the study reaches of the Fox River basin and its tributaries during all seasons of the year.

Kane County has experienced severe flooding. In 1996, 16.9 inches of rain fell on the county in less than a 24-hour period. Flood stages on the Fox River in Aurora exceeded the 1-percent-annual-chance flood event. The Blackberry Creek in Aurora exceeded the 0.2-percent-annual-chance flood event. Several smaller creeks in southern Kane County were also severely flooded. In February 1997, only about 3.0 to 3.5 inches of rain fell on the county. However, the rain fell on snow covered and frozen ground causing significant runoff.

Major floods in Kane County can be documented from records of U.S. Geological Survey (USGS) gage number 05550000 on the Fox River at Algonquin. The drainage area at the gage is 1,403 square miles. Records are continuous from 1915 to the present. Historic floods and the corresponding river stages are shown in Table 7, "Historical Flood Data."

Table 7 - Historical Flood Data

Fox River at Algonquin, Illinois - USGS Gage Number 05550000

Flood Stage 3 Feet

Date	Peak Streamflow (cfs)	River Stage (feet)
05/22/2004	6,720	3.09
04/02/1979	6,610	4.00
10/03/1987	6,170	3.99
04/23/1993	6,150	3.75
04/01/1916	5,850	4.50
07/05/1938	5,630	4.37
03/16/1929	5,450	4.42
06/17/2000	5,080	3.42
05/23/1996	4,570	3.43

Flooding and damages in the Blackberry Creek watershed area increased during the 1980's and late 1990's, with major flood damage occurring during the storms of July 1983, July 1996, and February 1997. The storm of July 17-18, 1996 caused damage to over 1,000 homes and over $13 million in damages (Reference 49).

In the Big Rock and Welch Creek watershed, the highest flood observed by local residents in 71 years (Reference 50) occurred after 10.48 inches of rain fell on October 10, 1954. Since the 1954 flood, the largest flood on record occurred on July 18, 1996 when 16.91 inches of rain were recorded at the Aurora College station (Reference 38).

In the City of Batavia, the primary cause of flooding in the Mahoney Creek basin is usually a combination of snowmelt and rainfall. The approximately 2.39 square mile Mahoney Creek watershed is located entirely within Batavia's planning boundaries. Because of extensive urban development and steep overland slopes in the watershed, storm water runoff moves quickly toward the Mahoney Creek Tributary and rapidly through the stream channel itself. Consequently, high intensity, short duration storms tend to produce higher flood flows (Reference 51).

In the Village of Hampshire, the primary cause of flooding in the Hampshire Creek basin is usually a combination of snowmelt and rainfall events. Known flood events on Hampshire Creek South occurred in 1960, 1968, 1972, and 1979. Information on historical floods in the area was obtained from a gaging station on Hampshire Creek from the Village of Hampshire.

In the Village of Maple Park, the principal flooding problems are caused by the overflow of Union Ditch No. 2 in the southern section of the village.

In the Village of Montgomery, severe flooding occurs along the Fox River and the Waubonsee Creek near the Parkview Estates area. The principal causes of the Waubonsee Creek flooding include the channel's inadequate hydraulic capacity and a severe flow restriction caused by a railroad crossing. The flood of August 26, 1972, resulted in several hundred thousand dollars of property damage to the Parkview Estates subdivision.

In Village of Sleepy Hollow, the primary cause of flooding in the Jelkes Creek and Sleepy Creek basins is usually a combination of snowmelt and rainfall events. Each creek frequently overflows its banks.

In Village of Sugar Grove, overbank flooding from Welch Creek (now Sugar Grove Branch) was recorded on July 2, 1983 when 6.17 inches of rain fell within a 24-hour period. On June 13, 1981, 3.78 inches of rain fell within a 24-hour period. Both of these rainfall events were recorded at the Aurora Water Department.

In Village of Wayne, the primary cause of flooding in the Norton Creek basin is usually a combination of snowmelt and rainfall events. The Norton Creek Tributary overflowed its banks on June 10, 1967.

Flooding from Mastodon Lake is not limited to the areas adjacent to the lake, but includes a large area west of the lake along Ashland Avenue.

2.4 Flood Protection Measures

The majority of flood protection projects encompass the drainage basins of the Fox River. The remaining projects consist of the construction and maintenance of floodwater retarding structures, channel maintenance, dredging's, channel improvements, and debris removal for specific reaches of streams. There are no new major flood control projects proposed for the Fox River.

Discharges of the Fox River at Aurora are regulated by several dams upstream along the river. Discharges during a flood event are lower than those that would have occurred prior to regulation. The Aurora Dam and the North Aurora Dam are unregulated spillways. Neither dam offers flood protection; their sole purpose is to provide storage for recreational uses. North Aurora Dam was designed by IDOT, Division of Water Resources in 1974 and constructed by the State of Illinois in 1975.

The North Batavia Dam on the Fox River (north of Wilson Street) provides water storage for recreational use but offers no flood protection.

The Carpentersville Dam and Elgin Dam (river mile 71.84) are unregulated spillways. The crest elevation of the spillway and sluiceway is 708.4 feet for the Elgin Dam and 721.0 feet for Carpentersville Dam. Neither of these dams offer flood protection; their sole purpose is to provide water storage for recreational uses.

The Geneva Dam (river mile 58.67) is an unregulated spillway. The dam offers no flood protection; its sole purpose is to provide water storage for recreational uses.

Concrete retaining walls have been built along the banks of the Fox River approximately 450 feet upstream of Montgomery Dam, but offer little protection from high water. The Montgomery Dam itself is a low-level navigation dam, which also offers little or no flood protection.

South Elgin Dam (river mile 68.18) and St. Charles Dam (river mile 60.65) have unregulated spillways. The crest elevation for the spillway and sluiceway is 699.7 feet for South Elgin Dam and 684.3 feet for St. Charles Dame. Their sole purpose is to provide water storage for recreational uses.

Algonquin Dam, on Illinois Route 62 (Chicago Street) (river mile 82.6), is an unregulated spillway. Algonquin Dam offers little or no flood protection; its sole purpose is to provide water storage for recreational purposes.

The Kane County Board has enacted an ordinance on erosion and sedimentation regulating the floodplain and wetland areas (Reference 52). This ordinance states that no floodplain and/or wetland area shall be disturbed, reshaped or otherwise affected by channel relocation, channel deepening, filling or grading of any type, the erection of any structures, or the storage of any materials or equipment, except as permitted by a special use ordinance. The minimum floodplain elevation is defined as that elevation determined from the flood crest profile of the highest flood of record.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in Kane County, 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 once on the

average during any 10-, 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-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent 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 which equals or exceeds the 1-percent-annual-chance flood in any 50-year period is approximately 40 percent (4 in 10), and, 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 Kane County at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied by Zone AE methods affecting the community.

Hydrologic analyses that have not been superseded have been compiled and are summarized below.

Pre-Countywide FISs

Unit hydrograph characteristics for the Fox River were based on other studies conducted by the USACE for deriving regional unit hydrograph parameters for similar river basins in the northeastern portion of Illinois (Reference 53, 54, 55). Discharge hydrographs were calculated for selected flood events by utilizing precipitation data, runoff coefficients, base flows, and synthetic unit hydrographs. Rainfall data were generated by a statistical analysis of rain gage records. Four-hour increments of a 24-hour storm rainfall, corresponding to frequencies of 10-, 50-, and 100-years were obtained for the U.S. Weather Bureau Technical Paper No. 40 (Reference 56). Rainfall values for the 500-year storm were then extrapolated from values for the lower three frequencies. Sets of these rainfall increments were entered into the HEC-1 model in critical order to obtain peak discharges for the 10-, 2-, 1-, and 0.2-percent-annual-chance flood (Reference 57).

A HEC-1 hydrologic computer model was used to compute discharges for the Fox River basin (Reference 57). The HEC-1 model relates basin characteristics and rainfall data to stream discharges. The basin characteristics include vegetation, topography, amount and nature of development, and soil types. The hydrologic model was calibrated with the 1973 event. The 1973 event was selected because it had a relatively uniform distribution over the Fox River basin. For the calibration runs, the actual streamflow gaging values of the Fox River gages were used.

A comparison between discharge-frequency analysis at the Fox River gages and the hydrologic model results was conducted to verify the outflow hydrograph. A log-Pearson Type III discharge-frequency analysis was performed for the peak annual

series at the gaging stations using the computer skew coefficients 0.62 and 0.00 (Reference 58). The results of the HEC-1 model compare favorably with the analysis, which used 0.0 skew. Peak discharge-frequency determinations were based on an analysis of basin characteristics and rainfall data using the HEC-1 hydrologic computer model with the SCS option for Ferson Creek, McKee Road Tributary, Mill Creek, Norton Creek, Norton Creek Tributary, and Sandy Creek (Reference 57). As with the Fox River, unit hydrograph characteristics for the study area were based on other studies conducted by the USACE (Reference 55). Discharge hydrographs were calculated for selected flood events by utilizing precipitation data, runoff coefficients, base flows, and synthetic unit hydrographs.

Discharge-frequency relationships for the Fox River at Illinois Avenue were prepared by the USGS using regional flood-frequency relationships for streams in northern Illinois (Reference 59). The results were then adjusted to reflect the present channel conditions (Reference 60). Two other similar discharge-frequency curves were prepared for the Fox River, one at the East-West Tollway and the other at St. Peters School, both in Aurora. The locations are upstream and downstream of Illinois Avenue, respectively. Flood peaks originating from storm runoff from the drainage areas between the three locations were estimated using the rational method. In most cases, the local peak discharges will not synchronize with flood peaks on the Fox River that pass through the city. Therefore, it was assumed, for estimating peak discharges on the Fox River, that peak discharges that met the Fox River peak discharges from intervening areas have a magnitude equal to approximately one-half their corresponding peaks for a given recurrence interval.

In areas where the Fox River divides, the discharge was reduced along the main stem (always the west channel). The remainder of the total discharge was assigned to Fox River East Channel.

Within the Village of Montgomery, discharges for the 10-, 2-, 1-, and 0.2-percent-annual-chance floods for the Fox River were developed using a log-Pearson Type III distribution (Reference 58) of 29 years of historical data measured by the Illinois Division of Water Resources gage on the Fox River at Illinois Avenue in Aurora, Illinois. Results of this procedure were in agreement with flood frequency curves from the USGS publication *Floods in Aurora North Quadrangle, Illinois* (Reference 60) which were extrapolated by a straight line curve for the 1- and 0.2-percent-annual-chance intervals. For the tributaries to the Fox River frequency discharges for the 10-, 2-, and 1-percent-annual-chance floods were determined using regional regression equations from the report *Magnitude and Frequency of Floods in Illinois* (Reference 61). The 0.2-percent-annual-chance flood was determined from linear extrapolation performed on probability paper.

The stream gages used in the hydrologic analyses for the Fox River are listed in the following tabulation:

Flooding Source and Location	Gage Number	Drainage Area (sq. miles)
Fox River		
At McHenry Dam	05549500 (USGS)	1,250
At Algonquin	05550000 (USGS)	1,402
At Dayton	05552500 (USGS)	2,570
At Aurora	05551500 (USGS)	1,705
At Batavia	05551250 (USGS)	1,649
At East Dundee	05550100 (USGS)	1,446
At St. Charles	05551250 (USGS)	1,649
At South Elgin	05551000 (USGS	1,556
At South Elgin	IDOT-DWR	1,500
At Geneva	IDOT-DWR	1,580
At Aurora	IDOT-DWR	1,710

There are no streamflow recording gages on Norton Creek. In order to simulate flows for Norton Creek and Norton Creek Tributary within Wayne, a regional frequency analysis has been completed for the gages in the vicinity of the Norton Creek drainage basin. Thirteen USGS gages with one to twenty years of record in the DuPage River drainage basin provided data for the regional frequency analysis. To enable the regional frequency model to more accurately predict the flows for a small basin, the DuPage data have been augmented by records from gages with small drainage areas. Also included in the study are six gages from DuPage County basin having drainage areas of less than 20.0 square miles and six gages from basins within the region having drainage areas less than 2.0 square miles. The technique for a regional frequency analysis outlined in Bulletin No. 17 from the U.S. Water Resources Council (Reference 58) has been used to calculate the discharges for Norton Creek and Norton Creek Tributary.

