

Discovery Report

Des Plaines River Watershed, HUC #07120004

*Illinois Counties - Cook, DuPage, Grundy, Kane, Kendall, Lake, and Will
Counties*

Wisconsin Counties - Kenosha and Racine Counties

Report Number 00



FEMA

MM/DD/YYYY

Project Area Community List

Illinois County	Illinois Community
Cook County	Bedford Park, Village of
	Bellwood , Village of
	Berkeley, Village of
	Berwyn, City of
	Bridgeview, Village of
	Broadview, Village of
	Brookfield , Village of
	Burbank, City of
	Cicero, Town of
	Cook County
	Country Club Hills, City of
	Countryside, City of
	Des Plaines, City of
	Elmwood Park, Village of
	Forest Park, Village of
	Forest View, Village of
	Franklin Park, Village of
	Glenview, Village of
	Harwood Heights, Village of
	Hickory Hills, City of
	Hillside, Village of
	Hodgkins, Village of
	Hoffman Estates, Village of
	Indian Head Park, Village of
	Inverness, Village of
	Justice, Village of
	La Grange, Village of
	La Grange Park, Village of
	Lyons, Village of
	Matteson, Village of
	Maywood, Village of
	McCook, Village of

Illinois County	Illinois Community
Cook County	Melrose Park, Village of
	Morton Grove, Village of
	Mount Prospect, Village of
	Niles, Village of
	Norridge, Village of
	North Riverside, Village of
	Northlake, City of
	Oak Forest, City of
	Oak Park, Village of
	Orland Hills, Village of
	Palatine, Village of
	Palos Heights, City of
	Palos Hills, City of
	Palos Park, Village of
	Park Ridge, City of
	Prospect Heights, City of
	Richton Park, Village of
	River Forest, Village of
	River Grove, Village of
	Riverside, Village of
	Rolling Meadows, City of
	Rosemont, Village of
	Schiller Park, Village of
	Stickney, Village of
	Stone Park, Village of
	Streamwood, Village of
	Summit, Village of
	Westchester, Village of
Western Springs, Village of	
Willow Springs, Village of	

Project Area Community List (continued)

Illinois County	Illinois Community
Cook County, DuPage County	Bensenville, Village of
	Burr Ridge, Village of
	Chicago, City of
	Elk Grove, Village of
	Elmhurst, City of
	Hanover Park, Village of
	Hinsdale, Village of
	Lemont, Village of
	Roselle, Village of
	Schaumburg, Village of
Cook County, DuPage County, Kane County	Bartlett, Village of
Cook County, Lake County	Arlington Heights, Village of
	Barrington, Village of
	Buffalo Grove, Village of
	Deer Park, Village of
	Deerfield, Village of
	Northbrook, Village of
	Wheeling , Village of
Cook County, Will County	Frankfort, Village of
	Orland Park, Village of
	Tinley Park, Village of
	University Park, Village of
DuPage County	Addison , Village of
	Bloomington, Village of
	Carol Stream, Village of
	Clarendon Hills, Village of

Illinois County	Illinois Community
DuPage County	Darien, City of
	Downers Grove, Village of
	DuPage County
	Glen Ellyn, Village of
	Glendale Heights, Village of
	Itasca, Village of
	Lisle, Village of
	Lombard , Village of
	Oak Brook, Village of
	Oakbrook Terrace, City of
	Villa Park, Village of
	Warrenville, City of
	West Chicago, City of
	Westmont, Village of
	Wheaton, City of
	Willowbrook, Village of
Winfield, Village of	
Wood Dale, City of	
Dupage County, Kane County	Batavia, City of
	St. Charles, City of
	Wayne, Village of
DuPage County, Kane County, Kendall County, Will County	Aurora, City of
DuPage County, Will County	Bolingbrook, Village of
	Naperville, City of
	Woodridge, Village of
Grundy County	Grundy County

Project Area Community List (continued)

Illinois County	Illinois Community
Grundy County, Kendall County, Will County	Minooka, Village of
Grundy County, Will County	Channahon, Village of
Kane County	Geneva, City of
	Kane County
Kendall County	Kendall County
	Oswego, Village of
Kendall County, Will County	Joliet, City of
	Plainfield, Village of
Lake County	Antioch, Village of
	Beach Park, Village of
	Grayslake, Village of
	Green Oaks, Village of
	Gurnee, Village of
	Hawthorn Woods, Village of
	Indian Creek, Village of
	Kildeer, Village of
	Lake County
	Lake Forest, City of
	Lake Villa, Village of
	Lake Zurich, Village of
	Libertyville, Village of
	Lincolnshire, Village of
	Lindenhurst, Village of
	Long Grove, Village of
	Mettawa, Village of
	Mundelein, Village of
	Old Mill Creek, Village of
	Park City, City of
	Riverwoods, Village of
	Round Lake Beach, Village of
	Round Lake Park, Village of
	Third Lake, Village of
	Vernon Hills, Village of
	Wadsworth, Village of
	Waukegan, City of
	Zion, City of

Illinois County	Illinois Community	
Will County	Crest Hill, City of	
	Elwood, Village of	
	Homer Glen, Village of	
	Lockport, City of	
	Manhattan, Village of	
	Mokena, Village of	
	New Lenox, Village of	
	Rockdale, Village of	
	Romeoville, Village of	
	Shorewood, Village of	
	Will County	
	Wisconsin County	Wisconsin Community
	Kenosha	Bristol, Village of
Kenosha, City of		
Kenosha County		
Paddock Lake, Village of		
Pleasant Prairie, Village of		
Racine County	Mount Pleasant, Village of	
	Racine County	
	Union Grove, Village of	

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I. General Information

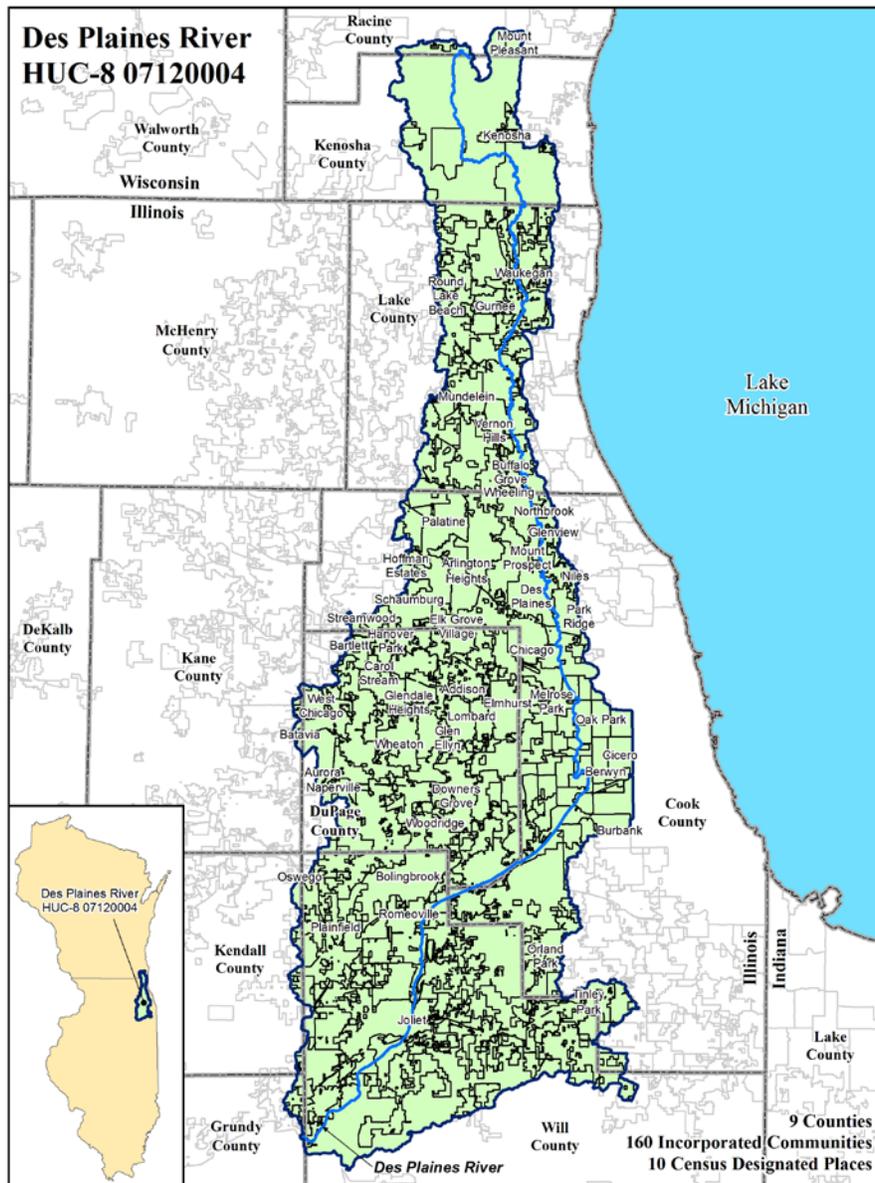


Figure 1. Des Plaines River Watershed Area

The Des Plaines Watershed, HUC #071200064, is located in the far southeastern part of Wisconsin and in the northeastern section of Illinois. The watershed covers 1,554 square miles of which the Illinois and Wisconsin portions cover 1,320 square miles and 134 square miles, respectively. The Des Plaines River originates just south of Union Grove, Wisconsin, and enters Illinois near Russell, Illinois. From Russell, the Des Plaines flows in

a southerly direction through Lake and Cook Counties. Near Lyons, Illinois, the Des Plaines River turns to the southwest, paralleling the Chicago Sanitary and Ship Canal in DuPage and Will Counties until the confluence near Joliet, Illinois. The Des Plaines continues southwest to the confluence of the Kankakee, which is the beginning of the Illinois River. Major streams that comprise the Des Plaines River watershed include the Des Plaines River, DuPage River, Chicago Sanitary and Ship Canal, Salt Creek, Mill Creek, Indian Creek, Willow Creek, Lily Cache Creek, Grant Creek, Hickory Creek, and Spring Creek (IEMA, 1996).

The Des Plaines watershed includes parts of Kenosha and Racine Counties in Wisconsin and Cook, DuPage, Grundy, Kane, Kendall, Lake, and Will Counties in Illinois. The communities that lie entirely and partly within the Des Plaines watershed are listed with their U.S. Census Bureau 2010 populations in Table 1 (U.S. Census Bureau, 2010). The majority of the watershed is part of the greater Chicago metropolitan area and has been extensively developed for urban and industrial use. Remaining rural and agricultural lands are primarily in Kenosha County, Wisconsin and Lake and Will Counties, Illinois (IEMA, 1996).

The Des Plaines River has a long history of flooding that has caused significant economic losses. The maximum flood of record occurred in September 1986 with an estimated \$35 million in damages to 10,000 dwellings and 263 business and industrial sites. More than 15,000 residents were evacuated from the flooded area and seven lives were lost. Severe impacts to transportation networks were also identified in this area of 33 municipalities along 67 miles of river in Lake and Cook Counties (USACE, 2014). The following year, rain in Cook and DuPage County of 3 to 9 inches created damages of \$77.6 million. More than 100 cars, trucks, and buses were stranded on the Eden's Expressway. 3,000 homes were damaged in Cook and DuPage Counties. Four deaths occurred and 300 vehicles were trapped in intersections in water as high as six feet. A decade later in 1996, storms created \$564 million in damages in July 1996 and \$40 million in August 1997. Average annual damages in the region were estimated in 1998 at \$28.7 million, affecting 200 communities, not including damages in the Central Basin Watershed, which is estimated at \$151 million annually. (IDNR, 2014)

In response to the flooding issues, the U.S. Army Corps of Engineers (USACE) undertook a flood damage reduction study. The resulting study, USACE Des Plaines River Phase I Project, consists of six structural elements: two levees, two expansions of existing reservoirs, one lateral storage area, and one dam modification. The levee projects include a flood warning system. The project will involve construction of the Mount Prospect/Prospect Heights Levee, also known as Levee 37; the Rand Park Levee, also known as Levee 50, Buffalo Creek Reservoir expansion; the Big Bend Lake expansion; the Van Patten Woods lateral storage area; and the North Fork Mill Creek dam modification (USACE, 1999).

The Rand Park Flood Control Project is currently under review by the Chicago District Corps of Engineers for certification prior to being submitted to the Federal Emergency Management Agency (FEMA) for accreditation (IDNR, 2014). The Levee 37 gaps and closures contract was awarded to a contractor in August 2013. The contractor is currently working through preconstruction submittals in preparation for the upcoming construction season. Compensatory storage at Heritage Park in Wheeling is substantially complete and the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) has sent a letter to the Illinois Department of Natural Resources (IDNR) indicating that the needed storage is available so that the levee can be completed. Chicago District is also working on plans and specifications for Van Patten Woods Lateral Storage in coordination with the land owner Lake County Forest Preserve District (USACE, 1999).

NFIP Community Participation Status

The National Flood Insurance Program (NFIP) is administered by FEMA. In 1968, Congress created the NFIP to help provide a means for property owners to financially protect themselves. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the NFIP. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding. The NFIP status and 2010 Census populations of the Des Plaines watershed communities are listed in Table 1 (FEMA, 2013).