There are no streamflow recording gages on Mahoney Creek. In order to simulate flows for Mahoney Creek, a regional frequency analysis has been completed for the gages in the vicinity of the Mahoney Creek drainage basin. Thirteen USGS gages with adequate records in the DuPage River drainage basin provided data for the regional frequency analysis. To enable the regional frequency model to more accurately predict the flows for a small basin, the DuPage data have been augmented by records from gages with small drainage areas. Also included in the study are six gages from the DuPage County basin having drainage areas less than 20.0 square miles and six gages from basins within the region having drainage areas less than 2.0 square miles. The technique for a regional frequency analysis outlined in the *Flood Hydrograph Package* was used along with the HEC-1 rainfall-runoff computer model to calculate the discharges for Mahoney Creek (Reference 57).

For Four Winds Way Creek and Carpenter Creek, peak discharge-frequency determinations were based on analysis of basin characteristics and rainfall data using the HEC-1 hydrologic computer model (Reference 57). The basin characteristics include vegetation, topography, amount and nature of development, and soil types. As with the Fox River, unit hydrograph characteristics for the study area were based on other studies conducted by the USACE (Reference 54, 55), and discharge hydrographs were calculated for selected flood events by utilizing precipitation data, runoff coefficients, base flows and synthetic unit hydrographs.

For Jelkes Creek and Sleepy Creek, peak discharge-frequency determinations were based on analysis of basin characteristics and rainfall data using the HEC-1 hydrologic computer model (Reference 57) with the SCS option (Reference 62). Discharges for Sleepy Creek were only computed for the 10- and 100-year storms because of the effects of a dam break which was determined to occur on Sleepy Creek. If the dam were to break sooner than assumed for this study, a greater peak discharge would result downstream. Interbasin flow was considered but found to be insignificant on an entire basin analysis of Jelkes Creek and Sleepy Creek.

For 7th Avenue Creek and 7th Avenue Creek Tributary, peak discharge-frequency determinations were based on analysis of basin characteristics and rainfall data using the HEC-1 hydrologic computer model (Reference 57). The basin characteristics include vegetation, topography, amount and nature of development, and soil types. As with the Fox River, unit hydrograph characteristics for the study area were based on others studies (Reference 56, 63), and discharge hydrographs were calculated for selected flood events by utilizing precipitation data, runoff coefficients, base flows, and synthetic unit hydrographs.

Within Kane County, the discharges for Waubonsee Creek were determined by the SWS using regional floodflow equations for northeast Illinois with modifications to account for the unusual bedrock outcroppings near the mouth of the basin. Only the 1-percent-annual-chance discharges were determined.

Estimates of the 10-, 2-, 1-, and 0.2-percent-annual-chance discharges for Waubonsee Creek were made using regional equations for Illinois (Reference 61). These equations were developed by a multiple regression analysis and considered the following basin characteristics: drainage area, main channel length and slope, mean basin elevation, percentage of forest cover, mean annual precipitation, rainfall intensity, area of lakes and ponds, and soil rainfall runoff relationships.

Discharges for the 10-, 2-, and 1-percent-annual-chance floods were plotted on log-normal probability paper, and the 0.2-percent-annual-chance flood discharges were estimated by straight line extrapolation. The 0.2-percent-annual-chance flood discharge is less reliable than the others because the average period of record for stream gages used to prepare the regional equations is approximately 30 years. The reliability of the 1-percent-annual-chance flood discharge is between those of the 2- and 0.2-percent-annual-chance.

The 1-percent-annual-chance discharge value that was used in the FIS for the city of Aurora, dated December 1978, for Waubonsee Creek was also adopted for the revised FIS for the city of Aurora dated May 15, 1986. The analysis did not include the 10-, 2-, or 0.2-percent-annual-chance flood events. To allow for zone calculations, the 10-percent-annual-chance flood elevation was generated by Zone A methods.

The discharges for Union Ditch No. 2 were calculated by the Illinois State Water Survey, which reviewed data from past storms. Hydrologic analyses were carried out to establish peak discharge-frequency relationships.

The discharge values for Brewster Creek and North Arm Brewster Creek were based on the Illinois State Regression Equations modified for urbanized areas of northeastern Illinois (Reference 61).

The discharge information for Poplar Creek was obtained from the Flood Plain Information report for Poplar Creek watershed with discharge values determined from the modified Illinois State Regression Equations (Reference 61, 64).

The discharges for Ferson Creek and Otter Creek basin (Otter Creek, Otter Creek West, Fitchie Creek, Bowes Creek, Bowes Creek South and Stony Creek) were developed using the TR-20 hydrology program (Reference 65). These discharges were determined for the 10-, 2-, 1-, and 0.2-percent-annual-chance flood events. The SCS dimensionless unit hydrograph along with the Curve Number method for loss rates was adopted. A log-Pearson Type III discharge-frequency analysis was performed for the peak annual series at the Ferson Creek USGS gaging station located at Randall Road (Reference 58). The computed skew was weighted with the State of Illinois generalized skew coefficient according to Bulletin No. 17 (Reference 58). Rainfall depths were obtained from Bulletin No. 70 for the 10-, 2-, and 1-percent-annual-chance events (Reference 66). The rainfall value for the 0.2-percent-annual-chance storm was then extrapolated from values for the lower three frequencies. The TR-20 model was calibrated to the gage's log-Pearson Type III analysis. Based on IDOT-DWR criteria, future land use for the watershed was determined and applied to the TR-20 model.

The SCS Technical Release No. 20 was used for the hydrologic analysis of Hampshire Creek Tributary No. 1 (Reference 65). Rainfall parameters used in the TR-20 model were taken from Bulletin 70 for the 10- and 1-percent-annual-chance recurrence interval storms of 3-, 6-, 12-, 18-, and 24-hour durations using the appropriate rainfall distributions published in Circular 173, *Time Distributions of Heavy Rainstorms in Illinois* (Reference 67). Watershed subareas were determined by review of existing topographic information, aerial photographs, and field reconnaissance. Only those drainage structures passing beneath railroad embankments were taken into consideration for the effects of storage and attenuation of flows.

The discharge-frequency analysis for Mill Creek was performed using stream gage records with Weibull Plotting Positions method. Although there are no USGS gaging stations located on Mill Creek, a staff gage was in place on Mill Creek at Kaneville Road from 1960 to 1979. The record from this gage was used to develop the discharge-frequency relationship, and in combination with a rating curve developed at the bridge, a discharge-frequency curve was produced.

The discharges for Geneva Creek were determined utilizing the USACE HEC-1 hydrologic model (Reference 57). Using 24-hour rainfall data obtained from the Weather Bureau (Reference 56) one-hour values, in critical order, were entered into the HEC-1 model of the basin to determine the 10-, 2-, 1-, and 0.2-percent-annual-chance peak discharge. After the discharges were determined, a flood routing was performed using the HEC-1 computer program at the Chicago and North Western railroad yard crossing with Geneva Creek. This routing was performed to determine

the volume of water that would be retained by the structure due to the inadequate sizing of the culvert within the structure. It was determined that this structure would alter flows for the 2-, 1-, and 0.2-percent-annual-chance events.

For State Street Creek and State Street Creek Tributary, peak discharge-frequency determinations were based on an analysis of basin characteristics using the State of Illinois Regression Equations (Reference 61). The basin characteristics include vegetation, topography, amount and nature of development, and soil types.

There are no USGS gaging stations on Sugar Grove Branch (referenced at time of study as Welch Creek) and no previously developed discharge frequency information was available to the study contractor. Therefore, a hydrologic model of Sugar Grove Creek and Sugar Grove Branch East (referenced at time of study as Welch Creek Tributary No. 1) was developed using the USACE HEC-1 flood hydrograph package (Reference 57). The 36.5-square mile Sugar Grove Branch drainage basin was divided into 22 subareas. Peak discharges for each subarea were determined by using the SCS method available with the HEC-1 computer program. The model includes storage routings at the Burlington Northern Railroad culvert, at the Aurora Airport's east-west runway culvert on Sugar Grove Branch and at the Aurora Airport's north-south runway culvert on Sugar Grove Branch East. The culverts were modified using the Modified Puls Routing procedures. The stage-area relationships that describe the storage characteristics of the basin upstream of the culverts were developed using the USGS Sugar Grove quadrangle map (Reference 68). The routings resulted in flow reductions of up to 60 percent. (Please note that this information applies only to the area south of the railroad. The detailed study of Sugar Grove Branch upstream of the railroad was superseded as a result of LOMR 07-05-0178P. See "August 3, 2009 Revised Countywide FIS" below.)

The 50-, 10-, 1-, and 0.2-percent-annual-chance discharges for Jericho Lake Diversion were determined using the SCS TR-20 computer program (Reference 65). This model was checked for reasonableness against the historic flood of 1983.

Discharges for Lord's Park Tributary, within the city of Elgin, were determined using regional equations.

The hydrologic analysis of Mastodon Lake used the SCS TR-20 computer program as well. Runoff curve numbers and time of concentration parameters for Mastodon Lake used in the SCS TR-20 model were determined by review of aerial photographs, available soils information, topographic maps and field interpretation.

December 20, 2002
Initial Countywide FIS

The hydrology for Tyler Creek, Pingree Creek, and a portion of Sandy Creek was revised to define the peak flows in the area being studied. The revisions consisted of subdividing the watershed into smaller areas, adding channel and reservoir routings, using the State of Illinois Bulletin 70 precipitation amounts, and incorporating interbasin flow between Tyler Creek and Eakin Creek. The USACE HEC-1 computer program was used in the hydrologic modeling. The SCS Curve Number and Unit Hydrograph methods were used.

A HEC-1 model was used to compute discharges on Eakin Creek (Reference 69). Study information for other reaches of Eakin Creek is included in Tables 5 and 6d.

November 16, 2006
Revised Countywide FIS

No new or revised hydrologic studies were incorporated into the November 16, 2006 revised countywide FIS.

August 3, 2009
Revised Countywide FIS

The hydrologic analysis for the streams located within the Blackberry Creek watershed (Aurora Chain of Lakes, Aurora Chain of Lakes Cherry Hills Diversion, Blackberry Creek, East Run, East Run North Branch, East Run North Loop, Elburn Run, Lake Run, Lake Run Main Street Branch, Lake Run Nelson Lake Branch, Lake Run North of I-88 Overflow, Lake Run North of I-88 Overflow East Branch, Lake Run South of I-88 Diversion, Prestbury Branch, Route 38 Branch, Seavey Road Run, Seavey Road Run Green Road Branch, Seavey Road Run Main Street Branch) was revised by the USGS (Reference 49) to define peak flows. The 71.16 square mile drainage area of the Blackberry Creek watershed was divided into 49 subbasins. Flood-hazard analyses were performed for only the Kane County portion of the watershed.

The Hydrological Simulation Program - FORTRAN (HSPF) (Reference 70) was used to perform the hydrologic modeling for the Blackberry Creek watershed. Streamflow data was available at two locations in the watershed: the USGS streamflow-gaging station at Blackberry Creek near Yorkville (station 0551700), located close to the downstream end of the watershed; and the USGS streamflow gaging station at Blackberry Creek near Montgomery (station 05551675), located at the Jericho Road Bridge crossing. Utilizing the annual maximum series (AMS) determined from simulated streamflow records at various locations in the watershed from the hydrologic model, flood-frequency analysis was used to estimate flood quantiles. Procedures for the flood-frequency analysis followed the recommendations described in Bulletin 17B. The frequency analysis was done with the PEAKFQ program (Reference 71). The 1- and 0.2-percent-annual-chance floods determined in this analysis were then used in the hydraulic model analysis.

The hydrologic analysis for the Indian Creek watershed (Indian Creek, Indian Creek Prairie Path Run, Selmarten Creek, South Tributary, and Tollway Tributary) was completed by V_3 Companies of Illinois, Ltd (Reference 36). Precipitation data for the study was taken from the Huff Bulletin 70 (Reference 66) rainfall depths and Circular 173 distributions (Reference 67).

The Indian Creek watershed was modeled in two separate, but dependent sections. The northern portion of the Indian Creek watershed was modeled with the USACE HEC-1 hydrologic computer program (Reference 72). The computed HEC-1 output hydrographs were input into the northern FEQ hydraulic model.

The southern portion was modeled conventionally with the resultant HEC-1 discharges at specific locations being input into the southern USACEs, Hydrologic Engineering Center River Analysis System (HEC-RAS) hydraulic model. The hydrologic results for the entire Indian Creek watershed were computed for the 10-, 2-, 1-, and 0.2-percent-annual-chance storm events for durations of 3, 6, 12, 24, 48, and 72 hours (Reference 36).

LOMR 07-05-0178P should be referenced for hydrologic information for Sugar Grove Branch, Sugar Grove Branch East, and Sugar Grove Branch North (referenced in the LOMR as Welch Creek, Welch Creek Tributary No. 1, and Welch Creek Tributary No. 2). The portion of the pre-countywide Sugar Grove Branch study area upstream of the railroad was superseded by this LOMR.

July 17, 2012
Revised Countywide FIS

The hydrologic analysis for Big Rock and Welch Creek watershed was completed by the ISWS for Kane County. The Big Rock Creek/south Kane-Kendall County border constitutes the downstream limit of the hydrologic study.

The Big Rock and Welch Creek watershed hydrology was modeled using USACEs, Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS) version 3.2 (Reference 73) to determine the 1-percent-annual-chance discharge. The analysis was performed using the SCS Curve number loss method, Clark Unit Hydrograph translation method, and Muskingum Cunge and Modified Puls routing calculations.

A precipitation gage and four stage gages captured data for the September 12-14, 2008 flood. The model was calibrated to this event, and flood discharge calculations were made using the slope-area method (Reference 74).

June 2, 2015
Revised Countywide FIS

The hydrologic analysis of the studied portion of the Coon Creek watershed used a HEC-HMS version 3.1.0, model. Discharges for the design storm were calculated using SCS Curve Number (loss), Modified Puls (routing), SCS Unit Hydrograph (transform), and Bulletin 70 rainfall with Huff distribution. NEXRAD precipitation was downloaded from the National Weather Service and included in the model. The results of the hydrologic analysis were detailed in an unpublished written USGS communication dated September 22, 2010.

The HEC-HMS model for the main stem of Burlington Creek was later revised to include additional storage components as detailed in the 2011 report, *Revision and Restudy of Burlington Creek Hydrology for Coon Creek Watershed Flood Hazard Study* (Reference 40).

This PMR also incorporates studies approved through the LOMR process. Study information is included in Tables 5 and 6d.

This Physical Map Revision

The peak discharge-frequency relationships for 7th Avenue Creek, 7th Avenue Creek Overflow, and 7th Avenue Creek Tributary were estimated using the HEC-HMS, version 3.4 (Reference 94), a rainfall-runoff model as published by the USACEs Hydrologic Engineering Center. Synthetic design storms were used, along with typical values for land use, urbanization, and other hydrologic input parameters. The output of the hydrologic model was compared to regional regression equations for similar streams (Reference 97) adjusted for degree of urbanization (References 95 & 96). The calibrated hydrologic model discharges were compared to high water marks measured for a major flood event (September 12-14, 2008) which caused some significant flooding in the watershed.

A summary of the drainage area-peak discharge relationships for all the streams studied by detailed methods is shown in Table 8.

Table 8 - Summary of Discharges

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
7th Avenue Creek					
At confluence with Fox River	2.9	464	795	994	1,538
Just downstream from confluence with 7th Avenue Tributary	2.5	359	647	788	1,163
Just upstream from confluence with 7th Avenue Tributary	2.1	265	498	604	871
At Tyler Road	1.3	189	356	426	590
7th Avenue Creek Overflow	*	*	*	*	*
7th Avenue Creek Tributary					
At confluence with 7th Avenue Creek	0.4	95	152	185	296
Anderson Road Run	*	*	*	*	*
Anderson Road Run North Branch	*	*	*	*	*
Aurora Chain of Lakes					
At confluence with Blackberry Creek (approximately 190 feet upstream of Jericho Road)	4.1	104	430	621	1,449
At intersection with Prairie Street	3.7	154	543	772	1,716
Aurora Chain-of-Lakes at intersection with Gilman Natural Trail	3.4	118	267	359	667

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Aurora Chain of Lakes (continued)					
Aurora Chain of Lakes Orchard Road Overflow at intersection with Orchard Road	2.8	5	28	98	364
Approximately 670 feet upstream of Orchard Road	2.7	134	293	337	453
At intersection with Galena Road	2.3	219	425	533	829
Approximately 1,100 feet upstream of Illinois Avenue	1.8	125	258	331	544
Aurora Chain of Lakes Cherry Hills Diversion					
Aurora Chain of Lakes Cherry Hills Diversion at intersection with Gilman Natural Trail	3.6	4	280	438	1,207
Big Rock Creek					
Just Downstream of Welch Creek Confluence	104.4	*	*	12,403	*
Just Downstream of East Branch/West Branch Confluence	60.7	*	*	7,990	*
Blackberry Creek					
At intersection with US Highway 30	57.1	1,325	2,302	2,808	4,218
At confluence with Aurora Chain of Lakes (approximately 190 feet upstream of Jericho Road)	52.4	1,347	2,373	2,910	4,421
Approximately 80 feet downstream of Burlington Railroad	51.4	1,497	2,465	2,952	4,286
At upstream of confluence with East Run and approximately 300 feet upstream of Galena Road	45.9	1,401	2,286	2,742	3,984
At confluence with Lake Run (approximately 1800 feet downstream of Illinois Route 56)	31.9	1,037	1,681	2,003	2,875
At confluence with Prestbury Branch (approximately 2,740 feet upstream of Illinois Route 56)	27.8	995	1,637	1,961	2,847
Approximately 140 feet upstream of Ke-De-Ka Road	25.5	1,003	1,675	2,018	2,961

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Blackberry Creek (Continued)					
Approximately 4140 feet downstream from Illinois Route 47	23.5	992	1,670	2,017	2,976
Approximately 550 feet upstream of Scott Road (90 feet upstream of junction with Seavey Road Run)	15.0	719	1,221	1,477	2,189
Approximately 240 feet upstream of Interstate 88	13.4	717	1,261	1,545	2,348
Approximately 50 feet upstream of Illinois Route 47	11.2	634	1,120	1,376	2,097
At confluence with Elburn Run (approximately 3,200 feet upstream of Smith Road)	7.0	316	537	651	966
Approximately 125 feet upstream of Hughes Road	6.0	303	523	637	956
At intersection with a private road. The private road connects to Keslinger Road from south and approximately 250 feet east of Deneali Road intersection	4.8	351	628	772	1,174
Approximately 670 feet downstream of BCNW Railroad	3.1	326	561	677	985
At confluence with Route 38 Branch (approximately 1,500 feet downstream of Pouley Road and southeastern to the intersection of Illinois Route 38 and Pouley Road)	1.0	177	310	376	551
Bowes Creek					
At confluence with Stony Creek	8.2	246	542	617	1,354
Approximately 4,660 feet above confluence with Stony Creek	7.7	239	526	600	1,313
At Corron Road	6.6	203	433	492	995
At Crawford Road	5.4	210	451	515	1,015
Above confluence of Bowes Creek Tributary	2.9	173	357	406	745
At Dittman Road	2.5	109	223	251	456

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance*	*2-Percent-Annual-Chance*	*1-Percent-Annual-Chance*	*0.2-Percent-Annual-Chance*
Bowes Creek South					
At confluence with Bowes Creek	1.8	94	194	217	394
At Dittman Road	1.7	87	177	199	392
Brewster Creek					
At confluence with Fox River	17.7	162	265	327	482
Burlington Creek					
Approximately 4,300 feet upstream of Walker Road, just downstream of Railroad	15.2	1760	3183	3,743	*
Approximately 2,100 feet downstream of French Road	12.7	1442	2667	3,298	*
Just downstream of the confluence with Burlington Creek Tributary A	12.6	1303	2411	2,951	*
Approximately 640 feet upstream of the confluence with Burlington Creek Tributary A	9.6	989	1797	2,153	*
Burlington Creek Tributary A					
Approximately 530 feet upstream of Getzelman Road	1.3	341	646	811	*
Just downstream of the confluence with unnamed tributary, approximately 2,500 feet downstream of Romke Road	1.3	269	509	646	*
Just upstream of Romke Road	0.4	198	372	481	*
Burlington Creek West Branch					
Approximately 2,850 feet downstream of IL-72	2.4	317	529	657	*
Just downstream of the confluence with unnamed tributary, approximately 2,250 feet upstream of IL-72	1.9	279	474	594	*
Just upstream of Burlington Road	0.7	118	217	279	*
Carpenter Creek					
At confluence with Fox River	1.5	331	531	669	918
Duffin Drain					
At US 30	8.1	*	*	979	*
At Lasher Road	2.5	*	*	422	*

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Eakin Creek					
At confluence with South Branch Kishwaukee River	14.9	540	1,059	1,383	1,995
Approximately 275 feet downstream of I-90	5.8	265	524	683	*
Approximately 275 feet upstream of I-90	5.0	200	385	492	*
Approximately 1,450 feet upstream of I-90	4.2	135	246	300	*
Approximately 65 feet downstream of the confluence with Eakin Creek Tributary D	4.1	157	257	323	*
Approximately 1,580 feet upstream of the confluence with Eakin Creek Tributary D	3.6	163	240	285	*
Approximately 3,710 feet upstream of the confluence with Eakin Creek Tributary D	3.5	212	373	456	*
Approximately 5,130 feet upstream of the confluence with Eakin Creek Tributary D	3.5	260	505	627	*
Approximately 5,380 feet upstream of the confluence with Eakin Creek Tributary D	3.3	237	445	547	*
Eakin Creek South					
Approximately 450 feet upstream of Freeman Road	1.8	256	480	617	*
Approximately 1,050 feet upstream of I-90	1.5	227	419	538	*
Approximately 2,525 feet upstream of I-90	1.2	198	358	459	*
Approximately 4,290 feet upstream of I-90	0.6	99	179	230	*
Eakin Creek Tributary B					
Approximately 325 feet upstream of I-90	1.3	127	233	294	*
Approximately 1,500 feet downstream of Big TimberRoad	1.1	128	237	303	*
Approximately 920 feet down-stream of Big Timber Road	0.8	129	241	313	*
Approximately 65 feet upstream of Big Timber Road	0.4	65	121	156	*

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Eakin Creek Tributary D					
Approximately 1,760 feet upstream of the confluence with Eakin Creek	0.4	38	95	128	*
Approximately 3,500 feet upstream of the confluence with Eakin Creek	0.2	19	48	64	*
East Branch Big Rock Creek					
Just Downstream of Malgren Drain Confluence	31.7	*	*	4,386	*
Just Downstream of Youngs Creek Confluence	22.9	*	*	3,473	*
Just Downstream of East Branch Big Rock Tributary 2 Confluence	3.7	*	*	679	*
At Keslinger Road	0.7	*	*	154	*
East Branch Big Rock Creek Tributary 2					
At Keslinger Road	0.4	*	*	104	*
East Run					
At confluence with Blackberry Creek (approximately 520 feet downstream of Hankes Road)	4.5	317	580	684	989
Approximately 580 feet upstream of Indian Trail Road	3.6	360	660	784	1,149
Approximately 370 feet downstream of culverts on Orchard Road	*	219	367	484	600
Approximately 50 feet upstream of inflow point to the pond by auto-dealers North East of I-88 Tollway and Orchard Road	*	322	588	643	921
On East Run approximately 490 feet upstream of inflow point to AutoDealers' Pond	*	257	417	486	641
Approximately 2,500 feet downstream of Foxhill Lane	1.8	229	367	425	549
Approximately 120 feet upstream of Oak Street	1.0	214	341	400	546