Table 1. NFIP Participation Status and 2010 Census Population

Illinois County	Illinois Community	2010 Census Population	NFIP Participation Status
Cook County	Bedford Park, Village of	580	Yes
	Bellwood, Village of	19,071	Yes
	Berkeley, Village of	5,209	Yes
	Berwyn, City of	56,657	No
	Bridgeview, Village of	16,446	Yes
	Broadview, Village of	7,932	Yes
	Brookfield, Village of	18,978	Yes
	Burbank, City of	28,925	Yes
	Cicero, Town of	83,890	Yes
	Cook County	104,874	Yes
	Country Club Hills, City of	16,541	Yes
	Countryside, City of	5,895	Yes
	Des Plaines, City of	58,364	Yes
	Elmwood Park, Village of	24,883	Yes
	Forest Park, Village of	14,167	Yes

Table 1. NFIP Participation Status and 2010 Census Population (continued)

Illinois County	Illinois Community	2010 Census Population	NFIP Participation Status
Cook County	Forest View, Village of	698	Yes
	Franklin Park, Village of	18,333	Yes
	Glenview, Village of	44,692	Yes
	Harwood Heights, Village of	8,612	Yes
	Hickory Hills, City of	14,049	Yes
	Hillside, Village of	8,157	Yes
	Hodgkins, Village of	1,897	Yes
	Hoffman Estates, Village of	51,895	Yes
	Indian Head Park, Village of	3,809	Yes
	Inverness, Village of	7,399	Yes
	Justice, Village of	12,926	Yes
	La Grange, Village of	15,550	Yes
	La Grange Park, Village of	13,579	Yes
	Lyons, Village of	10,729	Yes
	Matteson, Village of	19,009	Yes
	Maywood, Village of	24,090	Yes
	McCook, Village of	228	Yes
	Melrose Park, Village of	25,411	Yes
	Morton Grove, Village of	23,270	Yes
	Mount Prospect, Village of	54,167	Yes
	Niles, Village of	29,830	Yes
	Norridge, Village of	14,572	Yes
	North Riverside, Village of	6,672	Yes
	Northlake, City of	12,323	Yes
	Oak Forest, City of	27,962	Yes
	Oak Park, Village of	51,878	No
	Orland Hills, Village of	7,149	Yes
	Palatine, Village of	68,557	Yes
	Palos Heights, City of	12,515	Yes
	Palos Hills, City of	17,484	Yes
	Palos Park, Village of	4847	Yes
	Park Ridge, City of	37,480	Yes
	Prospect Heights, City of	16,256	Yes
Richton Park, Village of	16,646	Yes	

Table 1. NFIP Participation Status and 2010 Census Population (continued)

Illinois County	Illinois Community	2010 Census Population	NFIP Participation Status
Cook County	River Forest, Village of	11,172	Yes
	River Grove, Village of	10,227	Yes
	Riverside, Village of	8,875	Yes
	Rolling Meadows, City of	24,099	Yes
	Rosemont, Village of	4,202	Yes
	Schiller Park, Village of	11,793	Yes
	Stickney, Village of	6,786	Yes
	Stone Park, Village of	4,946	Yes
	Streamwood, Village of	39,858	Yes
	Summit, Village of	11,054	Yes
	Westchester, Village of	16,718	Yes
	Western Springs, Village of	12,975	Yes
	Willow Springs, Village of	5,524	Yes
Cook County, DuPage County	Bensenville, Village of	18,352	Yes
	Burr Ridge, Village of	10,559	Yes
	Chicago, City of	2,695,822	Yes
	Elk Grove Village, Village of	33,127	Yes
	Elmhurst, City of	44,121	Yes
	Hanover Park, Village of	37,973	Yes
	Hinsdale , Village of	16,816	Yes
	Lemont , Village of	16,000	Yes
	Roselle, Village of	22,763	Yes
	Schaumburg, Village of	74,227	Yes
Cook County, DuPage County, Kane County	Bartlett, Village of	41,208	Yes
Cook County, Lake County	Arlington Heights, Village of	75,101	Yes
	Barrington, Village of	10,327	Yes
	Buffalo Grove, Village of	41,496	Yes
	Deer Park, Village of	1,871	Yes
	Deerfield, Village of	18,225	Yes

Table 1. NFIP Participation Status and 2010 Census Population (continued)

Illinois County	Illinois Community	2010 Census Population	NFIP Participation Status
Cook County, Lake County	Northbrook, Village of	33,170	Yes
	Wheeling, Village of	37,648	Yes
Cook County, Will County	Frankfort, Village of	17,782	Yes
	Orland Park, Village of	34,556	Yes
	Tinley Park, Village of	56,703	Yes
	University Park, Village of	7,129	Yes
DuPage County	Addison, Village of	36,942	Yes
	Bloomington, Village of	22,018	Yes
	Carol Stream, Village of	39,711	Yes
	Clarendon Hills, Village of	8,427	Yes
	Darien city Village of	22,086	Yes
	Downers Grove, Village of	47,833	Yes
Du Page County	DuPage County	97,758	Yes
	Glen Ellyn, Village of	27,450	Yes
	Glendale Heights, Village of	34,208	Yes
	Itasca, Village of	8,649	Yes
	Lisle, Village of	22,390	Yes
	Lombard, Village of	43,165	Yes
	Oak Brook, Village of	7,883	Yes
	Oakbrook Terrace, City of	2,134	Yes
	Villa Park, Village of	21,904	Yes
	Warrenville, City of	13,140	Yes
	West Chicago, City of	27,806	Yes
	Westmont, Village of	24,685	Yes
	Wheaton, City of	52,894	Yes
	Willowbrook, Village of	8,540	Yes
	Winfield, Village of	9,080	Yes
Wood Dale, City of	13,770	Yes	

Table 1. NFIP Participation Status and 2010 Census Population (continued)

Illinois County	Illinois Community	2010 Census Population	NFIP Participation Status
DuPage County Kane County	Batavia, City of	26,045	Yes
	St. Charles, City of	32,974	Yes
	Wayne, Village of	2,431	Yes
DuPage County, Kane County, Kendall County, Will County	Aurora, City of	197,899	Yes
DuPage County, Will County	Bolingbrook, Village of	73,366	Yes
	Naperville, City of	141,853	Yes
	Woodridge, Village of	32,971	Yes
Grundy County	Grundy County	12,072	Yes
Grundy County, Kendall County, Will County	Minooka, Village of	10,924	Yes
Grundy County, Will County	Channahon, Village of	12,560	Yes
Kane County	Geneva, City of	21,495	Yes
	Kane County	60,212	Yes
Kendall County	Kendall County	25,077	Yes
	Oswego, Village of	30,355	Yes
Kendall County, Will County	Joliet, City of	147,433	Yes
	Plainfield, Village of	39,581	Yes
Lake County	Antioch, Village of	14,430	Yes
	Beach Park, Village of	13,368	Yes
	Grayslake, Village of	20,957	Yes
	Green Oaks, Village of	3,866	Yes
	Gurnee, Village of	31,295	Yes
	Hawthorn Woods, Village of	7,663	Yes
	Indian Creek, Village of	462	No
	Kildeer, Village of	3,968	Yes
	Lake County	38,396	Yes
	Lake Forest, City of	19,375	Yes
	Lake Villa, Village of	8,741	Yes
	Lake Zurich, Village of	19,631	Yes
	Libertyville, Village of	20,315	Yes
	Lincolnshire, Village of	7,275	Yes
	Lindenhurst, Village of	14,462	Yes

Table 1. NFIP Participation Status and 2010 Census Population (continued)

Illinois County	Illinois Community	2010 Census Population	NFIP Participation Status
Lake County	Long Grove, Village of	8,043	Yes
	Mettawa, Village of	547	Yes
	Mundelein, Village of	31,064	Yes
	Old Mill Creek, Village of	178	Yes
	Park City, City of	7,570	Yes
	Riverwoods, Village of	3,660	Yes
	Round Lake Beach, Village of	28,175	Yes
	Round Lake Park, Village of	7,505	Yes
	Third Lake, Village of	1,182	Yes
	Vernon Hills, Village of	25,113	Yes
	Wadsworth, Village of	3,815	Yes
	Waukegan, City of	89,081	Yes
	Zion, City of	24,413	Yes
Will County	Crest Hill, City of	20,837	Yes
	Elwood , Village of	2,279	Suspended
	Homer Glen, Village of	24,220	Yes
	Lockport , City of	24,839	Yes
	Manhattan, Village of	7,051	Yes
	Mokena, Village of	18,740	Yes
	New Lenox, Village of	24,394	Yes
	Rockdale, Village of	1,976	Yes
	Romeoville, Village of	39,680	Yes
	Shorewood, Village of	15,615	Yes
	Will County	105,441	Yes
Wisconsin County	Wisconsin Community		
Kenosha County	Bristol, Village of	2,584	Yes
	Kenosha, City of	99,218	Yes
	Kenosha County	166,426	Yes
	Paddock Lake, Village of	224	Yes
	Pleasant Prairie, Village of	19,719	Yes
Racine County	Mount Pleasant, Village of	26,197	Yes
	Racine County	195,408	Yes
	Union Grove, Village of	4915	Yes

(FEMA, 2014)

II. Watershed Stakeholder Coordination

The Discovery phase included an investigation of existing terrain, flood hazard data, and flood risk data; broad data mining for development of an initial Discovery map; and detailed data collection to refine the Discovery maps, which were prepared by the Illinois State Water Survey (ISWS) and Wisconsin Department of Natural Resources (WDNR). WDNR and ISWS led the stakeholder coordination in Wisconsin and Illinois, respectively. Watershed coordination meetings were held with community, state, and federal officials to share information concerning the watershed and its stakeholders. Pre-Discovery coordination is documented in Appendix A.

Prior to the Discovery meetings, a contacts database was created by WDNR and ISWS using available websites and directories and making phone calls to the communities. These calls included an overview of the Risk MAP program and Discovery process. An invitation list for the Discovery meetings was compiled from the information gathered for the contacts database. Approximately four weeks prior to the meetings, WDNR and ISWS sent letters to invited stakeholders providing a background of the Risk MAP program and an invitation to attend a Discovery meeting. The contact information and invitations are available in Appendix B.

The Des Plaines Discovery meetings were hosted by ISWS on behalf of FEMA. The meetings were held at the following place, dates, and times.

Wednesday, March 27, 2013 / 2:00 PM – 4:00 PM
Thursday, March 28, 2013 / 10:00 AM – 12:00 PM
DuPage County Judicial Office Facility
Annex - Rooms 1 and 2
503 North County Farm Road
Wheaton, IL 60187

Thursday, April 25, 2013 / 1:30 PM – 3:30 PM
Forest Preserve District of Will County
Four Rivers Environmental Education Center
25055 W. Walnut Lane
Channahon, IL 60411

Tuesday, August 27, 2013 / 2:00 PM – 4:00 PM
Lyons Village Hall
Community Room
4200 Lawndale Avenue
Lyons, IL 60534

Wednesday, August 28, 2013 / 10:00 AM – 12:00 PM
Mount Prospect Village Hall
Village Board Room, 3rd Floor
50 South Emerson Street
Mount Prospect, IL 60056

Tuesday, October 8, 2013 / 1:00 PM – 3:00 PM
Lake County Central Permit Facility
2nd Floor Conference Room
500 W. Winchester Rd., Ste. 201
Libertyville, IL 60048

Each Discovery meeting was approximately two hours long and consisted of introductory presentations followed by a break-out session in which stakeholders could review the Discovery map, ask questions, and provide comments and revisions.

Presentations were given describing Risk MAP program goals and objectives, hazard mitigation projects, FEMA's Community Rating System (CRS), the National Flood Insurance Program (NFIP), and the Discovery meeting goals and objectives. The meeting materials are available in Appendix C.

For the break-out session, Discovery maps were available for review at approximately six to eight stations, and each station was staffed by meeting personnel. After reviewing the maps and clarifying any questions, stakeholders completed comment forms that included their contact information and recommended revisions or general feedback about flood risk issues and mitigation efforts. The meeting summary, attendance, and comments are available in Appendix D. The Discovery Maps used at each meeting are available in Appendix E.

As part of the ongoing outreach process, meeting participants received a community communications assessment seeking their feedback on the best way to correspond with their community throughout the Des Plaines Watershed Risk MAP project. The assessment results and summary reports are available in Appendix F.

III. Data

A list of the data collected, the deliverable or product in which the data are included, the source of the data, and any pertinent comments is provided in Table 2. Table 2 data can be used for flood risk products and additional information to benefit the project.