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
East Run North Branch					
On East Run North Branch approximately 250 feet upstream of inflow point to AutoDealers' Pond	*	65	121	157	279
East Run North Loop					
On North Loop approximately 150 feet south of culvert outlet by I-88 Tollway	*	213	414	447	734
Elburn Run					
At confluence with Blackberry Creek (approximately 3200 feet upstream of Smith Road)	2.6	416	750	918	1,373
At intersection with Hughes Road	1.8	281	494	599	879
Approximately 146 feet upstream of Keslinger Road	0.8	105	149	166	206
Ferson Creek					
At mouth	54.5	1,959	3,486	4,020	6,430
At Randall Road	51.2	1,296	2,700	3,075	6,020
At Bolcum Road	46.3	1,295	2,662	3,027	5,649
Just upstream of confluence of Otter Creek	11.3	342	740	843	1,641
At Burr Road	11.2	342	740	843	1,641
Approximately 2,300 feet upstream of Burr Road	11.0	421	492	524	621
Approximately 3,350 feet downstream of Denker Road	10.6	202	448	516	1,034
At Denker Road	9.0	205	489	563	1,034
Just upstream of confluence of Ferson Creek Tributary	8.6	211	584	680	1,341
At Burlington Road	6.1	184	450	512	971
Just above Lake Campton	6.1	208	456	517	980
Approximately 2,430 feet above Lake Campton	4.5	178	391	443	840
At Retreat Court	3.4	156	342	387	735
At the Great Western Trail	2.0	118	260	294	558

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Fitchie Creek					
At confluence with Otter Creek	7.2	178	375	433	834
At Bowes Road	6.8	144	300	337	619
At Koshar Circle	5.6	127	265	298	547
Approximately 2,770 feet upstream from Nestler Road	5.0	120	250	313	515
At Russell Road	3.5	77	191	220	447
Four Winds Way Creek					
At mouth of Fox River	1.8	181	297	357	561
Fox River					
Upstream of U.S. 30 and downstream of Ashland Avenue	1,710	12,100	17,050	18,700	24,100
Approximately 1.2 miles downstream of North Avenue	1,705	12,100	17,000	18,600	24,100
At Aurora Dam	1,705	5,950	8,400	9,180	11,900
At North Aurora	1,680	8,565	12,770	14,350	18,760
At confluence of Mill Creek	1,670	8,565	12,770	14,350	18,760
Approximately 319,757 feet from mouth	1,649	7,535	11,225	12,250	16,875
At River Station 294,500	1,629	8,500	12,500	13,500	17,630
At Geneva Dam	1,580	7,535	11,225	12,250	16,875
Approximately 356,400 feet from mouth	1,568	7,535	11,225	12,250	16,875
Approximately 359,964 feet from mouth	1,556	6,870	9,965	11,350	14,680
Just upstream of confluence of Norton Creek	1,540	7,535	11,225	12,250	16,875
At U.S. Route 20	1,532	6,870	9,965	11,305	14,680
At Lawrence Avenue	1,509	5,910	8,950	10,540	13,475
Approximately 8,400 feet upstream of confluence of Jelkes Creek	1,446	5,910	8,950	10,540	13,475
At Carpentersville Dam	1,425	5,775	8,345	10,095	12,525
At Algonquin approximately 428,541 feet from mouth	1,403	5,480	7,990	9,690	11,800
Approximately 7,000 feet downstream of upstream county boundary	1,390	5,775	8,345	10,095	12,525

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Fox River East Channel					
At Aurora Dam	1,705	6,150	8,600	9,420	12,200
Fox River Tributary					
Upstream of confluence with Fox River	1.9	134	282	360	510
Fox River Tributary (East Branch)					
Upstream of confluence with Fox River Tributary	0.3	25	56	75	105
Geneva Creek					
Just downstream of the Chicago and North Western railroad yard	1.2	323	521	539	689
At South Street	1.1	305	466	568	784
Hampshire Creek					
Approximately 2,550 feet downstream of Walker Road	12.6	1,405	*	3,411	*
Just downstream of the confluence with Hampshire Creek Tributary A	12.3	1,455	*	3,460	*
Just downstream of the confluence with Hampshire Creek Tributary B	7.8	984	*	2,152	*
Just downstream of the confluence with Hampshire Creek South	5.8	745	*	1,406	*
Approximately 2,675 feet downstream of State Street	3.8	618	*	1,288	*
Just upstream of State Street	3.5	533	*	1,153	*
Approximately 1,260 feet upstream of State Street	3.1	437	*	952	*
Just downstream of the confluence with Hampshire Creek Tributary No. 2	1.8	342	*	788	*
Approximately 1,900 feet upstream of Farm Access Road	1.3	182	*	462	*
Approximately 1,250 feet upstream of Private Drive	0.3	91	*	231	*

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Hampshire Creek South					
Approximately 95 feet upstream of Railroad (downstream of Terwilliger Avenue)	2.1	248	*	447	*
Approximately 145 feet upstream of Oak Knoll Drive	1.3	240	*	529	*
Approximately 1,675 feet downstream of Private Drive	0.7	223	*	512	*
Approximately 225 feet upstream of Romke Road	0.1	112	*	256	*
Hampshire Creek Tributary A					
Just downstream of the confluence with Hampshire Creek Tributary AA	4.1	608	*	1,432	*
Just downstream of the confluence with Hampshire Creek Tributary AB	3.2	591	*	1,392	*
Just downstream of the confluence with Hampshire Creek Tributary AC	2.7	319	*	759	*
Approximately 2,030 feet downstream of Harmony Road	2.1	280	*	666	*
Just downstream of the confluence with Hampshire Creek Tributary AE	1.9	207	*	505	*
Approximately 3,155 feet upstream of Big Timber Road	0.7	134	*	343	*
Hampshire Creek Tributary AA					
Approximately 2,604 feet upstream of the confluence with Hampshire Creek Tributary A	0.2	17	*	40	*
Hampshire Creek Tributary AB					
Approximately 1,699 feet upstream of the confluence with Hampshire Creek Tributary A	0.6	105	*	250	*

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)*			
		10-Percent-Annual-Chance	*2-Percent-Annual-Chance*	*1-Percent-Annual-Chance*	*0.2-Percent-Annual-Chance*
Hampshire Creek Tributary AC					
Approximately 943 feet upstream of the confluence with Hampshire Creek Tributary A	0.3	16	*	37	*
Hampshire Creek Tributary AD					
Approximately 1,600 feet upstream of the confluence with Hampshire Creek Tributary A	0.2	11	*	26	*
Hampshire Creek Tributary AE					
Approximately 2,826 feet upstream of the confluence with Hampshire Creek Tributary A	0.8	153	*	351	*
Hampshire Creek Tributary B					
Approximately 1,550 feet upstream of the confluence with Hampshire Creek	1.5	215	•	547	•
Just downstream of Harmony Road	1.0	181 [1]	•	488 [2]	•
Approximately 3,150 feet downstream of Widmayer Road	2.2	229	•	610	•
Just upstream of Widmayer Road	0.2	89	•	211	•
Hampshire Creek Tributary No. 1					
At confluence with Hampshire Creek	0.6	64	*	117	*
Approximately 717 feet upstream of Industrial Drive	0.5	64	*	117	*
Hampshire Creek Tributary No. 2					
Approximately 685 feet upstream of Glen Oak Drive	0.3	68	*	170	*
Just upstream of Prairie Farm Drive	0.1	34	*	85	*

[1]Flows decreasing in the downstream direction
*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Hampshire Creek Tributary No. 3					
At confluence with Hampshire Creek Tributary No. 2	0.1	9	*	33	*
Hampshire Creek Tributary No. 4					
At confluence with Hampshire Creek	0.2	24	*	77	*
Indian Creek					
At Mouth (confluence with Fox River)	14.7	1,095	2,379	3,064	4,511
At confluence with South Tributary	13.9	939	1,966	2,521	3,672
At Austin Avenue	10.7	706	1,472	1,873	2,624
At Scheffer Road	10.5	677	1,378	1,744	2,401
At Farnsworth Avenue	9.5	517	969	1,126	1,527
At Reckinger Road	9.5	505	943	1,097	1,517
At Prairie Path	9.4	491	907	1,056	1,507
At Farnsworth Avenue	7.8	353	560	743	1,290
At Molitor Road	7.6	345	736	814	1,220
At confluence with Selmartin Creek	7.4	345	736	817	1,222
At Interstate 88	4.8	258	539	579	865
At Bilter Road	4.5	298	555	675	965
At Butterfield Road	3.6	231	417	497	797
Indian Creek Prairie Path Run					
At Farnsworth Avenue	0.5	46	120	139	146
Jericho Lake Diversion					
Approximately 1,000 feet downstream of Orchard Road	*	15	*	480	1,190
Jelkes Creek					
At confluence with Fox River	6.8	600	920	1,200	1,760
Just upstream of Boncosky Road	4.7	440	710	930	1,370
Approximately 300 feet downstream of Thorobred Lane	3.2	320	540	700	1,040
At upstream corporate limit of Village of Sleepy Hollow	2.8	280	480	620	930

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Lake Run					
At confluence with Blackberry Creek (approximately 2680 feet downstream of Hankes Road)	13.0	532	844	1,004	1,419
On Lake Run after the confluence with South of I-88 Diversion (approximately 850 feet east of Route 56 and 2930 feet north of Hankes Road)	*	623	958	1,127	1,544
On Lake Run before the confluence with South of I-88 Diversion (approximately 850 feet east of Route 56 and 3710 feet north of Hankes Road)	*	602	732	764	826
Approximately 190 feet upstream of East Bound Illinois Route 56	11.6	672	896	957	1,077
Approximately 1850 feet upstream of Tanner Road	8.9	525	888	1,065	1,527
At confluence with Lake Run Nelson Lake Branch (approximately 780 feet upstream of Seavey Road)	2.9	286	547	689	1,104
At confluence with Lake Run Main Street Branch (approximately 2570 feet downstream of Bliss Road)	1.7	199	369	457	706
Lake Run Main Street Branch					
At confluence with Lake Run (approximately 3200 feet downstream of Main Street)	2.9	77	162	212	368
Approximately 1310 feet upstream of Main Street	2.3	41	97	133	252
Lake Run Nelson Lake Branch					
At confluence with Lake Run (approximately 780 feet upstream of Seavey Road)	5.9	38	54	60	72

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Lake Branch North of I-88 Overflow East Branch					
On North of I-88 Overflow approximately 1900 feet east of Lake Run and 2100 feet north of I-88 Tollway	*	135	477	686	1,253
On North of I-88 Overflow East Branch approximately 2430 feet east of Lake Run and 2610 feet north of I-88 Tollway	*	33	51	59	78
Lake Branch North Of I-88 Overflow					
On North of I-88 Overflow approximately 1590 feet east of Lake Run and 2670 feet north of I-88 Tollway	*	105	430	632	1,181
Lake Run South Of I-88 Diversion					
On South of I-88 Diversion before the confluence with Lake Run (approximately 1850 feet east of Route 56 and 3500 feet north of Hankes Road)	*	20	226	363	718
Lord's Park Tributary[1]					
At the mouth	3.7	*	*	475	*
Mahoney Creek					
At confluence with Fox River	2.5	209	344	422	601
Mc Kee Road Tributary					
Malgren Drain					
Just Downstream of Malgren Drain / Swan Drain Confluence	2.5	*	*	369	*
Mc Kee Road Tributary					
At McKee Street	*	338	554	665	984
At Skyline Drive	4.9	334	546	657	970
At Randall Road	4.2	319	513	618	897
Approximately 3,820 feet upstream of Fabyan Parkway	0.8	157	269	336	527

*Data not available

[1]Discharges were taken from the Cook County FIS. The stream center line resides in Cook County.