Table 2. Data Collection for Des Plaines Watershed

Data Types	Description	Source	Deliverable
Illinois			
Areas of Mitigation Success	Any flood mitigation strategies, tactics, and/or projects that have been demonstrated to reduce losses associated with flooding events	Community Comments gathered during Discovery process	Discovery Map; Geodatabase
Areas of Significant Erosion	Areas of significant riverine erosion	Community Comments gathered during Discovery process	Discovery Map; Geodatabase
At Risk Essential Facilities	Essential facilities at risk for flooding	Will County Countywide All Hazard Mitigation Plan	Discovery Map; Geodatabase
Coordinated Needs Management Strategy (CNMS) Streams	Streams categorized by study validity	FEMA Region V Coordinated Needs Management Strategy Inventory	Discovery Map; Geodatabase
Community Boundaries	Location of community boundaries	U.S. Census 2013	Discovery Map; Geodatabase
County Boundaries	Location of county boundaries	U.S. Census 2013	Discovery Map; Geodatabase
Dams	Location of Dams	USACE National Inventory of Dams 1999 taken from the HAZUS Dams Database	Discovery Map; Geodatabase
EPA 303(d) Streams	Streams included in the EPA 303(d) list of impaired streams	USEPA Office of Water	Discovery Map; Geodatabase
Federal Land	Location of Federally owned or administered lands	National Atlas of the United States	Discovery Map; Geodatabase
FEMA Average Annualized Loss	FEMA's Level 1 Hazus Average Annualized Loss Analysis	FEMA	Discovery Map; Geodatabase
FEMA Composite Risk Analysis	National Flood Risk Analysis HUC Risk Data	FEMA Region V	Discovery Map; Geodatabase

Table 2. Data Collection for Des Plaines Watershed (continued)

Data Types	Description	Source	Deliverable
Illinois			
FEMA Public Assistance (PA)	Location of public assistance grant projects	FEMA Region 5	Discovery Map; Geodatabase
HUC 8, 10, & 12 Boundaries	HUC Boundaries	USGS National Hydrography Dataset	Discovery Map; Geodatabase
Key Emergency Routes Overtopped	Location of roads and bridges overtopped by flooding	Community Comments gathered during Discovery process; City of Des Plaines	Discovery Map; Geodatabase
Letters of Map Change	Locations of letters of map change	FEMA Mapping Information Platform Database	Discovery Map; Geodatabase
Levees	Location of levees considered for accreditation status by FEMA	FEMA Midterm Levee Inventory	Discovery Map; Geodatabase
Non-Accredited Levees	A levee that does not meet 44CFR Part 65.10 criteria for accreditation	Community Comments gathered during Discovery process	Discovery Map; Geodatabase
Other	Information that does not fit into other classifications	Community Comments gathered during Discovery process; City of Des Plaines	Discovery Map; Geodatabase
Other Flood Risk Areas	Locations of flooding located outside of the mapped 1% annual chance floodplain	IDNR Office of Water Resources	Discovery Map; Geodatabase
Past Claims Hot Spot	Repetitive loss properties	Local Mitigation Plans for Lake County	Discovery Map; Geodatabase
Roads	Location of interstates and major highways	Illinois Department of Transportation, 2010	Discovery Map; Geodatabase
Significant Land Use Change	Recent significant land use changes	Community Comments gathered during Discovery process	Discovery Map; Geodatabase
Significant Non-Levee Embankments	Structures not designed for flood control, but which have an impact on flooding	Community Comments gathered during Discovery process	Discovery Map; Geodatabase
Special Flood Hazard Areas	Location of special flood hazard areas	FEMA Digital Flood Insurance Rate Maps, FEMA Flood Insurance Rate Maps	Discovery Map; Geodatabase
State Boundaries	Location of state boundaries	U.S. Census 2012	Discovery Map; Geodatabase

Table 2. Data Collection for Des Plaines Watershed (continued)

Data Types	Description	Source	Deliverable
Illinois			
Stream Flow Constrictions	Locations of Ice Jams and other stream flow constrictions	U.S. Army Corps. Of Engineers - Ice Jam Database, IDNR Office of Water Resources, DuPage County Multi-Hazard Mitigation Plan 2012	Discovery Map; Geodatabase
Stream Gages	Locations of stream gages operated by multiple agencies	United States Geological Survey (USGS)	Discovery Map; Geodatabase
Wetlands	Location and type of wetlands and deep water habitats	U.S. Fish and Wildlife Service National Wetlands Inventory	Discovery Map; Geodatabase
Wisconsin			
Community Assistance Visits	Community Fact Sheet	Community Information System (CIS)	Community Fact Sheet
Community Boundaries	Location of municipal boundaries	Wisconsin Department of Transportation	Discovery Map; Geodatabase
Community Rating System	Community Fact Sheet	FEMA's "Community Rating System and Their Classes"	Community Fact Sheet
Coordinated Needs Management Strategy (CNMS)	Engineering study needs as defined by Phase 3 CNMS data	Region V CNMS inventory	Discovery Map; Geodatabase
County Boundaries	Location of county boundaries	USGS Topographic Maps	Discovery Map; Geodatabase
Dams	Location of dams	WDNR Inventory	Discovery Map; Geodatabase
FEMA Average Annualized Loss	FEMA's Level 1 HAZUS Average Annualized Loss Analysis	FEMA	Discovery Map; Geodatabase
HUC 8 Watershed	Watershed boundary	USGS Watershed Boundary Dataset	Discovery Map; Geodatabase
Key Emergency Routes Overtopped	Location of roads and bridges overtopped by flooding	Community Comments gathered during Discovery process	Discovery Map; Geodatabase
Letters of Map Change	Locations of letters of map change	FEMA National Flood Hazard Layer	Discovery Map; Geodatabase
Major Roads	Location of interstates and major highways	Wisconsin Department of Transportation	Discovery Map; Geodatabase

Table 2. Data Collection for Des Plaines Watershed (continued)

Data Types	Description	Source	Deliverable
Wisconsin			
Other	Information that does not fit into other classifications	Community Comments gathered during Discovery process	Discovery Map; Geodatabase
Other Flood Risk Areas	Locations of flooding located outside of the mapped 1% annual chance floodplain	IDNR Office of Water Resources	Discovery Map; Geodatabase
Significant Land Use Change	Recent significant land use changes	Community Comments gathered during Discovery process	Discovery Map; Geodatabase
Special Flood Hazard Areas	Location of FEMA flood hazard areas	FEMA Digital Flood Insurance Rate Maps	Discovery Map; Geodatabase
Streams and Rivers	Stream centerlines based on USGS topographic quads	USGS Topographic Maps	Discovery Map; Geodatabase
Watershed Boundaries	Hydrologic Unit Code-8, watershed boundaries	USGS National Hydrography Dataset	Discovery Map; Geodatabase
Wetland	Wetland delineations digitized from 1:24,000-scale ratio and rectified photographic base	Wisconsin DNR	Discovery Map; Geodatabase

i. Data Used for Flood Risk Products

Topographic and Imagery Data

Illinois

As part of the Illinois Height Modernization effort, the Illinois Department of Transportation (IDOT) is leading LiDAR data acquisition for Illinois counties scheduled by IDOT district. Figure 2 displays the LiDAR status for Illinois counties.

LiDAR Status for Illinois

April 2014

- Data Available thru Clearinghouse
- Data Available thru County
- Data Available by request from ISGS
- Data Available by request from ISGS
- In Progress
- Acquisition Planned
- Acquisition Not Planned

9 IDOT District Boundaries

Additional information:
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For access to LiDAR data please visit the
Illinois Height Modernization Program

crystal.isgs.uiuc.edu/nsdihome/webdocs/ilhmp/
 or search for "ILHMP" on Google



Figure 2. LiDAR Status for Illinois

Wisconsin

Kenosha and Racine Counties acquired LiDAR through a Community Development Block Grant that became available as a result of the extensive flooding in 2008 across southern Wisconsin. Kenosha County has countywide LiDAR available to use for study and mapping purposes while Racine County's LiDAR has only been processed for a limited area (115 square miles). A request for funds to complete the processing has been submitted to FEMA. At this time a contract is in place to process the remainder of the county's LiDAR; however, the timeline for completion is unknown.

USGS Gages

The ISWS and WDNR project teams identified U.S. Geological Survey (USGS) stream gages in the watershed. The locations of the gages are shown on the Discovery map and listed in Table 3.

Table 3. USGS Stream Gages

Gage Number	Station Name and Location
Illinois	
05527900	North Mill Creek at Hickory Corners, IL
05527905	Hastings Creek near Lindenhurst, IL
05527910	North Mill Creek near Milburn, IL
05527950	Mill Creek at old Mill Creek, IL
05528000	Des Plaines River near Gurnee, IL
05528030	Bull Creek near Libertyville, IL
05528035	Drainage Ditch at Libertyville, IL
05528100	Des Plaines River at Lincolnshire, IL
05528230	Indian Creek at Prairie View, IL
05528500	Buffalo Creek near Wheeling, IL
05529000	Des Plaines near Des Plaines, IL
05529500	McDonald Creek near Mount Prospect, IL
05530000	Weller Creek at Des Plaines, IL
05530500	Willow Creek near Park Ridge, IL
05530990	Salt Creek at Rolling Meadows, IL
05531000	Salt Creek near Arlington Heights, IL
05531015	Salt Creek at Higgins Road near Elk Grove Village, IL
05531044	Salt Creek near Elk Grove Village, IL
05531175	Salt Creek at Wood Dale, IL
05531300	Salt Creek at Elmhurst, IL
05531410	Salt Creek at 22 nd Street at Oak Brook, IL
05531500	Salt Creek at Western Springs, IL
05532000	Addison Creek at Bellwood, IL
05532300	Salt Creek at Brookfield, IL
05532500	Des Plaines River at Riverside, IL
05533000	Flag Creek near Willow Springs, IL

Table 3. USGS Stream Gages (continued)

Gage Number	Station Name and Location
Illinois	
05533400	Sawmill Creek near Lemont, IL
05533500	Des Plaines River at Lemont, IL
05533600	Des Plaines River near Lemont, IL
05534000	Des Plaines River at Romeoville, IL
05536140	Chicago Sanitary and Ship Canal at Stickney, IL
05536890	Chicago Sanitary and Ship Canal near Lemont, IL
05536995	Chicago Sanitary and Ship Canal at Romeoville, IL
05536998	Chicago Sanitary and Ship Canal at Lockport Controlling Works, IL
05537500	Long Run near Lemont, IL
05537980	Des Plaines River at Route 53 at Joliet, IL
05538000	Des Plaines River at Joliet, IL
05538500	Spring Creek at Joliet, IL
05539000	Hickory Creek at Joliet, IL
05539660	Des Plaines River near Channahon, IL
05539900	West Branch DuPage River near West Chicago, IL
05540060	Kress Creek at West Chicago, IL
05540091	Spring Brook at Forest Preserve near Warrenville, IL
05540093	Spring Brook AB West Branch DuPage River near Warrenville, IL
05540095	West Branch DuPage River near Warrenville, IL
05540130	West Branch DuPage River near Naperville, IL
05540160	East Branch DuPage River near Downers Grove, IL
05540195	St. Joseph Creek at U.S. Route 34 at Lisle, IL
05540200	St. Joseph Creek at Lisle, IL
05540250	East Branch Du Page River at Bolingbrook, IL
05540275	Spring Brook at 87 th Street near Naperville, IL
05540290	Du Page River near Naperville, IL
05540500	Du Page River at Shorewood, IL
05541000	Des Plaines River AB Kankakee River near Channahon, IL
415302088033801	Main Inlet of Lake Ellyn at Glen Ellyn, IL
415302088033802	Deer Path Inlet of Lake Ellyn at Glen Ellyn, IL #1
415302088033803	Deer Path Inlet of Lake Ellyn at Glen Ellyn, IL #2

Table 3. USGS Stream Gages (continued)

Gage Number	Station Name and Location
Illinois	
415311088032902	Submerged Outlet of Lake Ellyn at Glen Ellyn, IL
415311088032903	Surface Outlet of Lake Ellyn at Glen Ellyn, IL
Wisconsin	
*There are no stream gages within the Des Plaines watershed in WI. (USGS, 2014)	

ii. **Other Data and Information**

Mitigation Plans/Status, Mitigation Projects

Multi-Hazard Mitigation Plans (MHMPs) are prepared for unincorporated and incorporated communities to help communities reduce long-term risk to life and property from natural hazards. The plans include comprehensive mitigation strategies intended to promote flood-resilient communities. ISWS and WDNR project teams reviewed the mitigation strategies in available MHMPs to determine which, if any, were relevant for the Discovery process. Table 4 lists the MHMPs, their status, and their availability for review.

Table 4. MHMPs: Status and Availability

County	MHMP	Hazus	Issue Date	Expiration Date	Available for Review
Illinois					
Cook	In Progress	N/A	N/A	N/A	N/A
DuPage	Y	N	11/2012	11/2017	Y
Grundy	Y	Y	01/2013	01/2018	N
Kane	Y	N	02/2010	02/2015	Y
Kendall	Y	Y	01/26/2011	01/26/2016	Y
Lake	Y	N	06/2012	06/2017	Y
Will	Update in Progress	Y	07/2008	07/2013	Y
Wisconsin					
Kenosha	Y	Y	06/30/2011	06/30/2016	Y
Racine	Y	Y	12/06/2010	12/06/2015	Y

(IEMA, 2014)

CNMS and NFIP Mapping Study Needs

Illinois

The Illinois State Water Survey (ISWS) applied geospatial technologies to coordinate the management of mapping needs. The Coordinated Needs Management Strategy (CNMS) contains data for stream reaches to support existing and proposed flood mapping activities. An update and analyses of the CNMS data for the Des Plaines watershed are complete. Analyzed studies have been identified in Illinois as “VALID,” “UNVERIFIED,” “UNKNOWN,” and “ASSESSED.”

A methodology was determined to rank streams based on several criteria to provide a basis for prioritizing mapping needs in the watershed. There are a number of flooding issues in the Des Plaines River HUC8 watershed. ISWS identified streams of concern by performing a spatial analysis of the data to determine where there are combinations of potentially unverified engineering data, high risk, and community concerns. Three sources of information were used for this initial screening task. The CNMS Phase III data are organized in a geospatial database of stream reaches attributed with an assessment of the engineering analyses as valid, unverified, assessed, or unknown. The FEMA National Flood Risk Analysis HUC Risk Data spatial data were used to provide a relative risk ranking. The FEMA National Flood Risk Analysis HUC Risk Data are formed in a Census Block Group GIS layer that contains aggregated flood claims data along with 10 weighted parameters used to compute relative national risk (1 to 10 with 1 being highest risk) by Census Block Group. Study requests contained in the CNMS as well as local mapping concerns collected at the Discovery meeting were used to identify areas of known flooding issues.

A subset of stream segments was created by combining those stream segments identified as having engineering analyses that may no longer be valid (CNMS unverified) and any stream segment for which comments collected indicate that the Special Flood Hazard Area (SFHA) mapping is inaccurate or inadequate. This subset of stream segments was then intersected with the HUC Risk Data and separated into two categories: high concern for those segments which flow through Census Block Groups with Risk Rankings between 1 and 5; medium concern for those segments which flow through Census Block Groups with Risk Rankings between 6 and 10. Stream segments outside the combined set were categorized as low concern. Table 5 displays the streams of concern categorization used in Illinois. The entire list of categorized stream segments, including stream names, floodplain zones, stream lengths, and categories of concern, are provided in Appendix G. The stream segment categories are stored in the Discovery geodatabase as well as a GIS feature class derived from the CNMS. The feature class name is Streams of Concern.

Table 5. Streams of Concern Categorization - Illinois

Level of Concern	CNMS Status	Study Request	FEMA Risk Decile
<i>High</i>	Unverified	Yes/No	1-5
	Unknown	Yes	1-5
<i>Medium</i>	Unverified	Yes/No	6-10
	Unknown	Yes	6-10
	Valid	Yes	1-10
<i>Low</i>	Valid	No	n/a
	Unknown	No	n/a

Community Rating System (CRS)

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS. The three goals are to reduce flood damage to insurable property, strengthen and support the insurance aspects of the NFIP, and encourage a comprehensive approach to floodplain management.

Twenty-seven communities and two counties in the Des Plaines watershed participate in the CRS. Table 6 lists the Des Plaines watershed communities that participate.

Table 6. CRS Participation

Community/County	Rating	Premium Discount
Illinois		
Wood Dale / DuPage	5	25%
St. Charles / DuPage, Kane	5	25%
Lincolnshire / Lake	5	25%
Lisle / DuPage	5	25%
Orland Hills / Cook	5	25%
Glenview / Cook	6	20%
Niles / Cook	6	20%
Deerfield / Cook, Lake	6	20%
Wheeling / Lake, Cook	6	20%
Gurnee / Lake	6	20%
Downers Grove / DuPage	6	20%
Addison / DuPage	6	20%
Glendale Heights / DuPage	6	20%
Willowbrook / DuPage	6	20%

Table 6. CRS Participation (continued)

Community/County	Rating	Premium Discount
Illinois		
Lake County	6	20%
Tinley Park / Will, Cook	6	20%
Des Plaines / Cook	7	15%
Mt. Prospect / Cook	7	15%
Palatine / Cook	7	15%
River Forest / Cook	7	15%
Oak Brook / DuPage	7	15%
Hoffman Estates / Kane, Cook	7	15%
Bartlett / Kane, DuPage, Cook	7	15%
Northbrook / Cook, Lake	7	15%
Country Club Hills / Cook	8	10%
Prospect Heights / Cook	8	10%
Westchester / Cook	8	10%
Riverwoods / Lake	8	10%
Wisconsin		
Kenosha County (FEMA, 2014)	5	25%

Levees

Levees exist in the Des Plaines Watershed to provide some degree of protection against flooding.

The Mount Prospect/Prospect Heights Levee, also known as Levee 37, and the Rand Park Levee, also known as Levee 50, were both constructed as part of U.S. Army Corps of Engineers (USACE) Des Plaines River Phase I Project. Both levees were designed to protect against the 1percentannual-chance flood (USACE, 2014). Levee 37 and Levee 50 were both substantially complete as of April 2012 and December 2009, respectively (Des Plaines, 2014).

The Rand Park Flood Control Project includes a levee, floodwall, closure structures, interior drainage facilities, and associated bike trail features in the city of Des Plaines, Illinois. The levee was constructed by the Illinois Department of Natural Resources and provides protection for the 1 percent annual-chance flood plus a minimum of 2 feet of freeboard per FEMA’s risk-based design considerations. The area protected by the project is predominantly residential with some commercial and industrial development (Des Plaines, Illinois, 2014). The project is currently under review by the Chicago District Corps of Engineers for certification prior to being submitted to FEMA for accreditation (Wobig, March 27, 2014).

The North Libertyville Estates Levee was designed and constructed by the USACE in 1997 to protect the subdivision from flooding from the Des Plaines River. Chronic flooding impacted the subdivision prior to the construction of the levee that is approximately 1 mile long and consists of earthen materials. Flooding has not occurred since the levee was built. The USACE determined the levee provides protection against a 33-year flood event (USACE, 2014). The Lake County Public Works Department is responsible for inspecting, maintaining, operating, and repairing the levee. The USACE performs routine inspections on an annual basis, and conducts an in-depth, periodic inspection every five years (Lake County, 2014).

Lock and Dams

Brandon Road Lock and Dam is 286 miles above the confluence of the Illinois River with the Mississippi river at Grafton, Illinois. The complex is located 27 miles southwest of Chicago and 2 miles southwest of Joliet, Illinois, near Rockdale. The lock is 600 feet long, 110 feet wide. Nominal lift is 34 feet with an average 19-minute fill time, 15-minute emptying time. The dam is 2,391 feet long (exclusive of fixed embankment and river wall). It contains 21 operational Tainter gates (50 feet wide x 2 feet, 3-1/2 inches high), six sluice gates (7 feet, 9 inches wide x 8 feet, five inches high, bulkheaded closed), and 16 pairs of 16-foot high x 15-foot wide headgates (eight operational, eight bulkheaded closed). From the upper limits of the city of Joliet to Brandon Road Lock and Dam, the Illinois Waterway is contained between concrete gravity walls which are from 15 to 40 feet high. The walls extend approximately 3 miles upstream from the lock and dam. Failure of these walls could result in flooding Joliet. Repair of the deteriorated walls and manholes was completed from 1985 to 1988. In 2007, the Corps began a multi-million dollar, multi-year program to repair and reinforce the walls to ensure their continued integrity (USACE, 2012).

The USACE jurisdiction over floodwalls in Joliet begins at the Brandon Road Lock and Dam and ends at Ruby Street. North of Ruby Street the floodwall continues some distance, joining the embankment of the I&M Canal. The ownership of the floodwall above Ruby Street is not known, and the I&M Canal embankments cannot be categorized as a levee and do not meet the requirements of 44CFR 65.10 (Schwartz, December 22, 2008). The flood risk in the City of Joliet is undetermined as of April 2014.

Lockport Lock and Dam is 291.0 miles above the confluence of the Illinois River with the Mississippi river at Grafton, Illinois. The complex is two miles southwest of the city of Lockport, Illinois. The lock is 110 feet wide by 600 feet long. Maximum vertical lift is 42.0 feet, the average lift is 39 feet. It averages 22.5 minutes to fill the lock chamber; 15 minutes to empty. The Lockport Dam consists of the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) lock, powerhouse, and associated controlling works. The MWRDGC, through Congressional action, transferred the maintenance

responsibilities of the substructures and support structures to the Corps in the early 1980s for the roughly 45-foot-high embankment, controlling works, powerhouse substructures, and all pool retention structures. The Corps controls the lock; however, it has no ownership of the controlling works. Rehabilitation of the lock was completed in 1989 at a cost of \$22,681,000. (USACE, 2012)

Floodplain Management/Community Assistance Visits (CAVs)

Community Assistance Contacts (CACs) and Community Assistance Visits (CAVs) are two key methods FEMA uses to identify community floodplain management program deficiencies and violations and to provide technical assistance to resolve these issues. As the state coordinating agency for the National Flood Insurance Program, the Illinois Department of Natural Resources, Office of Water Resources, and the Wisconsin Department of Natural Resources conduct CACs and CAVs as part of their floodplain management programs. A CAV typically consists of a tour of the floodplain to assess any recent construction activities, a review of the local permitting process, and evaluation of the local floodplain ordinance. A meeting with the local floodplain official is held to discuss the NFIP, the local permitting process, any recent flood events, training opportunities, and any program deficiencies.

A CAC can be conducted by a telephone call to the community or a brief visit. The CAC provides a means to establish or re-establish contact with an NFIP community for the purpose of determining any existing problems or issues and to offer assistance if necessary. Table 7 lists the communities in the watershed and the date of their latest CAV or CAC.

Table 7. Recent CAV/CACs

Community	CAV	CAC
Illinois		
Addison, Village of	08/15/11	08/09/95
Antioch, Village of	04/30/02	N/A
Arlington Heights, Village of	12/09/05	09/09/97
Aurora, City of	01/12/12	09/24/96
Barrington, Village of	02/07/96	N/A
Bartlett, Village of	07/20/00	08/27/97
Batavia, City of	01/09/03	09/03/97
Beach Park, Village of	05/04/06	08/29/96
Bedford Park, Village of	N/A	N/A
Bellwood, Village of	05/25/11	09/22/98
Bensenville, Village of	01/19/99	03/22/94
Berkeley, Village of	N/A	N/A
Berwyn, City of	N/A	N/A

Table 7. Recent CAV/CACs (continued)

Community	CAV	CAC
Illinois		
Bloomington, Village of	07/29/03	08/20/98
Bolingbrook, Village of	04/25/03	03/24/94
Bridgeview, Village of	01/13/99	09/11/98
Broadview, Village of	N/A	09/18/98
Brookfield, Village of	03/20/96	N/A
Buffalo Grove, Village of	12/08/05	08/20/97
Burbank, City of	N/A	N/A
Burr Ridge, Village of	08/11/09	01/29/99
Carol Stream, Village of	08/14/03	09/08/97
Channahon, Village of	04/30/03	03/09/93
Chicago, Village of	12/31/97	N/A
Cicero, Town of	N/A	N/A
Clarendon Hills, Village of	06/19/03	09/10/98
Cook County	08/04/11	N/A
Country Club Hills, City of	11/23/98	08/29/97
Countryside, City of	01/23/08	09/08/98
Crest Hill, City of	02/28/03	09/03/97
Darien, City of	05/05/05	N/A
Deer Park, Village of	03/20/08	09/22/97
Deerfield , Village of	07/17/02	09/20/99
Des Plaines, City of	01/24/08	08/02/95
Downers Grove, Village of	11/03/04	09/17/96
DuPage County	01/17/97	N/A
Elk Grove Village, Village of	01/24/07	N/A
Elmhurst, City of	08/13/02	N/A
Elmwood Park, Village of	02/13/96	N/A
Elwood, Village of	N/A	N/A
Forest Park, Village of	N/A	09/21/99
Forest View, Village of	N/A	08/28/98
Frankfort, Village of	11/29/09	08/15/95
Franklin Park, Village of	10/30/07	03/17/94
Geneva, City of	08/07/01	10/22/99
Glen Ellyn, Village of	02/04/09	09/10/96
Glendale Heights, Village of	12/20/06	09/10/97
Glenview , Village of	10/12/10	08/03/95
Grayslake, Village of	02/25/05	N/A

Table 7. Recent CAV/CACs (continued)

Community	CAV	CAC
Illinois		
Green Oaks, Village of	05/03/12	N/A
Grundy County	05/08/02	02/13/08
Gurnee, Village of	07/29/10	N/A
Hanover Park, Village of	05/20/04	08/29/97
Harwood Heights, Village of	N/A	N/A
Hawthorn Woods, Village of	04/11/06	N/A
Hickory Hills, City of	04/16/08	09/03/97
Hillside, Village of	N/A	N/A
Hinsdale, Village of	07/25/03	08/28/97
Hodgkins, Village of	N/A	06/01/99
Hoffman Estates, Village of	08/28/07	09/12/97
Homer Glen Village of,	N/A	N/A
Indian Creek , Village of	N/A	N/A
Indian Head Park, Village of	02/27/96	N/A
Inverness, Village of	N/A	09/10/97
Itasca, Village of	02/03/06	04/26/93
Joliet, City of	09/18/01	N/A
Justice, Village of	04/10/96	09/22/99
Kane County	10/27/04	N/A
Kendall County	11/13/07	N/A
Kildeer, Village of	09/21/04	09/22/98
La Grange Park, Village of	N/A	03/16/94
La Grange, Village of	N/A	N/A
Lake County	N/A	N/A
Lake Forest, City of	07/24/06	09/15/99
Lake Villa, Village of	02/01/08	N/A
Lake Zurich, Village of	02/25/05	09/03/96
Lemont , Village of	06/10/10	N/A
Libertyville, Village of	09/28/07	09/24/97
Lincolnshire, Village of	04/13/05	09/04/96
Lindenhurst, Village of	04/24/06	09/26/96
Lisle, Village of	06/19/03	09/15/98
Lockport, City of	02/24/06	08/10/95
Lombard, Village of	05/25/04	09/10/97
Long Grove, Village of	05/09/06	09/10/96
Lyons, Village of	06/01/01	09/24/99

Table 7. Recent CAV/CACs (continued)

Community	CAV	CAC
Illinois		
Manhattan, Village of	12/02/03	09/10/97
Matteson, Village of	N/A	09/14/99
Maywood, Village of	N/A	09/14/99
McCook, Village of	N/A	09/04/98
Melrose Park, Village of	06/05/01	N/A
Mettawa, Village of	11/21/02	09/30/96
Minooka, Village of	12/29/04	03/23/93
Mokena, Village of	12/17/04	09/02/98
Morton Grove, Village of	07/29/05	07/26/95
Mount Prospect, Village of	03/30/99	03/22/94
Mundelein, Village of	05/02/04	09/24/96
Naperville, City of	07/27/11	N/A
New Lenox, Village of	06/11/03	08/15/95
Niles, Village of	09/21/11	12/08/97
Norridge, Village of	N/A	N/A
North Riverside, Village of	N/A	09/10/97
Northbrook, Village of	N/A	09/15/99
Northlake, City of	02/21/03	09/17/96
Oak Brook, Village of	12/27/06	09/14/98
Oak Forest, City of	06/25/09	05/21/96
Oak Park, Village of	N/A	N/A
Oakbrook Terrace, City of	06/15/04	09/18/97
Old Mill Creek, Village of	11/27/06	09/21/99
Orland Hills, Village of	N/A	06/07/99
Orland Park, Village of	06/27/95	04/04/94
Oswego, Village of	02/24/10	N/A
Palatine, Village of	02/27/03	09/11/96
Palos Heights, City of	01/22/97	09/14/10
Palos Hills, City of	12/11/96	09/01/10
Palos Park, Village of	02/04/98	09/14/10
Park City, City of	04/03/01	09/29/98
Park Ridge, City of	02/23/06	N/A
Plainfield, Village of	06/16/11	07/28/95
Prospect Heights City of,	02/11/98	09/12/97
Richton Park, Village of	N/A	03/31/94
River Forest, Village of	06/11/10	09/04/97