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Mill Creek					
Approximately 200 feet downstream of abandoned railroad	30.3	1,756	2,987	3,602	5,250
At Kaneville Road	18.3	1,400	*	1,700	*
At State Route 38	8.4	952	*	1,160	*
At Campton Hills Drive	7.3	882	*	1,070	*
At La Fox Road	4.6	700	*	850	*
At State Route 64	3.2	588	*	714	*
Mill Creek Tributary No. 2					
At the confluence with Mill Creek Diversion Channel	*	158	*	231	*
North Arm Brewster Creek					
At confluence with Brewster Creek	3.4	87	120	131	148
Norton Creek					
At confluence with Fox River	11.5	560	849	984	1,325
Approximately 2,400 feet downstream of White Thorn Road	9.8	517	785	909	1,225
Approximately 3,000 feet upstream of White Thorn Road	7.4	438	665	771	1,038
At Dunham Road	4.8	438	665	771	1,038
Upstream of the confluence of Norton Creek Tributary	3.5	365	555	645	870
Norton Creek Tributary					
At confluence with Norton Creek	1.8	205	310	360	485
Otter Creek					
At confluence with Ferson Creek	33.6	1,061	2,209	2,531	4,853
Above confluence of Otter Creek Tributary	29.7	950	1,973	2,243	4,254
Approximately 1,935 feet downstream from McDonald Road	28.9	937	1,945	2,211	4,194
At McDonald Road	28.2	925	1,922	2,184	4,143
Above confluence of Stony Creek	15.8	526	1,122	1,254	2,362
At Hopps Road	15.3	488	1,025	1,159	2,171
Above confluence of Fitchie Creek	7.2	367	738	812	1,491

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Otter Creek (continued)					
At Bowes Road	5.0	306	614	675	1,241
Approximately 4,345 feet upstream from Bowes Road	3.0	195	390	439	760
At Randall Road	1.0	72	145	165	263
Otter Creek West					
At confluence with Otter Creek	3.6	211	378	450	916
Approximately 260 feet upstream of Falcon's Trail	2.7	182	327	389	791
Just upstream of unnamed road	2.0	132	267	249	535
Pingree Creek					
At mouth	11.1	750	1,213	1,442	1,983
At Highland Avenue	9.5	695	1,119	1,316	1,868
At Soo Line Railroad	9.0	690	1,117	1,301	1,854
At U.S. Route 20	8.7	691	1,139	1,308	1,884
Poplar Creek					
At confluence with Fox River	42.3	1,085	1,709	2,010	2,794
Prestbury Branch					
At confluence with Blackberry Creek (approximately 720 feet downstream of Hankes Road)	2.1	33	57	69	103
At outlet of the upper lake (approximately 1780 feet upstream of Winthrop New Road)	1.8	37	73	93	156
Route 38 Branch					
At confluence with Blackberry Creek (approximately 1500 feet downstream of Pouley Road and southeastern to the intersection of Illinois Route 38 and Pouley Road)	0.6	58	92	107	143
Sandy Creek					
At confluence with Tyler Creek	2.5	320	560	720	1,050
At Randall Road	2.3	225	361	550	829
At U.S. Route 20	0.2	21	46	69	112

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Seavey Road Run					
Approximately 1650 feet downstream of Illinois Route 47	7.0	364	625	758	1,122
At confluence of Seavey Road Run and Main Street Branch (approximately 1850 feet upstream of a road to a golf course)	1.9	159	289	357	549
On Seavey Road Run approximately 780 feet upstream of the junction 2820 feet downstream of the bridge on Main Street	*	48	87	108	166
Seavey Road Run Green Road Branch					
Approximately 2700 feet downstream (east) of Green Road bridge and approximately 380 feet upstream of the junction with Seavey Road Run	*	95	173	214	329
Seavey Road Run Main Street Branch					
At confluence of Seavey Road Run and Main Street Branch (approximately 1850 feet upstream of a road to a golf course)	3.5	220	417	522	824
Selmarten Creek					
At Forest Preserve Pond	1.3	45	162	227	438
Sleepy Creek					
At confluence with Fox River	2.2	152	338	517	1,039
At Locust Street	1.5	97	259	414	746
At cam approximately 430 feet upstream of Hillcrest Drive	0.9	145	*	351	*
South Tributary					
At McClure Road	2.6	133	287	416	883
At Mouth (confluence with Indian Creek)	2.9	277	532	659	984

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
State Street Creek					
At mouth	0.7	123	*	226	*
State Street Creek Tributary					
At mouth	0.1	6	*	11	*
Stony Creek					
At confluence with Otter Creek	11.9	435	885	987	2,007
Above confluence of Bowes Creek	3.3	183	386	434	794
Approximately 5,320 feet above confluence of Bowes Creek	2.9	172	362	407	746
Approximately 2,970 feet downstream of Corron Road	2.8	167	353	397	726
At Corron Road	2.3	138	278	311	558
Sugar Grove Branch					
Just Downstream of Duffin Drain Confluence	13.2	*	*	1,561	*
At Fay's Lane	4.9	760	1,100	1,260	1,570
Downstream of the confluence with Sugar Grove Branch North	4.3	375	580	680	770
Upstream of the confluence with Sugar Grove Branch North	2.8	180	285	338	435
Downstream of the confluence with Sugar Grove Branch East	2.4	245	415	500	670
Upstream of the confluence with Sugar Grove Branch East	1.1	135	260	310	440
Sugar Grove Branch East					
At confluence with Sugar Grove Branch	1.4	140	180	200	265
Sugar Grove Branch North					
At confluence with Sugar Grove Branch	1.5	200	285	325	349
Tollway Tributary	*	*	*	*	*

*Data not available

Table 8 - Summary of Discharges (continued)

Flooding Source and Location	*Drainage Area (square miles)*	*Peak Discharges (cubic feet per second)* 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
Tyler Creek					
At Randall Road	32.7	1,237	2,073	2,638	3,569
At Big Timber Road	29.1	1,229	1,972	2,448	3,400
At Chicago and Northwestern Railroad	28.7	1,216	1,955	2,409	3,360
At confluence with Pingree Creek	21.1	1,094	1,742	2,096	2,819
At Big Timber Road	10.0	361	548	672	869
At State Route 72	6.2	305	455	547	684
Tyler Creek Unnamed Tributary					
At confluence with Tyler Creek	3.5	88	148	187	*
At Reinking Road	3.0	82	134	162	*
At SOO Railroad	2.5	82	127	153	*
At US Route 20	2.0	115	163	211	*
Approximately 4,200 feet upstream of Route 20	1.3	98	202	281	*
Union Ditch No. 2					
At County Line Road	2.9	*	*	356	*
Approximately 1,635 feet upstream of County Line Road	2.1	*	*	287	*
Waubonsee Creek					
Upstream of U.S. Route 30	18.7	774	1,170	1,447	2,700
Downstream of Elgin, Joliet and Eastern Railroad	17.4	734	1,108	1,373	2,500
At Kane-Kendall County boundary	16.5	770	1,220	1,447	1,950
Welch Creek					
Just Downstream of Sugar Grove Branch Confluence	36.1	*	*	4,408	*
Just Downstream of Welch Creek Tributary 1 Confluence	21.1	*	*	2,638	*
Just Downstream of Welch Creek Tributary 2 Confluence	18.5	*	*	2,303	*
At Main Street	11.8	*	*	1,407	*
At Rowe South	4.1	*	*	627	*
Just Upstream of Keslinger Road	2.2	*	*	474	*
West Branch Big Rock Creek					
At US 30	26.6	*	*	3,552	*

*Data not available

Stillwater elevations have been determined for the 10-, 2-, 1-, and 0.2-percent-annual-chance floods for the flooding sources studied by detailed methods and are summarized in Table 9, "Summary of Stillwater Elevations."

Table 9 - Summary of Stillwater Elevations

Flooding Source and Location	Elevation (feet NAVD88) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
City of Aurora / Unincorporated Kane County				
Mastodon Lake	659.38	*	661.29	662.99

*Data not available

3.2 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.

Hydraulic analyses that have not been superseded have been compiled and are summarized below.

Pre-countywide FIS

Within the unincorporated areas of Kane, water-surface elevations for floods of the selected recurrence intervals for Bowes Creek, Bowes Creek South, Brewster Creek, Ferson Creek, Fitchie Creek, Mahoney Creek, North Arm Brewster Creek, Otter Creek, and Otter Creek West were computed using the USACE HEC-2 step-backwater computer program (Reference 75).

The water-surface elevations for Poplar Creek were obtained from the floodplain information report for Poplar Creek watershed in which elevations were determined using the WSP-2 program (Reference 76, 77).

The water-surface elevations for Mill Creek were determined by the slope/area method and a rating curve from a cross section located 2,714 feet downstream of Kaneville Road.

Starting water-surface elevations were calculated using corresponding flood elevations on the main stem, flood profiles from previous studies by the State of Illinois for Brewster Creek, Ferson Creek, Mahoney Creek, McKee Road Tributary, Mill Creek, and North Arm Brewster Creek, and rating curves (Reference 4, 78).

The water-surface elevations on the Fox River, the Fox River East Channel, and Waubonsee Creek were computed using the USACE HEC-2 step-backwater program (Reference 75). Cross sections and structural data for the Fox River and the Fox River East Channel were provided by the IDOT-DWR from field surveys (Reference 79, 80). Cross sections and structural data for Waubonsee Creek were obtained from the Illinois State Water Survey (Reference 81). Cross sections for the backwater analyses were located at close intervals above and below bridges and culverts in order to compute the significant backwater effects from these structures. The only serious backwater effect due to bridge constriction is on Waubonsee Creek. Backwater effects from Montgomery Dam have become a problem according to residents in the area. This situation was also studied.

In the unincorporated areas of Kane, starting water-surface elevations on the Fox River, the Fox River East Channel, and Waubonsee Creek were based on the slope/area method. Starting elevations for the 10-, 2-, 1-, and 0.2-percent-annual-chance floods for the Fox River, in other communities, were based upon the discharge recurrence interval rating curves at Carpentersville Dam, Elgin Dam, Geneva Dam, and South Elgin Dam (Reference 82).

In Montgomery, water-surface profiles for Fox River Tributary and Fox River Tributary (East Branch) were determined for the 10-, 2-, 1-, and 0.2-percent-annual-chance floods by use of the USACE HEC-2 computer program. Starting water-surface elevations were determined with either known high-water marks, by assuming critical depth, or by the slope/area method.

Water-surface elevation for floods of the selected recurrence intervals of Four Winds Way Creek and Carpenter Creek were computed through use of the USACE HEC-2 step-backwater computer program (Reference 75). This program relates stream geometry, characteristics, and discharge to stream elevation. Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of selected recurrence intervals.

Starting water-surface elevations for Carpenter Creek and Four Winds Way Creek were determined using normal depth analysis. Flood elevations can often be increased by ice jams during spring thaws or by debris clogging bridges.

Water-surface elevations of floods of the selected recurrence intervals of Geneva Creek were computed through use of the USACE HEC-2 backwater computer program (Reference 75). The starting water-surface elevation for Geneva Creek was determined using the normal depth subroutine of the USACE HEC-2 computer model (Reference 75).

Cross sections for Hampshire Creek Tributary No. 1 were obtained from field surveys performed by Engineering Enterprises, Inc. and aerial photographs (Reference 83, 84).

For Hampshire Creek Tributary No. 1, water-surface elevations of floods of the selected recurrence intervals were computed using the WSP-2 step-backwater computer program (Reference 77). Starting water-surface elevations for Hampshire Creek Tributary No. 1 were calculated using the slope/area method, assuming non-coincident timing of peaks.

All data used in the hydraulic analyses for Union Ditch No. 2 were obtained from records of past floods and through engineering judgment. In cases where the flood elevations are close together on the flood profile, due to the limitations of the profile scale, only the 1-percent-annual-chance profile has been drawn.

Starting water-surface elevations for the 10-, 2-, 1-, and 0.2-percent-annual-chance floods for Jelkes Creek and the starting elevations for the 10- and 1-percent-annual-chance floods for Sleepy Creek were based upon the normal depth method.

Water-surface elevations of floods of the selected recurrence intervals of Jelkes Creek and Sleepy Creek were computed through use of the USACE HEC-2 step-backwater computer program (Reference 75). The hydraulic analysis for Sleepy Creek was made in two segments: between the mouth and Hillcrest Drive and between Hillcrest Drive and Illinois Route 72. This was done to correctly model a dam break at river station 11,000 at the dam located approximately 430 feet upstream of Hillcrest Drive. An analysis of the hydraulics indicated that a major flood would overtop the dam and result in failure.

The starting water-surface elevation for 7th Avenue Creek and 7th Avenue Creek Tributary were determined using the normal depth subroutine of the USACE HEC-2 computer model (Reference 75).