Table 7. Recent CAV/CACs (continued)

Community	CAV	CAC
Illinois		
River Grove, Village of	N/A	08/28/96
Riverside, Village of	03/23/04	N/A
Riverwoods, Village of	01/30/06	03/29/93
Rockdale, Village of	N/A	09/12/97
Rolling Meadows, City of	08/23/01	09/16/97
Romeoville, Village of	04/23/07	09/12/97
Roselle, Village of	N/A	08/08/95
Rosemont, Village of	N/A	09/15/97
Round Lake Beach, Village of	06/20/02	N/A
Round Lake Park, Village of	09/11/01	09/23/97
Schaumburg, Village of	N/A	09/27/99
Schiller Park, Village of	N/A	09/22/98
Shorewood , Village of	02/20/02	08/01/95
St. Charles, City of	11/30/07	09/16/98
Stickney, Village of	N/A	N/A
Stone Park, Village of	03/22/04	09/24/98
Streamwood, Village of	04/28/93	07/21/99
Summit, Village of	N/A	09/22/99
Third Lake, Village of	07/01/10	N/A
Tinley Park, Village of	07/14/04	09/19/96
University Park, Village of	01/25/07	09/21/98
Vernon Hills, Village of	04/26/95	N/A
Villa Park, Village of	11/09/04	07/29/99
Wadsworth, Village of	N/A	09/22/97
Warrenville, City of	08/26/04	N/A
Waukegan, City of	08/25/11	N/A
Wayne, Village of	N/A	N/A
West Chicago, City of	04/12/06	08/04/95
Westchester, Village of	09/24/09	09/16/98
Western Springs, Village of	09/06/00	09/08/97
Westmont, Village of	01/24/02	09/28/98
Wheaton, City of	08/30/11	08/08/96
Wheeling, Village of	02/21/02	09/18/96
Will County	01/29/97	N/A
Willow Springs, Village of	04/09/08	08/01/85
Willowbrook, Village of	08/31/04	09/15/98

Table 7. Recent CAV/CACs (continued)

Community	CAV	CAC
Illinois		
Winfield , Village of	12/13/05	08/20/99
Wood Dale, City of	12/16/04	08/09/96
Woodridge, Village of	N/A	09/22/98
Zion, City of	05/28/03	10/01/99
Wisconsin		
Bristol, Village of	N/A	N/A
Kenosha, City of	08/25/10	05/15/12
Kenosha County	09/30/09	09/20/05
Mount Pleasant, Village of	N/A	N/A
Paddock Lake, Village of	N/A	N/A
Pleasant Prairie, Village of	08/24/10	N/A
Racine County	07/10/90	12/27/93
Union Grove, Village of	N/A	N/A

(FEMA, 2014)

Regulatory Mapping

As part of FEMA’s Map Modernization program, ISWS and WDNR have recently updated several of the countywide Flood Insurance Rate Maps (FIRMs) throughout Illinois and Wisconsin. Many of these maps are effective or in the final stages of map adoption. While these maps are in a digital format, they do not necessarily reflect newer hydrologic or hydraulic study information and therefore may not be the most accurate representation of flood risk within the watershed. Table 8 lists the Digital Flood Insurance Rate Map (DFIRM) status for counties in the Des Plaines watershed.

Table 8. Digital Flood Insurance Rate Map Status

County	Status	Effective Date
Illinois		
Cook County	Effective	08/19/2008
DuPage County	Effective	12/16/2004
Grundy County	Effective	08/02/2012
Kane County	Effective	08/03/2009
Kendall County	Effective	02/04/2009
Lake County	Effective	9/18/2013
Will County	Prelim	N/A

Table 8. Digital Flood Insurance Rate Map Status (continued)

County	Status	Effective Date
Wisconsin		
Kenosha	Effective	06/19/2012
Racine	Effective	05/02/2012

(FEMA, 2014)

IV. Risk MAP Needs and Recommendations

The Illinois Discovery project teams presented the Discovery map and discussed the results of the data collection and analysis with the watershed stakeholders in detail during the Discovery meetings. This section addresses the areas of concern and interest within the Des Plaines watershed that could be addressed with Risk MAP projects.

i. Floodplain Studies

Although Digital Flood Insurance Rate Maps (DFIRMs) have been produced for many of the counties in the Des Plaines HUC 8 watershed, there are still study and mapping needs that exist. Using the Coordinated Needs Management System (CNMS) and input from community stakeholders, ISWS and WDNR have identified several areas where new or updated studies rank highest in terms of need and risk relative to other locations in the Des Plaines HUC8 watershed. The stream segments with highest concern are listed in Table 9 with the effective study type (detailed or approximate). For the Des Plaines River watershed, Figure 3 displays the Streams of Concern for the northern part of watershed and Figure 4 displays the Streams of Concern for the southern part of the watershed.

The goal of the floodplain mapping program is to have a high quality, model-based floodplain mapped for all streams that drain greater than 1 square mile. While the mapping needs listed in the following table are the highest priority stream reaches for modeling, there are other mapping needs that also need to be included in any project proposed for this basin. These needs are fully documented in CNMS. Appendix G lists the additional mapping needs required to meet this goal.

Table 9. Mapping Needs

CNMS Reach ID	Stream Name	Length (Mi)	County	CID	Effective Study Type	Recommended Study Type
170970100006	Buffalo Creek	1.10	Lake	170376	Detailed	Detailed
171970100005	Du Page River	25.82	Will	170695	Detailed	Detailed
170310100086	Feehanville Ditch	0.90	Cook	170081	Detailed	Detailed
171970100094	Hickory Creek	1.81	Will	170702	Detailed	Detailed
170310100151	McDonald Creek	1.30	Cook	170129	Detailed	Detailed
171970100093	Rock Run North	1.77	Will	170699	Detailed	Detailed
170310100238	Silver Creek (Downstream)	2.41	Cook	170125	Detailed	Detailed
170310100237	Silver Creek (Upstream)	2.25	Cook	170094	Detailed	Detailed
171970100091	Spring Creek	1.85	Will	170702	Detailed	Detailed
171970100060	St Anne School Tributary	0.85	Will	170699	Detailed	Detailed
171970100061	St Francis Academy Creek	0.71	Will	170699	Detailed	Detailed
170310100055	Crystal Creek	2.34	Cook	170159	Detailed	Detailed
170970100120	Third Lake	0.51	Lake	170392	Detailed	Detailed
170310100003	63Rd Street Ditch	0.56	Cook	170071	Detailed	
170310100008	Addison Creek	8.56	Cook	170134	Detailed	
170430100004	Addison Creek (Dpac)	1.26	DuPage	170200	Detailed	
170430100005	Addison Creek Tributary No. 1 (Dpac)	0.29	DuPage	170200	Detailed	
170430100006	Addison Creek Tributary No. 2 (Dpac)	1.48	DuPage	170197	Detailed	
170430100007	Addison Creek Tributary No. 3 (Dpac)	1.55	DuPage	170200	Detailed	

170310100297	Area Bounded By 95Th Street To The South, 93Rd Street To The North, And Kean Avenue To The West	0.18	Cook	170103	Detailed	
170310100414	Belly Deep Slough	0.80	Cook	170054	Approximate	
170430100009	Bensenville Ditch (Dpbd)	1.15	DuPage	170200	Detailed	
170310100012	Buffalo Creek	0.99	Cook	170068	Detailed	
170970100004	Buffalo Creek	0.90	Lake	170068	Detailed	
170970100005	Buffalo Creek	6.48	Lake	170380	Detailed	
170970100007	Buffalo Creek	0.47	Lake	170357	Detailed	
170970100099	Bull Creek	1.47	Lake	170357	Detailed	
170970100135	Bull Creek	3.53	Lake	170382	Detailed	
170970100178	Bull Creek	0.43	Lake	170357	Approximate	
170970100098	Bull Creek Tributary	2.34	Lake	170357	Detailed	
171970100314	Chicago Sanitary And Ship Canal	9.08	Will	170695	Approximate	
171970100319	Deep Run	3.57	Will	170695	Approximate	
171970100096	Des Plaines River	3.72	Will	170702	Detailed	
171970100095	Du Page River	2.38	Will	170712	Detailed	
170310100079	Dupage River West Branch	2.13	Cook	170099	Detailed	
170310100080	Dupage River West Branch	1.66	Cook	170158	Detailed	
170310100081	East Avenue Ditch	0.90	Cook	170079	Detailed	
171970100006	East Branch Du Page River	0.74	Will	170812	Detailed	
171970100010	East Norman Drain	1.01	Will	170771	Detailed	
170310100085	Farrington Ditch	0.10	Cook	170068	Detailed	
170970100018	Farrington Ditch	0.30	Lake	170068	Detailed	
170310100087	Feehanville Ditch	0.94	Cook	170129	Detailed	

170310100456	Feehanville Ditch	0.32	Cook	170096	Detailed	
170430100019	Ferry Creek (Wbfe)	3.87	DuPage	170218	Detailed	
171970100012	Fiddymment Creek	2.02	Will	170695	Detailed	
170310100092	Flag Creek	1.76	Cook	170171	Detailed	
170310100483	Flag Creek	0.35	Cook	170105	Approximate	
170310100098	Flag Creek, Tributary C	0.06	Cook	170071	Detailed	
170430100315	George Street Reservoir	0.47	DuPage	170200	Detailed	
170310100104	Golf Course Tributary	0.84	Cook	170089	Detailed	
170970100025	Gurnee Tributary	1.34	Lake	170365	Detailed	
171970100016	Hammel Creek	2.15	Will	170712	Detailed	
171970100329	Hammel Creek	1.04	Will	170712	Approximate	
171970100017	Hammel Creek Tributary	0.28	Will	170712	Detailed	
170970100027	Hastings Creek	6.53	Lake	170357	Detailed	
171970100018	Hickory Creek	12.79	Will	170695	Detailed	
171970100330	Hickory Creek Tributary 1	1.96	Will	170695	Approximate	
170310100409	Illinois And Michigan Canal	4.43	Cook	170117	Approximate	
170310100410	Illinois And Michigan Canal	7.08	Cook	170054	Approximate	
171970100348	Illinois And Michigan Canal	9.87	Will	170698	Approximate	
171970100349	Illinois And Michigan Canal	9.96	Will	170695	Approximate	
170310100116	Illinois And Michigan Canal Tributary D	0.52	Cook	170174	Detailed	

170970100030	Indian Creek	4.02	Lake	170380	Detailed	
170970100031	Indian Creek	0.55	Lake	170378	Detailed	
170970100032	Indian Creek	7.66	Lake	170357	Detailed	
170430100024	Klein Creek Tributary No. 2 (Wbkc)	0.46	DuPage	170202	Detailed	
170430100061	Kress Creek (Wbkr)	8.49	DuPage	170219	Detailed	
171970100030	Lily Cache Creek	3.56	Will	170812	Detailed	
171970100031	Lily Cache Creek	3.12	Will	170812	Detailed	
170310100131	Long Run	2.47	Cook	170140	Detailed	
171970100036	Long Run	5.80	Will	171080	Detailed	
170310100155	McDonald Creek North Branch	1.35	Cook	170056	Detailed	
170310100156	McDonald Creek South Branch	0.34	Cook	170056	Detailed	
170310100168	Mill Creek	0.61	Cook	170140	Detailed	
170970100042	Mill Creek	12.95	Lake	170357	Detailed	
171970100040	Milne Creek	1.70	Will	170703	Detailed	
171970100044	Naperville Road Tributary	0.39	Will	170812	Detailed	
171970100045	Naperville Road Tributary	0.44	Will	170812	Detailed	
170970100104	North Branch Bull Creek Tributary	0.29	Lake	170357	Detailed	
170430100026	North Unnamed Creek (Dpwl)	0.60	DuPage	170200	Detailed	
170430100407	Np	3.67	DuPage	170213	Approximate	
170430100423	Np	0.28	DuPage	170197	Approximate	
171970100264	Np	0.31	Will	170712	Approximate	
171970100286	Np	2.87	Will	170699	Approximate	
171970100049	Robin Hill Drive Split Flow	0.31	Will	170712	Detailed	