Water-surface elevations of floods of the selected recurrence intervals for Jericho Lake Diversion were computed using the USACE HEC-2 step-backwater computer program (Reference 75).

The water-surface elevations for floods of the selected recurrence intervals of 7th Avenue Creek and 7th Avenue Creek Tributary were computed through use of the USACE HEC-2 step-backwater computer program (Reference 75). Water-surface elevations for the floods of selected recurrence intervals of State Street Creek and State Street Creek Tributary were computed assuming normal depth at survey cross sections. Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of selected recurrence intervals. Flood elevations can often be increased by ice jams during spring thaws or by debris clogging bridges. It should be noted that roughness values were increased during model calibration to reflect scour on 7th Avenue Creek and 7th Avenue Creek Tributary.

Cross sections for the backwater analyses on Sugar Grove Branch and Sugar Grove Branch East (referenced as Welch Creek and Welch Creek Tributary No. 1 at the time of study) were determined from field surveys. Water-surface elevations of floods of the selected recurrence intervals were computed through use of the USACE HEC-2 step-backwater computer program (Reference 75). The starting

water-surface elevations used for Sugar Grove Branch and Sugar Grove Branch East were calculated using the slope/area method. (Please note that this information applies only to the area south of the railroad. The Zone AE study of Sugar Grove Branch upstream of the railroad was superseded as a result of LOMR 07-05-0178P. See "August 3, 2009 Revised Countywide FIS" below.)

The Hydrological Investigation Atlas for the Sugar Grove quadrangle accurately depicts past historical flooding (Reference 85). It was judged a satisfactory source for assessing the flood potential in those areas not studied by detailed methods in this report.

The starting downstream water-surface elevations used in the HEC-2 step-backwater program were computed by the normal depth methods for Norton Creek and Norton Creek Tributary (Reference 75). Water-surface elevations of floods of the selected recurrence intervals on Norton Creek and Norton Creek Tributary were computed through use of the USACE HEC-2 step-backwater computer program (Reference 75).

For Lord's Park Tributary in Elgin, the WSP-2 computer program was used to determine water-surface elevations of floods of the selected recurrence intervals. Starting water-surface elevations were computed by the normal depth methods.

December 20, 2002
Initial Countywide FIS

The HEC-2 model of Tyler Creek was extended from Big Timber Road to Illinois Route 72. The new Randall Road Bridge was incorporated into the model. Additional cross sections were added downstream of Big Timber Road based on surveys prepared by the City of Elgin. The HEC-2 model of Sandy Creek was extended from Randall Road to U.S. Route 20. Pingree Creek was modeled using HEC-2 from its confluence with Tyler Creek to U.S. Route 20. The Tyler Creek floodway was redefined from Randall Road to Big Timber Road based on the latest State of Illinois criteria. Tyler Creek upstream of Big Timber Road, Sandy Creek upstream of Randall Road, and Pingree Creek floodways were defined according to the State of Illinois regulatory floodway criteria.

Cross sections for the backwater analyses for Eakin Creek were determined by field surveys, with some overbank sections determined from topographic maps. Cross section locations were at close intervals above and below bridges, dams, and culverts in order to compute the significant backwater effects of these structures. All bridges were surveyed to determine structural geometry. The 10-, 2-, 1-, and 0.2-percent-annual-chance recurrence intervals for Eakin Creek were studied using the USACE HEC-RAS model (Reference 86). Study information for other reaches of Eakin Creek is included in Tables 5 and 6d.

November 16, 2006
Revised Countywide FIS

No new or revised hydraulic studies were incorporated into the November 16, 2006 revised countywide FIS.

August 3, 2009
Revised Countywide FIS

The hydraulic analysis for the streams located within the Blackberry Creek watershed (Aurora Chain of Lakes, Aurora Chain of Lakes Cherry Hills Diversion, Blackberry Creek, East Run, East Run North Branch, East Run North Loop, Elburn Run, Lake Run, Lake Run Main Street Branch, Lake Run Nelson Lake Branch, Lake Run North of I-88 Overflow, Lake Run North of I-88 Overflow East Branch, Lake Run South of I-88 Diversion, Prestbury Branch, Route 38 Branch, Seavey Road Run, Seavey Road Run Green Road Branch, Seavey Road Run Main Street Branch) utilized the HEC-RAS model (Reference 87). The HEC-RAS analysis was used to route the flood-peak discharge and determine the flood elevations throughout Blackberry Creek watershed.

The two-dimensional, finite-element, surface-water-modeling system (FESWMS) (Reference 88) was used for analyzing the flow diversion at Jericho Lake near Montgomery, Illinois. Results from the FESWMS model have been applied to determine the amount of discharge being diverted out of Blackberry Creek watershed through the lake. These results were used in the routing functions of the hydrologic model (Reference 49).

Cross sections from the WSP-2 hydraulic routing model developed by the U.S. Department of Agriculture, Soil Conservation Service study in 1985 (Reference 89) were used for the analysis of Blackberry Creek. Data for bridges and culverts constructed since the 1985 study were surveyed by the IDNR-OWR, Smith Engineering Consultants, Inc., and the USGS. The hydraulic model was calibrated and verified using high water marks and observed inundation maps for the July 17-18, 1996 flood event (Reference 49).

The hydraulic analysis for the Indian Creek watershed (Indian Creek, Indian Creek Prairie Path Run, Selmarten Creek, South Tributary, and Tollway Tributary) was modeled in two separate sections. For the northern portion of the watershed, the FEQ unsteady flow program was used. For the southern portion, the steady-state processor within HEC-RAS was used.

LOMR 07-05-0178P should be referenced for hydraulic information for Sugar Grove Branch, Sugar Grove Branch East, and Sugar Grove Branch North (referenced in the LOMR as Welch Creek, Welch Creek Tributary No. 1, and Welch Creek Tributary No. 2). The portion of the pre-countywide Sugar Grove Branch study area upstream of the railroad was superseded by this LOMR.

July 17, 2012
Revised Countywide FIS

The hydraulic analysis for Big Rock and Welch Creek watershed in Kane County was completed by the Illinois State Water Survey for Kane County in December 2008. The watershed was divided into two HEC-RAS version 4.0 models (Reference 90) - one for Big Rock Creek and its tributaries and one for Welch Creek and its tributaries. Zone AE study with limited survey was completed for

the portions of the following streams within Kane County: Welch Creek, Sugar Grove Branch (downstream of the existing detailed study), Big Rock Creek, West Branch Big Rock Creek, East Branch Big Rock Creek, and Malgren Drain.

Digital elevation data available from Kane County were used to generate cross section data input for the model. Where available, as-built bridge plans were reviewed and used to model these structures. Where bridge plans were not available, field measurements and survey data were collected. Photos were taken throughout the watershed to document existing conditions and determine roughness coefficients for modeling.

The models were calibrated to the September 12-14, 2008 flood event using stage gage data and high water observations. Peak discharges calculated using HEC-HMS were input to the RAS model, and water surface elevations and subsequent extent of flooding simulated by the model were compared with observations and information recorded at the stage gages. Only the 1-percent- annual-chance flood profile was determined as part of this study.

June 2, 2015
Revised Countywide FIS

The hydraulic analysis of the studied portion of Coon Creek watershed used a HEC-RAS version 4.0 model built from survey data and elevation data from digital terrain data. The 1-percent-annual-chance water-surface elevations simulated by HEC-RAS were used to delineate the 1-percent floodplain on a triangular-irregular network (TIN) surface created by the USGS from digital terrain data obtained from the Kane County GIS department. The data obtained from Kane County was provided as a digital terrain model (DTM) derived from 2001 aerial orthophotography suitable for two-foot contours (Reference 37). The results of the hydraulic analysis were detailed in an unpublished written USGS communication dated September 22, 2010.

The HEC-RAS model for the main stem of Burlington Creek was later revised with updated discharges as detailed in the 2011 report, *Revision and Restudy of Burlington Creek Hydrology for Coon Creek Watershed Flood Hazard Study* (Reference 40).

The June 2, 2015, PMR also incorporates studies approved through the LOMR process. Study information is included in Tables 5 and 6d.

This Physical Map Revision

For this PMR, water surface elevations for the 10-, 2-, 1-, and 0.2-percent-annual-chance floods on 7th Avenue Creek, 7th Avenue Creek Overflow, and 7th Avenue Creek Tributary were estimated using the USACE, HEC-RAS, version 4.1.0, computer program (Reference 98). Cross sectional geometries for the detailed analysis on 7th Avenue Creek and its tributary were comprised of field run survey data and a DTM generated from 2-foot contours derived from 2006 aerial imagery provided by Kane County and Light Detection and Ranging (LiDAR) data flown

in 2008. Cross section geometry was obtained from a combination of field survey and cross sections takeoffs from the DTM. Cross section channel bed points were obtained from the field survey data, while cross section overbank ground points were obtained from the DTM topography.

As part of the hydraulic analyses for 7th Avenue Creek Overflow, updated information of the culverts under 7th Avenue, Fern Avenue, and Ronzheimer Avenue were incorporated into the HEC-RAS, version 4.1.0 model. To accurately assess the flow regime, an iterative approach was used to find a solution that balanced the energy gradelines between the main channel and the split flow. Initially, a lateral weir option was used in HEC-RAS but the results overestimated the flow in the overflow route east of the main channel. Only the 1% and 0.2% annual chance (100- and 500-year) flows were large enough to exhibit breakout flow.

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the Flood Profiles (Exhibit 1) are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

Locations of selected cross sections used in the hydraulic analyses are shown on the flood profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the FIRM (Exhibit 2).

Effective flow areas of the floodplain, cross sections, loss coefficients, and overbank roughness coefficients (Manning's "n") were assigned to each cross section based on field inspection. The range of the Manning's "n" coefficients for each stream is shown in Table 10.

Table 10 - Roughness Coefficients (Manning's "n" Values)

Stream	Channel "n"	Overbank "n"
7th Avenue Creek	0.033-0.040	0.014-0.080
7th Avenue Overflow	0.040	0.070
7th Avenue Creek Tributary	0.040	0.040-0.120
Anderson Road Run	*	*
Anderson Road Run North Branch	*	*
Aurora Chain of Lakes	0.015-0.055	0.020-0.100
Aurora Chain of Lakes Cherry Hills Diversion	0.015-0.055	0.045-0.100
Big Rock Creek	0.020-0.045	0.010-0.110
Blackberry Creek	0.040-0.070	0.060-0.130
Bowes Creek	0.035-0.072	0.065-0.100
Bowes Creek South	0.045	0.070
Brewster Creek	0.060	0.140

*Data not available

Table 10 - Roughness Coefficients (Manning's "n" Values) (continued)

Stream	Channel "n"	Overbank "n"
Burlington Creek	0.030-0.050	0.035-0.045
Burlington Creek Tributary A	0.030-0.050	0.035-0.060
Burlington Creek West Branch	0.035-0.050	0.035-0.045
Carpenter Creek	0.100	0.120
Duffin Drain	0.020-0.045	0.010-0.110
Eakin Creek	0.030-0.090	0.035-0.065
Eakin Creek South	0.070-0.089	0.040-0.060
Eakin Creek Tributary B	0.070-0.080	0.040-0.055
Eakin Creek Tributary D	0.050-0.075	0.050-0.100
East Branch Big Rock Creek	0.020-0.045	0.010-0.110
East Branch Big Rock Creek Tributary 2	0.020-0.045	0.010-0.110
East Run	0.040-0.080	0.045-0.115
East Run North Branch	0.045	0.105
East Run North Loop	0.045	0.105
Elburn Run	0.040-0.055	0.065-0.115
Ferson Creek	0.030-0.080	0.070-0.100
Fitchie Creek	0.035-0.104	0.070-0.100
Four Winds Way Creek	0.100	0.120
Fox River	0.025-0.100	0.035-0.100
Fox River East Channel	0.025-0.040	0.060-0.070
Fox River Tributary	0.020-0.060	0.050-0.080
Fox River Tributary East Branch	0.040	0.050
Geneva Creek	0.040-0.085	0.040-0.100
Hampshire Creek	0.033-0.090	0.040-0.085
Hampshire Creek South	0.028-0.050	0.030-0.090
Hampshire Creek Tributary A	0.035-0.048	0.040
Hampshire Creek Tributary AA	0.040	0.040
Hampshire Creek Tributary AB	0.042	0.040
Hampshire Creek Tributary AC	0.040	0.040
Hampshire Creek Tributary AD	0.035	0.040
Hampshire Creek Tributary AE	0.035	0.040
Hampshire Creek Tributary B	0.035-0.050	0.035-0.085
Hampshire Creek Tributary No. 1	0.050-0.120	0.050
Hampshire Creek Tributary No. 2	0.025-0.053	0.035-0.040
Hampshire Creek Tributary No. 3	0.065-0.075	0.050
Hampshire Creek Tributary No. 4	0.075-0.080	*
Indian Creek	0.015-0.060	0.020-0.120

*Data not available

Table 10 - Roughness Coefficients (Manning's "n" Values) (continued)

Stream	Channel "n"	Overbank "n"
Indian Creek Prairie Path Run	*	*
Jelkes Creek	0.035-0.070	0.050-0.090
Jericho Lake Diversion	0.050-0.055	0.065-0.085
Lake Run	0.045-0.075	0.055-0.125
Lake Run Nelson Lake Branch	0.045-0.075	0.055-0.125
Lake Run North of I-88 Overflow East Branch	0.045-0.075	0.055-0.125
Lake Run South of I-88 Diversion	0.045-0.075	0.055-0.125
Lake Run Main St. Branch	0.045-0.075	0.055-0.125
Lake Run North of I-88 Overflow	0.045-0.075	0.055-0.125
Lord's Park Tributary	0.060-0.080	0.015-0.040
Mahoney Creek	0.100	0.120
Malgren Drain	0.02-0.045	0.01-0.11
McKee Road Tributary	0.035-0.090	0.050-0.100
Mill Creek	0.020-0.100	0.040-0.140
Mill Creek Tributary No. 2	0.060	0.080-0.100
North Arm Brewster Creek	0.080	0.120
Norton Creek	0.045-0.15	0.05-0.150
Norton Creek Tributary	0.030-0.055	0.045-0.055
Otter Creek	0.035-0.075	0.070-0.090
Otter Creek West	0.035-0.055	0.070-0.085
Pingree Creek	0.055-0.065	0.05-0.08
Poplar Creek	0.015-0.040	0.060-0.080
Prestbury Branch	0.045-0.06	0.115-0.165
Route 38 Branch	0.040-0.060	0.085-0.105
Sandy Creek	0.040-0.090	0.070-0.12
Seavey Road Run	0.050-0.070	0.090-0.12
Seavey Road Run Green Road Branch	0.050-0.063	0.080-0.12
Seavey Road Run Main St. Branch	0.045-0.060	0.105-0.125
Selmarten Creek	0.015-0.059	0.030-0.100
Sleepy Creek	0.050-0.100	0.100
South Tributary	0.035-0.060	0.060-0.150
State Street Creek	*	*
State Street Creek Tributary	*	*
Stony Creek	0.030-0.072	0.060-0.110
Sugar Grove Branch (downstream of profile station 3,565)	0.020-0.045	0.010-0.110

*Data not available

Table 10 - Roughness Coefficients (Manning's "n" Values) (continued)

Stream	Channel "n"	Overbank "n"
Sugar Grove Branch (upstream of profile station 3,565)	0.045-0.090	0.050-0.090
Sugar Grove Branch East	0.045-0.090	0.050-0.090
Sugar Grove Branch North	*	*
Tollway Tributary	*	*
Tyler Creek	0.045-0.070	0.050-0.100
Tyler Creek Unnamed Tributary	*	*
Union Ditch No. 2	*	*
Waubonsee Creek	0.035-0.055	0.050-0.070
Welch Creek	0.020-0.045	0.010-0.110
West Branch Big Rock Creek	0.020-0.045	0.010-0.110

*Data not available

3.3 Vertical Datum

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, see FEMA'S *Guidelines and Specifications for Flood Hazard Mapping Partners Appendix B: Guidance for Converting to the North American Vertical Datum of 1988* (Reference 91) or visit the National Geodetic Survey website at www.ngs.noaa.gov. The National Geodetic Survey may also be contacted at the following address: NGS Information Services, NOAA, N/NGS12, National Geodetic Survey, SSMC-3, #9202, 1315 East-West Highway, Silver Spring, Maryland 20910-3282, (301) 713-3242.

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.

The datum conversion locations and values calculated for Kane County are provided below:

August 3, 2009
Revised Countywide FIS

Information for the August 3, 2009 FIS was converted from NGVD 29 to NAVD 88 based on data presented in Figure 1 and Table 11a. Computations show an average conversion factor of -0.206 feet (NGVD 29 – 0.206 = NAVD 88) for the county. The Single Conversion Factor (countywide) method was applied uniformly across the county, except as noted below, and used to prepare the Summary of Stillwater Elevations Table, Floodway Data Tables, Flood Profiles, and FIRMs.

The Multiple Conversion Factors (stream-by-stream) method was implemented for a stream when a detailed study reach was located in two or more counties (multi-county stream) and the countywide conversion factor for each county differed by more than one-tenth of a foot. For the stream-by-stream method, the stream is assigned an average conversion factor based on the conversion factors computed at three points along the stream. These results are shown in Table 11b.

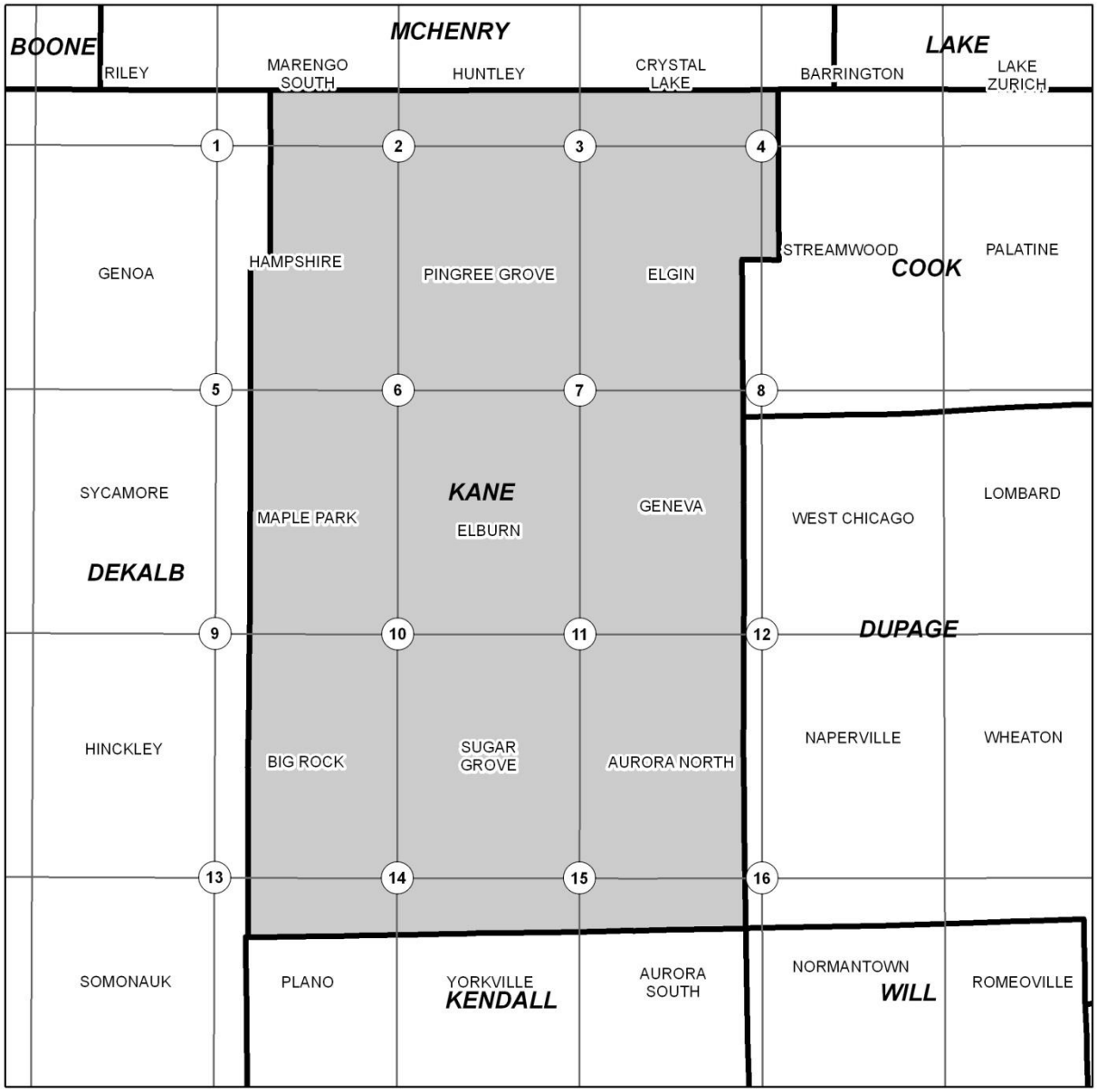

Figure 1 – Vertical Datum Conversion
USGS Quadrangle Corner Intersections
The change in elevation for each Point ID is listed in Table 11a.

Table 11a - Vertical Datum Conversions
Single Conversion Factor (countywide) Method
Kane County

Point ID #	Quadrangle Name	Corner	NAD83 Latitude (dec. deg.)	NAD83 Longitude (dec. deg.)	NGVD29 to NAVD88 Elevation Change (feet)
1	Hampshire	NW	42.125	88.625	-0.174
2	Pingree Grove	NW	42.125	88.500	-0.174
3	Elgin	NW	42.125	88.375	-0.190
4	Streamwood	NW	42.125	88.250	-0.203
5	Maple Park	NW	42.000	88.625	-0.154
6	Elburn	NW	42.000	88.500	-0.177
7	Geneva	NW	42.000	88.375	-0.226
8	West Chicago	NW	42.000	88.250	-0.262
9	Big Rock	NW	41.875	88.625	-0.171
10	Sugar Grove	NW	41.875	88.500	-0.197
11	Aurora North	NW	41.875	88.375	-0.226
12	Naperville	NW	41.875	88.250	-0.240
13	Plano	NW	41.750	88.625	-0.203
14	Yorkville	NW	41.750	88.500	-0.226
15	Aurora South	NW	41.750	88.375	-0.233
16	Normantown	NW	41.750	88.250	-0.243

Range of conversion values	-0.262 through -0.154
Average conversion factor	**-0.206**
Maximum variance from the average conversion	0.056
Maximum variance from a no-conversion value	-0.052

Table 11b - Vertical Datum Conversions
Multiple Conversion Factors (Stream by Stream) Method

Point Location	County	NAD83 Latitude (dec. deg.)	NAD83 Longitude (dec. deg.)	NGVD29 to NAVD88 Elevation Change (Feet)	Maximum Offset	Average Conversion
LORD'S PARK TRIBUTARY						
Downstream	Cook	42.023	88.258	-0.256		
Intermediate	Cook	42.029	88.262	-0.256		
Upstream	Cook	42.036	88.261	-0.253	-0.002	-0.255
NORTON CREEK						
Downstream	Kane	47.949	88.311	-0.243		
Intermediate	Kane	41.947	88.280	-0.246		
Upstream	DuPage	41.938	88.249	-0.249	-0.003	-0.246
NORTON CREEK TRIBUTARY						
Downstream	Kane	41.948	88.264	-0.249		
Intermediate	DuPage	41.954	88.253	-0.253		
Upstream	DuPage	41.958	88.242	-0.253	0.003	-0.251
POPLAR CREEK						
Downstream	Kane	42.013	88.278	-0.256		
Intermediate	Cook	42.044	88.165	-0.256		
Upstream	Cook	42.110	88.166	-0.223	0.022	-0.245
WAUBONSEE CREEK						
Downstream	Kendall	41.686	88.354	-0.233		
Intermediate	Kendall	41.722	88.298	-0.233		
Upstream	DuPage	41.752	88.232	-0.246	-0.013	-0.237

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages state and local governments to adopt sound floodplain management programs. Therefore, each FIS provides 1-percent-annual-chance flood elevations and delineations of the 1- and 0.2-percent-annual-chance floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data tables, and Summary of Stillwater Elevation tables. Users should reference the data presented in the FIS as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community. For the flooding sources studied by detailed methods, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated on the basis of available topography.