171970100050	Rock Run North	7.56	Will	170702	Detailed	
171970100053	Rock Run Tributary No. 1	1.12	Will	170702	Detailed	
171970100054	Rock Run Tributary No. 2	1.33	Will	170702	Detailed	
171970100055	Rock Run Tributary No. 3	1.77	Will	170702	Detailed	
170310100199	Salt Creek (Lower Reach)	7.33	Cook	170054	Detailed	
170310100201	Salt Creek (Lower Reach)	1.59	Cook	170088	Detailed	
170310100208	Salt Creek (Upper Reach)	10.46	Cook	175170	Detailed	
170310100218	Salt Creek Tributary C	2.00	Cook	175170	Detailed	
170310100219	Salt Creek Tributary D	2.80	Cook	170158	Detailed	
170310100220	Salt Creek West Branch	7.12	Cook	170158	Detailed	
170310100433	Salt Creek West Branch	0.14	Cook	170158	Approximate	
170310100224	Salt Creek West Branch Tributary 3	1.62	Cook	170158	Detailed	
170310100435	Salt Creek West Branch Tributary 3	0.18	Cook	170158	Approximate	
170310100533	Salt Creek West Branch Tributary 3	0.08	Cook	170158	Detailed	
170310100225	Salt Creek West Branch Tributary 4	0.74	Cook	170158	Detailed	
170310100226	Salt Creek West Branch Tributary 5	0.40	Cook	170158	Detailed	
170310100529	Salt Creek West Branch Tributary 5	0.09	Cook	170158	Approximate	

170310100227	Salt Creek West Branch Tributary 6	1.20	Cook	170158	Detailed	
170310100530	Salt Creek West Branch Tributary 6	0.42	Cook	170158	Detailed (0.2% Chance)	
170310100228	Salt Creek West Branch Tributary 7	1.10	Cook	170088	Detailed	
170310100520	Salt Creek West Branch Tributary 7	0.06	Cook	170088	Detailed	
170310100434	Salt Creek West Branch Tributary A	0.70	Cook	170107	Approximate	
170310100211	Salt Creek, Arlington Heights Branch	8.76	Cook	175170	Detailed	
170310100212	Salt Creek, Arlington Heights Branch, Anderson Drive Tributary	0.78	Cook	175170	Detailed	
170310100532	Salt Creek, Arlington Heights Branch, Anderson Drive Tributary	0.75	Cook	175170	Detailed	
170970100058	Seavey Drainage Ditch	1.71	Lake	170394	Detailed	
170970100060	Seavey Drainage Ditch	2.99	Lake	170394	Detailed	
170970100066	South Branch Indian Creek	4.96	Lake	170380	Detailed	
170970100070	South Fork Gurnee Tributary	0.27	Lake	170357	Detailed	

170970100071	South Fork Gurnee Tributary	0.79	Lake	170365	Detailed	
170970100126	South Fork Gurnee Tributary	0.67	Lake	170386	Detailed	
170970100073	South Fork Tributary B To Buffalo Creek	0.15	Lake	170371	Detailed	
170430100032	South Unnamed Creek (Dpwl)	1.24	DuPage	170200	Detailed	
171970100396	Spring Brook No. 2	3.21	Will	170213	Approximate	
170430100033	Spring Brook No. 2 (Dusg)	5.90	DuPage	170197	Detailed	
171970100057	Spring Creek	10.79	Will	170695	Detailed	
171970100059	Springhole Creek	0.26	Will	170695	Detailed	
170970100078	Suburban County Club Tributary	4.56	Lake	170397	Detailed	
171970100062	Sugar Run	5.32	Will	170695	Detailed	
171970100380	Sunnyland Drain	0.49	Will	170699	Approximate	
171970100064	Sunnyland Drain Tributary	0.66	Will	170702	Detailed	
171970100066	Thorne Creek	0.32	Will	170710	Detailed	
171970100090	Thorne Creek	1.38	Will	170702	Detailed	
170970100083	Tributary A To Buffalo Creek	0.65	Lake	170357	Detailed	
170970100085	Tributary B To Buffalo Creek	2.83	Lake	170371	Detailed	
170970100086	Tributary No. 1	2.01	Lake	170357	Detailed	
170970100087	Tributary To Aptakistic Creek	0.57	Lake	170068	Detailed	
170970100089	Tributary To South Branch Indian Creek	0.85	Lake	170380	Detailed	

171970100406	Union Drainage Ditch	3.64	Will	170169	Approximate	
170430100036	Unnamed Creek (North Of 22Nd Street) (Ebts)	1.07	DuPage	170212	Detailed	
171970100072	Unnamed Creek (South Of 87Th Street)	0.59	Will	170213	Detailed	
170430100035	Unnamed Creek (South Of 87Th Street) (Wbfx)	0.19	DuPage	170213	Detailed	
170310100341	Unnamed Ponding Area Bound By Sunnyside Ave On The East Side, Bedford St On The South Side, Halifax*	0.35	Cook	170170	Detailed (AO)	
170430100138	Unnamed Ponding Area Located 375' Nw Of The Intersection Of Valley Rd And Witt Ct	0.08	DuPage	170212	Detailed	
171970100135	Unnamed Ponding Areas Bound By The Des Plaines River In The West, Hickory Creek To The South, Easte*	3.25	Will	170702	Detailed (AO)	
170430100037	Unnamed Stream (South Of Foxcroft Road) (Wbfx)	0.71	DuPage	170213	Detailed	

170430100084	Unnamed Tributary To Kess Creek (Wbkr)	2.63	DuPage	170219	Detailed	
170310100344	Virginia Lake	0.24	Cook	175170	Detailed	
170310100271	Weller Creek	5.99	Cook	170081	Detailed	
170970100105	West Branch Bull Creek Tributary	0.24	Lake	170357	Detailed	
171970100083	West Branch Du Page River	0.54	Will	170213	Detailed	
170430100040	West Branch Dupage River (Wbwb)	29.38	DuPage	170197	Detailed	
170310100275	White Pine Ditch	1.03	Cook	170068	Detailed	
170430100049	Winfield Creek (Wbwf)	6.36	DuPage	170221	Detailed	

Figure 3 displays the Streams of Concern for the northern portion of the Des Plaines River watershed, and Figure 4 displays the Stream of Concern for the southern portion.

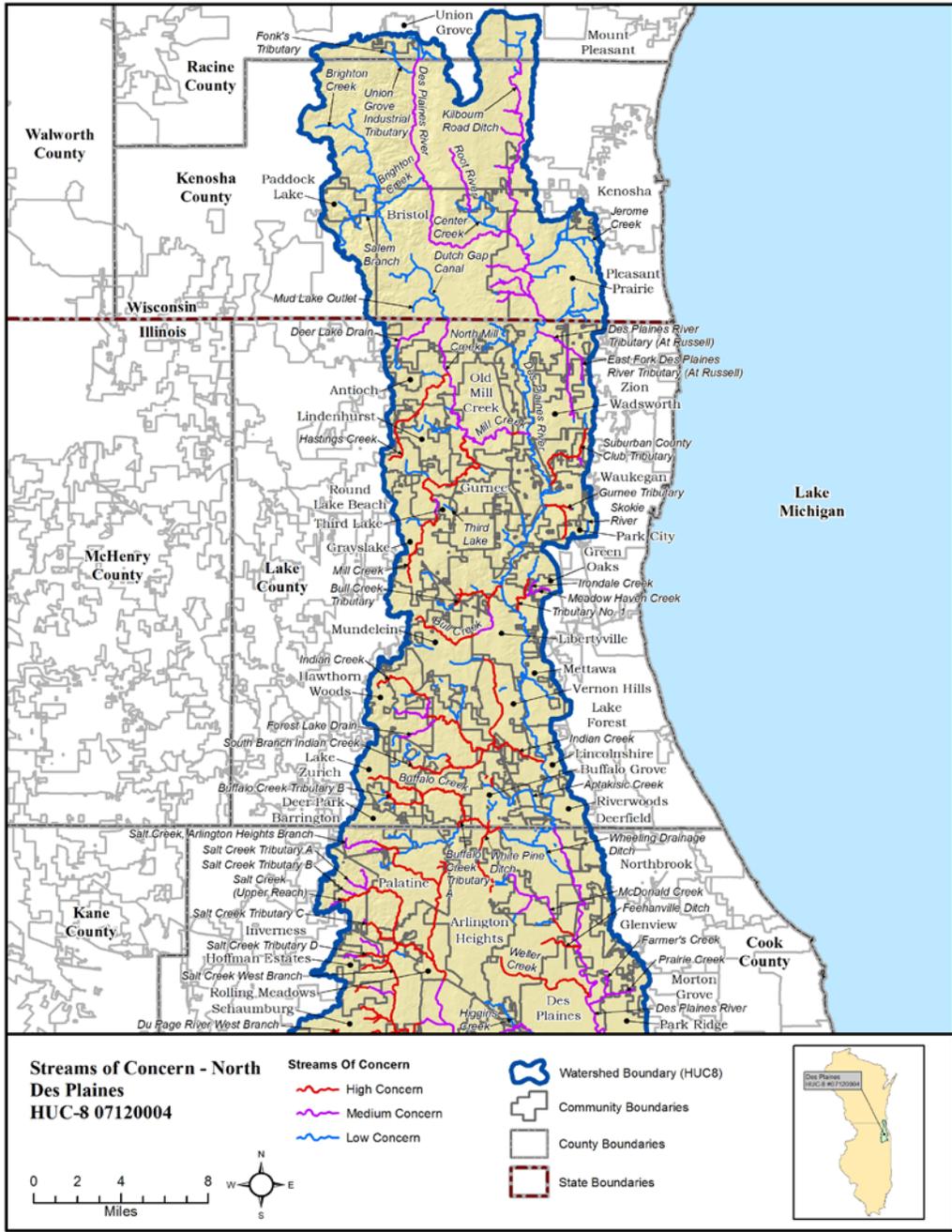


Figure 3. Streams of Concern - North

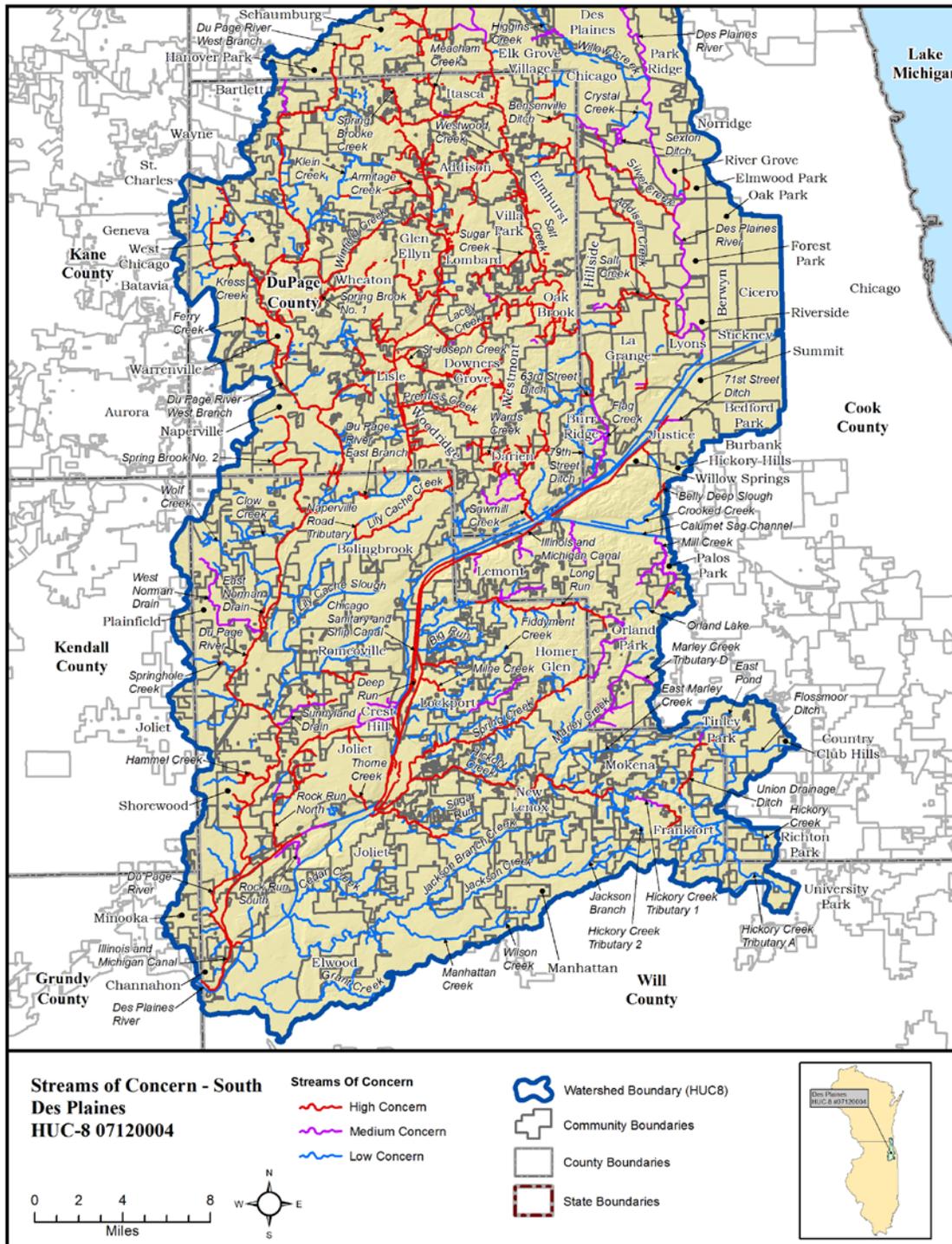


Figure 4. Streams of Concern – South

ii. Mitigation Projects

In the Discovery meetings, community stakeholders identified several possible locations in which mitigation projects could reduce the impacts of flooding. Topics of mitigation interest included levees, roads that frequently flood, significant riverine erosion, at-risk essential facilities, stream flow constriction, and recent and/or future development. Table 10 lists the mitigation projects identified during the Discovery meetings.