August 3, 2009
Revised Countywide FIS

Between cross sections, the floodplain boundaries for streams studied by detailed methods were re-delineated using the 2004 countywide 2-foot contour dataset prepared using 2001 aerial photography and provided by Kane County (Reference 37).

The floodplain boundaries for revised detailed studied streams were delineated on the basis of available topography. The streams included Indian Creek watershed (Indian Creek, Indian Creek Prairie Path Run, Selmarten Creek, South Tributary and Tollway Tributary) and Blackberry Creek watershed (Aurora Chain of Lakes, Aurora Chain of Lakes Cherry Hills Diversion, Blackberry Creek, East Run, East Run North Branch, East Run North Loop, Elburn Run, Lake Run, Lake Run Main Street Branch, Lake Run Nelson Lake Branch, Lake Run North of I-88 Overflow, Lake Run North of I-88 Overflow East Branch, Lake Run South of I-88 Diversion, Prestbury Branch, Route 38 Branch, Seavey Road Run, Seavey Road Run Green Road Branch, Seavey Road Run Main Street Branch).

The 1- and 0.2-percent-annual-chance floodplain boundaries were provided by the USGS for the streams within the Blackberry Creek watershed. The USGS used the 2004 Kane County topographic data from 2001 aerial photography to delineate the floodplain boundaries. The 1-percent-annual-chance floodplain boundaries for the streams in the Indian Creek watershed were provided by V_3 Companies, Ltd., and were delineated by V_3, on the basis of the 1986 Kane County topographic data. Floodplain boundaries were revised where necessary to match the 2004 Kane

County topographic data. The 0.2-percent-annual-chance floodplain was manually delineated by the ISWS using the 2004 Kane County topographic data.

July 17, 2012
Revised Countywide FIS

Between cross sections the 1-percent-annual-chance floodplain boundaries for the streams studied by detailed methods with limited survey were delineated using the Kane County topographic data prepared using aerial photography obtained during spring 2001, which have 2-foot contour intervals (Reference 37).

June 2, 2015
Revised Countywide FIS

For the studied portion of the Coon Creek watershed included in the June 2, 2015, PMR, the 1-percent-annual-chance floodplain boundaries for the streams studied by Zone AE methods were delineated between cross sections utilizing the digital terrain model (DTM) data obtained from the Kane County GIS department (Reference 37). The DTM data were derived from the 2001 aerial ortho-photography of Kane County and is suitable for 2-foot contours.

The 1- and 0.2-percent floodplain boundaries are shown on the FIRM (Exhibit 2). On this map, the 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AH, AO, and AE); and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1- and 0.2-percent-annual-chance floodplain boundaries are close together or collinear, 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.

For the streams studied by Zone A methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2). The boundaries of the 1-percent-annual-chance floodplains in approximate zones were delineated using the previously printed FIRMs for all of the incorporated and unincorporated areas within Kane County.

This Physical Map Revision

For this PMR, the 1-percent-annual-chance floodplain boundaries for 7th Avenue Creek, 7th Avenue Creek Overflow, and 7th Avenue Creek Tributary were delineated using photogrammetric, 2-foot contour intervals from 2006 aerials submitted by Kane County and LiDAR data flown in 2008. The 2-foot contours were derived from field run survey data and a DTM using breaklines to capture important topographic features.

4.2 Floodways

Encroachment on floodplains, such as structures and fill, has the potential to reduce flood-carrying capacity, increase flood heights and velocities, and increase flood hazards in areas beyond the encroachment itself. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a flood fringe.

The floodway is the channel of a stream, plus any adjacent floodplain areas (see Figure 2, "Floodway Schematic") that must be kept free of encroachment so that the 1-percent-annual-chance flood can be carried without substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. In Illinois however, under the *Rivers, Lakes and Streams Act* (615 ILCS 5/23, 29 & 30 and 615 ILCS 5/18), encroachment in the floodplain is limited to that which will cause only an insignificant increase in flood heights (Reference 92). The State of Illinois has adopted this more stringent criterion which limits the increase in flood heights to 0.1 foot, no more than a 10 percent reduction in floodplain volume, and no more than a 10 percent increase in average velocity. This has generally been interpreted as the least surcharge measurable, consistent with the encroachment option of the computer program utilized for the floodway determination. The floodways in this FIS are presented to local agencies as a minimum standard that can be adopted directly or that can be used as a basis for additional floodway studies.

Floodways in northeastern Illinois are further defined in Part 3708 of the *Rivers, Lakes and Streams Act.* Areas included in these regulations are Cook, DuPage, Kane, Lake, McHenry, and Will Counties, except for those areas which are within Chicago. Section 3708.60 (c) contains the floodway definition for northeastern Illinois as follows:

> The regulatory floodway boundaries are determined by hydraulic and hydrologic analyses, which calculate that portion of the floodplain which must be preserved to store and discharge floodwaters without causing damaging or potentially damaging increases in flood stages and flood velocities or loss of flood storage which would result in singularly or cumulatively in more than a 0.1 foot increase in flood stage or a 10-percent increase in velocity.

This is commonly called the "storage floodway," whereas the typical floodway is commonly called the "conveyance-only floodway." These rules allow for communities to adopt a "conveyance-only floodway" instead of a "storage floodway" according to Section 3608.60 (d):

> The need to preserve storage when defining the regulatory floodway will be waived by the Department if all of the municipalities and counties along a hydraulically significant portion of the watershed require effective compensatory storage for all construction and fill in the 100-year frequency floodplain. Effective compensatory storage requires floodplain storage volumes to be replaced at the same flood frequency event as previously existed. Additionally, legal assurances

such as easements must be provided so that the compensatory site will remain open to the stream in order to allow floodwater to reach it.

The floodway presented in this FIS report and on the FIRM was 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. The results of the floodway computations have been tabulated for selected cross sections (Table 12, "Floodway Data"). The computed floodways are shown on the FIRM (Exhibit 2). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

The area between the floodway and 1-percent-annual-chance floodplain boundaries is termed the flood fringe. The flood fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 1-percent-annual-chance flood by more than 0.1 foot at any point. Typical relationships between the floodway and the flood fringe and their significance to floodplain development are shown in Figure 2, "Floodway Schematic."

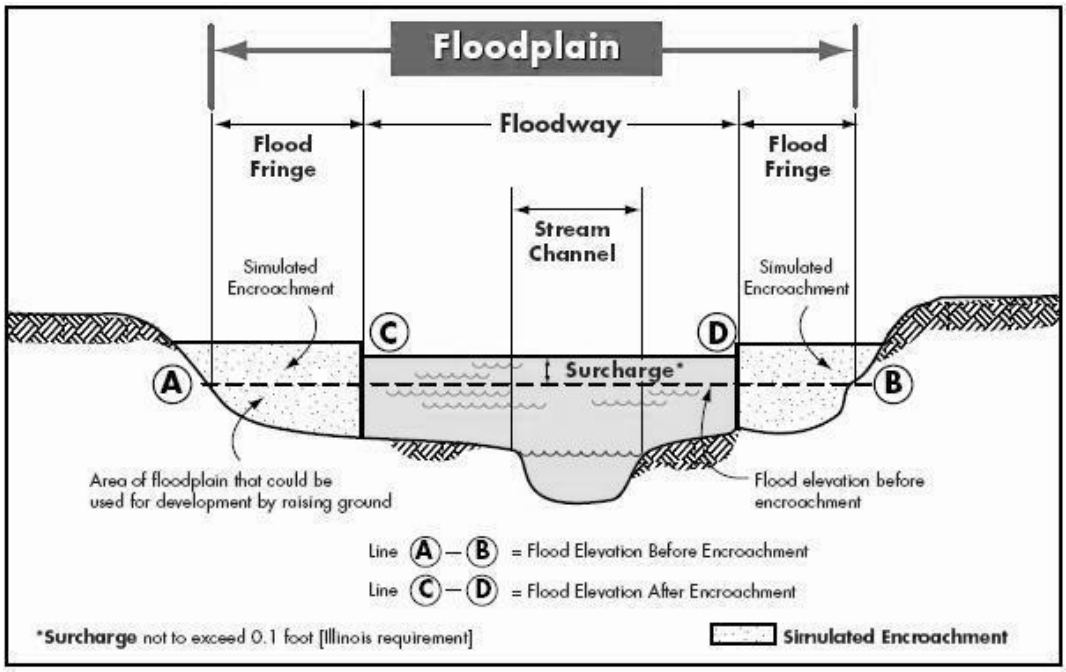

Figure 2 – Floodway Schematic

August 3, 2009
Revised Countywide FIS

Floodways were established for Indian Creek, Selmarten Creek and South Tributary. Floodways were not established for Indian Creek Prairie Path Run and Tollway Tributary because their drainage areas do not exceed the one square mile limit established by the IDNR-OWR. Within the Blackberry Creek watershed, floodways were defined for the following streams: Aurora Chain of Lakes, Aurora

Chain of Lakes Cherry Hills Diversion, Blackberry Creek, East Run, East Run North Branch, East Run North Loop, Elburn Run, Lake Run, Lake Run Main Street Branch, Lake Run Nelson Lake Branch, Lake Run South of I-88 Diversion, Prestbury Branch, Route 38 Branch, Seavey Road Run, Seavey Road Run Green Road Branch, and Seavey Road Run Main Street Branch. Floodways were not defined for Lake Run North of I-88 Overflow and Lake Run North of I-88 Overflow East Branch because their drainage areas do not exceed the one square mile limit established by the IDNR-OWR.

Near the mouths of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body. Therefore, "Without Floodway" elevations presented in Table 12, "Floodway Data" for certain downstream cross sections of Jelkes Creek, Hampshire Creek South, Bowes Creek, Sandy Creek, North Arm Brewster Creek, and Brewster Creek are lower than the regulatory flood elevations in that area, which must take into account the 1-percent-annual-chance flooding due to backwater from other sources.

July 17, 2012
Revised Countywide FIS

No floodways were added or revised as a result of the July 17, 2012, revision.

June 2, 2015
Revised Countywide FIS

The floodways for Hampshire Creek and Hampshire Creek South were revised as part of this PMR.

In the State of Illinois, any portion of a stream or watercourse that lies within the floodway fringe of a studied (AE) stream may have a state regulated floodway. The FIRM may not depict these state regulated floodways.

Floodways restricted by anthropogenic features such as bridges and culverts are drawn to reflect natural conditions and may not agree with the widths listed in the floodway data table in the FIS. The floodway as shown on the FIRM should be used for regulatory purposes.

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage, and heightens potential flood hazards by further increasing velocities. In order to reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

In Illinois, along streams where floodways have not been computed, the community must obtain state permit approval (when applicable) for development. This ensures that the cumulative effect of development in the floodplain will not cause an increase in the base flood elevations that creates a potential for flood damages.

This Physical Map Revision

Initial floodway modeling for 7th Avenue Creek, 7th Avenue Creek Overflow, and 7th Avenue Creek Tributary was performed utilizing the FEMA recommended Method 4 within HEC-RAS which is based on equal conveyance reduction for an encroachment surcharge of 0.1 foot. The floodway was revised by importing the Method 4 results into Method 1 to be manually adjusted as necessary. Floodway encroachments were analyzed to determine the floodway width using the guidelines established by the State of Illinois which limits the total increase at any point along the stream to 0.1 foot over the base floodplain elevation. In addition, Illinois requires the floodway to preserve 90% of the floodplain conveyance and limits any velocity increase to no more than 10%. A floodway meeting the requirements for surcharge, velocity, and storage is commonly referred to as a "Storage Floodway" versus a "Conveyance Only Floodway" which only meets the surcharge and velocity requirements. Illinois allows for use of a "Conveyance Only Floodway" in communities that have adopted ordinances requiring compensatory storage for any development in the regulatory floodplain, which both the City of St. Charles and Kane County have adopted regarding compensatory storage.

The floodways 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. The results of the floodway computations have been tabulated for selected cross sections (Table 12). 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.