Table 10. Mitigation Projects

Community	Subject(s)	Project	Status	Comment Number
Illinois				
Channahon	Structure and Infrastructure	Additional spillway to Channahon Dam on DuPage River	In Progress	26A
Channahon	Structure and Infrastructure	New saddle dam adjacent o Channahon Dam Spillway	In Progress	26B
Bartlett	Flood control\management	Overtopping of West Branch DuPage River along South Bartlett Road, south of Stuckman Boulevard	Identified	1
Lockport	Flood control\management	Overtopping of Long Run Creek at 135th and S. Archer Ave	Identified	32
Frankfort	Flood control\management	Overtopping of Hickory Creek Tributary 1 at 95th Avenue and Route 30	Identified	44
Shorewood	Flood control\management	Flooding of Hammel Woods at DuPage River Dam	Identified	46A
Shorewood	Acquisition	FEMA grant and village funds purchased homes in floodplain and demolition took place	Completed	46C
Shorewood	Flood Control\management	Homes along Valencia Drive flooded by DuPage River	Identified	46F
Shorewood	Flood control\management	Overtopping of DuPage River at South River Road \West Mound Road.(215 th Street)	Identified	46G
Shorewood	Flood control\management	Overtopping of DuPage River at Seil Road	Identified	46H
Will County	Flood control\management	Correct overtopping of Prairie Creek at South Center Road\West Kurse Road	Identified	53
Will County	Flood control\management	Overtopping of Unnamed Tributary to Hickory Creek Tributary A at South 88th Avenue south of Steiger Road	Identified	53
Will County	Flood control\management	Overtopping of Tributary to Prairie Creek at Dralle Road east of South Center Road	Identified	53

Table 10. Mitigation Projects (continued)

Community	Subject(s)	Project	Status	Comment Number
Illinois				
Crest Hill	Flood control\management	Overtopping of Rock Run North at Broadway Street, Oakland Avenue, Weber Road, Plainfield Road, Theodore Street, west of Gaylord Road, Essington Road and Black Road	Identified	79
Romeoville	Flood control\management	Overtopping Des Plaines River at 135th /Romeoville Road	Identified	60
Lockport	Erosion control\soil stabilization	Major erosion problems along Miline Creek downstream of Division Street	Identified	21B
Lockport	Flood control\management	Flooding of Tributary to Fraction Run at Arrow Head Drive	Identified	21C
Frankfort	Erosion Control\Soil Stabilization	Stream bank erosion Hickory Creek Tributary 1 at Ironwood Drive, Vail Drive and Indiana Court	Identified	Meeting follow-up comment letter
Frankfort	Flood control\management	Overtopping Jackson Creek at Steger Road from Scheer Road to Route 45	Identified	Meeting follow-up comment letter
Frankfort	Flood control\management	Flooding along Hickory Creek Tributary 1 at 95th Avenue\Route 30 to Cambridge Court	Identified	Meeting follow-up comment letter
Frankfort	Flood control\management	Flooding Hickory Creek Tributary 2 at Route 45- Canadian National Railroad tracks	Identified	Meeting follow-up comment letter
Frankfort	Erosion Control\Soil Stabilization	Stream bank erosion -unnamed, unmarked tributary to Rock Run, north between Gaylord Road and Jasmine Drive and upstream	Identified	Meeting follow-up comment letter
Crest Hill	Erosion Control\Soil Stabilization	Stream bank erosion- Sunnyland Drain upstream of Gaylord Road	Identified	Meeting follow-up comment letter
Crest Hill	Erosion Control\Soil Stabilization	Stream bank erosion -unnamed, unmarked tributary to Rock Run North between Gaylord Road and Jasmine Drive and upstream	Identified	Meeting follow-up comment letter
Crest Hill	Erosion Control\Soil Stabilization	Stream bank erosion-St. Anne School Tributary Heiden Avenue, downstream of Pleasant Avenue	Identified	Meeting follow-up comment letter

Table 10. Mitigation Projects (continued)

Community	Subject(s)	Project	Status	Comment Number
Illinois				
Crest Hill	Erosion Control\Soil Stabilization	Stream bank erosion - St. Francis Academy upstream of Knapp Drive	Identified	Meeting follow-up comment letter
Crest Hill	Flood control\management	Overtopping Tributary A of the Des Plaines River at Broadway Street	Identified	Meeting follow-up comment letter
Buffalo Grove	Flood control\management	Basement flooding along Chevy Chase Drive Tributary to William Rogers Memorial Diversion Channel	Identified	14
Green Oaks	Flood control\management	Overtopping of Irondale Creek Culvert at west end of Woodview Drive	Identified	33A
Green Oaks	Flood control\management	Overtopping of Irondale Creek Culvert at Guerin Road west of Irondale	Identified	33B
Gurnee	Flood control\management	Overtopping Des Plaines River at IL Route 132 between IL Route 21 and US Route 41	identified	47A
Gurnee	Flood control\management	Overtopping Des Plaines River at US Route 41 (North Skokie Highway) between Delany Road and IL Route 21	identified	47B
Gurnee	Flood control\management	Overtopping of Des Plaines River at US Route 120 between IL Route 21 and I-94	identified	47C
Kildeer	Flood control\management	Overtopping of Tributary B to Buffalo Creek at North Grove Drive	Identified	9A
Kildeer	Flood control\management	Overtopping of Tributary B to Buffalo Creek at Buffalo Run Road	Identified	9B
Lake Zurich	Flood control\management	Overtopping of Buffalo Creek at Riley Road upstream of Quentin Road	Scoped	5
Long Grove	Flood control\management	Heron Creek Forest Preserve\ South Branch Indian Creek, potential land for flood water storage	Identified	72
Mundelein	Erosion Control\Soil Stabilization	Diamond Lake siltation	Identified	74
Wadsworth	Flood control\management	Basement flooding- West Elm Lane\ North Delany Road- retention pond with no outlet	Identified	67
Wadsworth	Flood control\management	Overtopping Des Plaines River Tributary at Russell at North Delany Road and 9th Street	Identified	80

Table 10. Mitigation Projects (continued)

Community	Subject(s)	Project	Status	Comment Number
Illinois				
Addison	Acquisition	Salt Creek Buyouts - Villa Avenue north of North Fullerton Avenue	Identified	103C
Addison	Acquisition	Westwood Creek Buyouts - downstream Hwy 20	Identified	103D
Addison	Erosion Control\Soil Stabilization	Westwood Creek streambank stabilization - upstream Hwy 20	Identified	103E
Addison	Flood control\management	Overtopping Westwood Creek at Mill Road and Green Oaks	Identified	49
Addison	Flood control\management	Overtopping Westwood Creek at Diversity Ave and La Londe Avenue	Identified	49
Addison	Flood control\management	Overtopping Salt Creek at Villa Ave north of Fullerton Avenue	Identified	49
Addison	Flood control\management	Overtopping Salt Creek\Westwood Creek confluence at Addison Road\ Byron Avenue	Identified	49
Addison	Flood control\management	Overtopping Tributary to East Branch Du Page River- Swift Road north of Fullerton Avenue	Identified	49
Bensenville	Erosion Control\Soil Stabilization	Stream bank stabilization\Willow Creek Tributary #1 from United Lane to York Road	Identified	69
Bensenville	Erosion Control\Soil Stabilization	Stream bank erosion \ Willow Creek Tributary #3 Bryn Mawr Avenue to Thomas Drive	Identified	104
Bloomingtondale	Erosion Control\Soil Stabilization	Stream bank erosion - Spring Brook Creek at Lake Street US 20 \ Fairfield Way	Identified	1D
Bloomingtondale	Erosion Control\Soil Stabilization	Stream bank erosion - Spring Brook Creek east of North Circle Avenue	Identified	1D
Carol Stream	Acquisition	Klein Creek buyouts at Illini Drive and Silverleaf Boulevard	Completed	20B
Carol Stream	Erosion Control\Soil Stabilization	Stream bank erosion along Klein Creek and Thunderbird Creek (Klein Creek Tributary #2)	Identified	24
Downers Grove	Flood Control \ Management	Flood storage area created in Washington Park	Completed	110
Hanover Park	Flood Control\Management	2014 IDOT Project to raise bridge and roadway to eliminate overtopping West Branch Du Page River at Lake Street/Greenbrook Boulevard	Scoped	69
Itasca	Flood Control\Management	Residential flooding \ undersized culvert \ South Branch Tributary No. 3 at Thorndale Avenue east of I-290	Identified	104

Table 10. Mitigation Projects (continued)

Community	Subject(s)	Project	Status	Comment Number
Illinois				
Lisle	Erosion Control\Soil Stabilization	Stream bank erosion East Branch Main Stem between I-88 and Ogden Avenue	Identified	1D
Lisle	Erosion Control\Soil Stabilization	Significant erosion along St. Joseph Creek between Ogden and BN Railroad	Identified	1D
Willowbrook	Flood Control\Management	Roadway flooding 63rd Street\Western Avenue and Bentley Avenue	Identified	46
Winfield	Flood Control\Management	Overtopping West Branch Tributary No 5 at Highlake Road	Identified	20A
Winfield	Flood Control\Management	Overtopping Winfield Creek at Liberty and Beecher Streets	Identified	20B
Wood Dale	Flood Control\Management	Overtopping Salt Creek south of West Irving Park Road	Identified	24
Westchester	Flood Control\Management	Expansion of Mayfair Reservoir and check valves on Carlisle outfall pipe to Salt Creek.	Scoped	35
Burr Ridge	Flood Control\Management	Yale at Flag Creek Bridge over Flagg Creek, (south of 79th Street, North of 83rd Street) overtops regularly and causes a flood condition upstream.	Identified	40
Chicago	Flood Control\Management	Basement Flooding	Identified	48
Chicago	Flood Control\Management	Central Road storm system too small; detention needed	Identified	51
Lemont \ Cook County	Flood Control\Management	Main and Kolin Streets; Low area that floods constantly due to a collapsed drainage pipe.	Identified	5B
Lemont \ Chicago\Cook County	Stream Maintenance	Des Plaines River RR Bridge Stream Debris Clean Up	Identified	5A
Franklin Park	Flood Control\Management	Sewer Separation	In Progress	122
Franklin Park	Acquisition	Home Buyouts	Scoped	118
Franklin Park	Flood Control\Management	Embankment Regrading and Culvert Replacement Project	Scoped	120
Franklin Park	Flood Control\Management	Remapping Project Area\Numerous LOMCs	Identified	121
Franklin Park	Flood Control\Management	Detention Project	Identified	52
Cook County	Acquisition or Elevate	Maine Township – Prairie Farmers Creek \ Significant first floor flooding of homes September 2008	Identified	58

Table 10. Mitigation Projects (continued)

Community	Subject(s)	Project	Status	Comment Number
Illinois				
Cook County	Acquisition or Elevate	Leyden Township - Silver Creek \ Approximately 60 homes had first floor flooding April 2013.	Identified	58
Cook County	Elevate	Elevate Grey Lynn Road	Completed	59; 10; 209
Cook County	Acquisition	Wheeling Township Buyouts	Identified	59; 10; 209
Cook County	Elevate	Elevate River Road	Identified	59; 10; 209
Glenview	Flood Control\ Management	Drainage Project	Identified	148
Cook County \ Glenview	Flood Control\ Management	Separate Sewer Areas/Combined Sewer Areas	Scoped	76
Glenview \ Justice	Flood Control\ Management	Culvert Project	Identified	101A; 101B
Forest View	Flood Control\ Management	Des Plaines River \ Railroad Trestle Streamflow Constriction	Identified	14A
Forest View	Flood Control\ Management	Overtopping Des Plaines River at Lyons Levee	Identified	14A
Schiller Park	Flood Control\ Management	Industrial Tributary \ Undersized culvert creates upstream flooding.	Identified	20
Willow Springs	Flood Control\ Management	Flagg Creek- Flagg Creek Tributary \ Overtopping at Orchard Street and Maple Avenue	Identified	102
Hickory Hills	Flood Control\ Management	Increase detention at Prairie Pond on South 82nd Avenue.	Identified	15A
Hickory Hills	Flood Control\ Management	Increase the existing retention pond at 8430 South 85th Court.	Identified	15B
Hickory Hills	Flood Control\ Management	Increase the existing retention pond at Archer Woods\ 8300 South Kean Avenue	Identified	15C
Hickory Hills	Flood Control\ Management	Flooding Cook County Forest Preserve drainage ditch at 9200 South Kean Avenue	Identified	15D
Hickory Hills	Flood Control\ Management	Expand the existing City Retention with new retention pond on north side 9200 W 95th Street	Identified	15E
Hickory Hills	Flood Control\ Management	Expand the existing detention pond at Hickory Hills \ Pump House #2 9400 South 88th Avenue	Identified	15F
Hickory Hills	Flood Control\ Management	Expand the existing detention pond southeast of the Hill Creek Shopping Center 9500 South 88th Ave	Identified	15G
Hickory Hills	Flood Control\ Management	Redesign the existing retention area at Hickory Woods 8500 W. 95th Street-excessive erosion	Identified	15H

Table 10. Mitigation Projects (continued)

Community	Subject(s)	Project	Status	Comment Number
Illinois				
Hickory Hills	Flood Control\Management	Proposed retention\detention on Hickory Hills Golf Course 8300 W. 95th Street	Identified	15I
Hickory Hills	Flood Control\Management	Overtopping of Roberts Road from 87th Street	Identified	15J
Hickory Hills	Flood Control\Management	Proposed detention pond 9700 S. 76th Avenue	Identified	15K
Prospect Heights	Flood Control\Management	Overtopping of Des Plaines River at Burning Bush\Old Willow\Apple Road and Milwaukee River Road	Identified	63-1
Prospect Heights	Flood Control\Management	Overtopping of the Des Plaines River- Chicago Executive Airport	Identified	63-2
Prospect Heights	Flood Control\Management	Overtopping of Des Plaines River and McDonald Creek at Wolf Road, Camp McDonald and Patricia Road	Identified	63-3
Prospect Heights	Flood Control\Management	Study of Tributary B to McDonald Creek	Completed	63-4
Prospect Heights	Flood Control\Management	Flooding between Leon Lane, West Grego Court and Camp McDonald Road - area not in SFHA	Identified	63-5
Prospect Heights	Flood Control\Management	Overtopping of McDonald Creek Tributary A at N. Elmhurst Road (IL83) south of Marion Ave	Identified	63-6
Prospect Heights	Flood Control\Management	Overtopping of Cresthill Lake and slough east of N. Elmhurst Road (IL83) and north of Hillside Ave.	Identified	63-7
Prospect Heights	Flood Control\Management	Overtopping of McDonald Creek Tributary A at Elm Street between Willow Road and Camp McDonald Road	Identified	63-8
Prospect Heights	Flood Control\Management	Overtopping of McDonald Creek Tributary A at Windsor Avenue, Camp McDonald Road, Rand Road and Olive Road	Identified	63-9
Prospect Heights	Flood Control\Management	Overtopping of McDonald Creek at the Derbyshire Ponds, Derbyshire Lane.	Identified	63-10
Prospect Heights	Flood Control\Management	Flooding of Robert Avenue between School and Elmhurst Streets	Identified	63-11
Prospect Heights	Flood Control\Management	Flooding of Elmhurst Road, Drake Terrace, Drake Avenue and Eleanor Road	Identified	63-12
Prospect Heights	Flood Control\Management	Overtopping of McDonald Creek at Wildwood Drive North, East, South and West	Identified	63-13

Table 10. Mitigation Projects (continued)

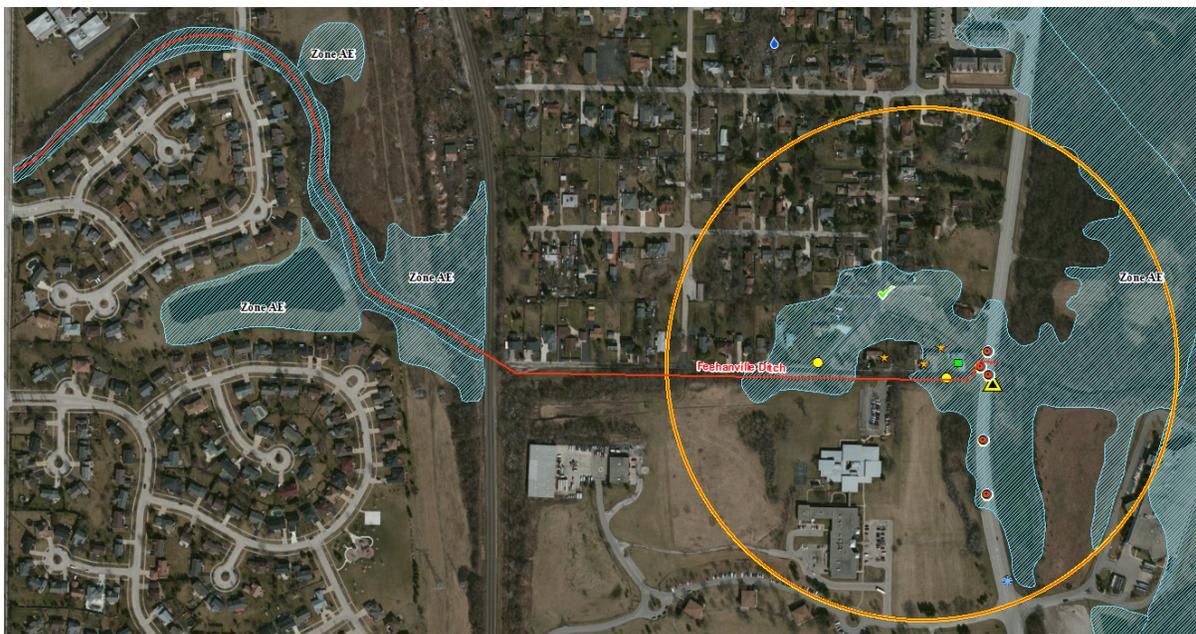
Community	Subject(s)	Project	Status	Comment Number
Illinois				
Prospect Heights	Flood Control\ Management	Overtopping of retention area north of Cherry Creek Road and adjacent to McDonald Creek	Identified	63-14
Prospect Heights	Flood Control\ Management	Flooding of Lancaster Avenue and Frankie Court- not within SFHA	Identified	63-15
Prospect Heights	Flood Control\ Management	Flooding of Etowah and Minaqua Avenues-not within SFHA	Identified	63-16
Prospect Heights	Flood Control\ Management	Overtopping of McDonald Creek at Spruce and Glendale Drives	Identified	63-17
Prospect Heights	Flood Control\ Management	Flooding of Wheeling Road, Shawn Lane, Claire Lane - not within SFHA	Identified	63-18
Prospect Heights	Flood Control\ Management	Overtopping of McDonald Creek at Coldren Drive	Identified	63-19
Prospect Heights	Flood Control\ Management	Flooding Circle East between Elaine and Greco- not in SFHA	Identified	63-20
Prospect Heights	Flood Control\ Management	Flooding at Metra train station east of S. Wolf Drive at Edwards Road- not in SFHA	Identified	63-21
Prospect Heights	Flood Control\ Management	Flooding of area adjacent to Winkleman Road east of the Des Plaines River - not in SFHA	Identified	63-22
Palos Hills	Flood Control\ Management	Overtopping of Lucas Ditch Extension; W. 99th Pl to 102nd Street flooded.	Identified	19
Oak Park	Flood Control\ Management	Basement flooding NE quadrant of Oak Park	Identified	57
Western Springs	Flood Control\ Management	Flooded homes in Western Springs at intersection of - Hampton and Hillgrove\ Hampton and 39 th Street\ Central and 47th Street."	Identified	Meeting follow-up email
Wisconsin				
Kenosha County Wisconsin	Flood control\management	Basement flooding due to undersized culvert. The floodplain is larger than mapped, and mapped floodway is needed.	Identified	29
Kenosha, WI	Flood control\management	100 year event overtops 84th Street-Tributary #1 to Hooker Lake. T1W, R20E, Section 11, SW1/4	Identified	6

Community Mitigation Projects

Following the Discovery meetings comments were reviewed and additional community outreach was conducted to help identify high priority community mitigation projects within the Des Plaines River watershed area. The high priority mitigation projects are described in the following narratives.

Feehanville Ditch – Wheeling Township, Cook County

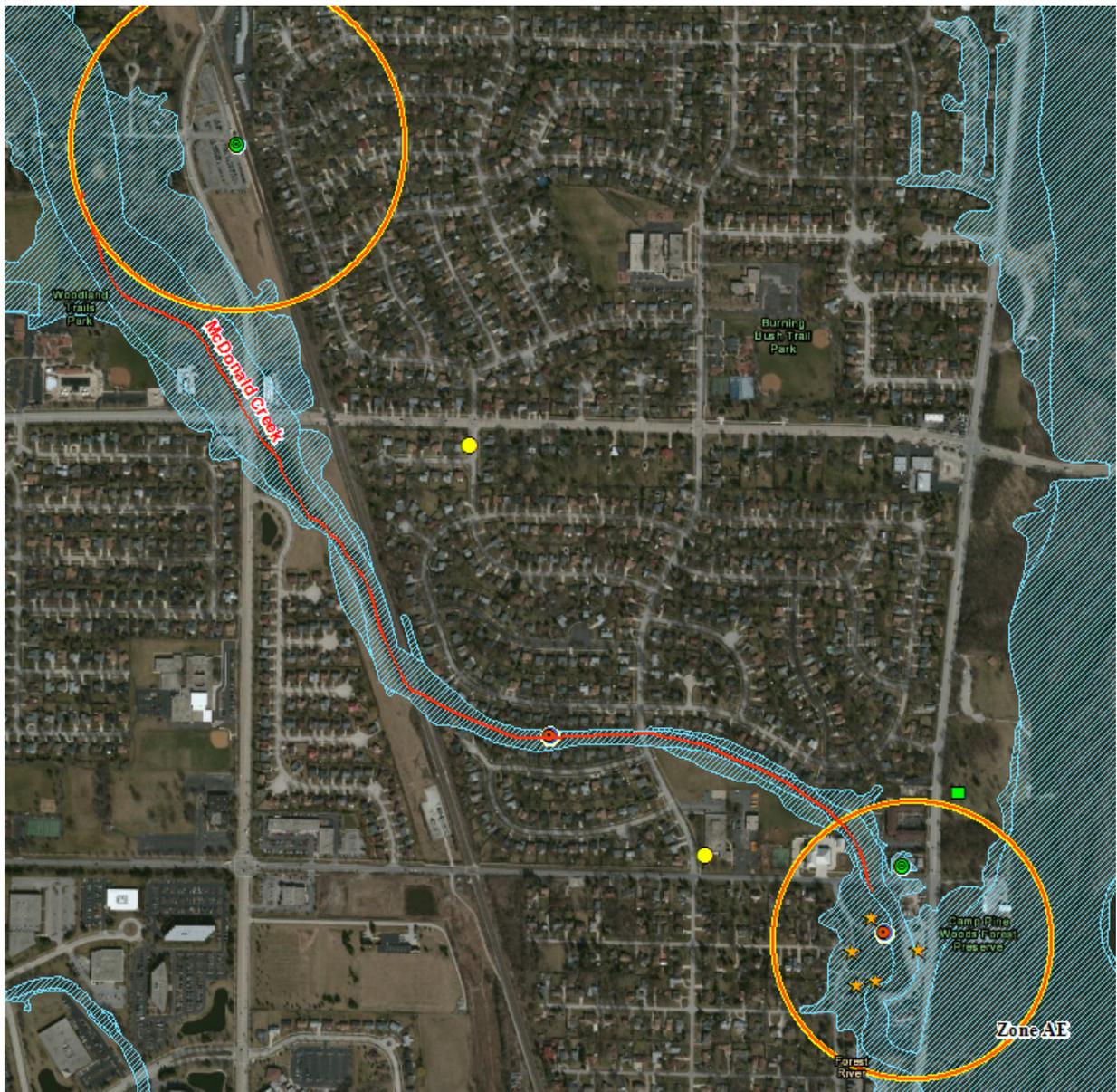
Feehanville Ditch, located in Wheeling Township, Cook County, is classified as an unverified detailed study in CNMS. The Flood Insurance Rate Maps (FIRMs) show the area as a Zone AE from engineering models completed in June 1978. Discovery comments indicate that there have been successful home buyouts in the area, however there are still areas of repetitive loss properties, mostly in the area upstream of Des Plaines River Road. Also contributing to flooding in the area is backflow from the Feehanville Ditch outlet located in a subdivision. According to the Wheeling Township Highway Commissioner, repetitive loss buyouts for this area are the highest priority flood risk mitigation project in Wheeling Township. Comments in the area indicate that the floodplain mapping is not accurate. Comments identify areas that do not flood but are located within the 1 percent-annual-chance floodplain. These comments confirm the unverified CNMS status. An updated hydrologic and hydraulic study could develop BFEs for this area to support a Benefit-Cost Analysis for buyouts and could correct the area where roads that do not flood are shown as inundated by the 1 percent annual- chance flood. The length of the area is approximately 1 mile from just downstream of Des Plaines River Road/ US 45 to N Wolf Road. (Information confirmed by Wheeling Township, July 9, 2014.)



Feehanville Ditch - Wheeling Township, Cook County

McDonald Creek – Cook County

This 1.3 mile reach of McDonald Creek in Mt. Prospect is classified as an unverified detailed (AE) study in CNMS. Comments received during Discovery indicate several areas where homes, businesses, and roads regularly flood. Some of these flooded areas are repetitive loss flood damage areas. An updated hydrologic and hydraulic study could develop BFEs for this area to support a Benefit-Cost Analysis for buyouts and may help determine proper mitigation actions in the area.



McDonald Creek - Cook County

Silver Creek – Village of Franklin Park, Cook County

Silver Creek is a detailed study in Cook County that has been classified as unverified in CNMS. In 2011, the Village of Franklin Park applied for a grant to buyout 33 homes located within the floodway of Silver Creek that flood regularly; however, the Village did not receive funding and could not proceed with the buyout. There is still a need to buyout these homes as well as many of the other homes located within the floodway of Silver Creek. The 33 homes that were included in the grant application are located south of the intersection of Belmont Avenue and Lee Street. Due to the repetitive losses and low-income of the homeowners (65% are low to moderate income), the Village applied for, but did not receive, an IKE Buyout Grant in 2011 to purchase the homes. The project included purchase of 33 residential homes, demolishing the structures, deed restricting each parcel to remain as open space, and restoring the area as open space.

The Silver Creek channel improvement project would replace the existing failing culvert conveying Silver Creek between Riverside Drive and Park Street with a 20-foot wide, 6-foot deep vertical wall channel. Additionally, the project would replace the existing trapezoidal channel between Park Street and Scott Street with vertical walls. The project would improve the function of the regional pond located immediately upstream by improving the hydraulics of the channel. It will also provide additional capacity in the channel by opening the section where the channel is enclosed and increasing the cross sectional area of the creek by changing the cross section from trapezoidal to rectangular. It will also eliminate the imminent threat of structural failure of the closed culvert, which could obstruct Silver Creek and cause flooding throughout the region.

There is an area within the mapped floodplain of Silver Creek, located north of Grand Avenue where there have been several LOMCs. The properties that have been removed are shown below in red.



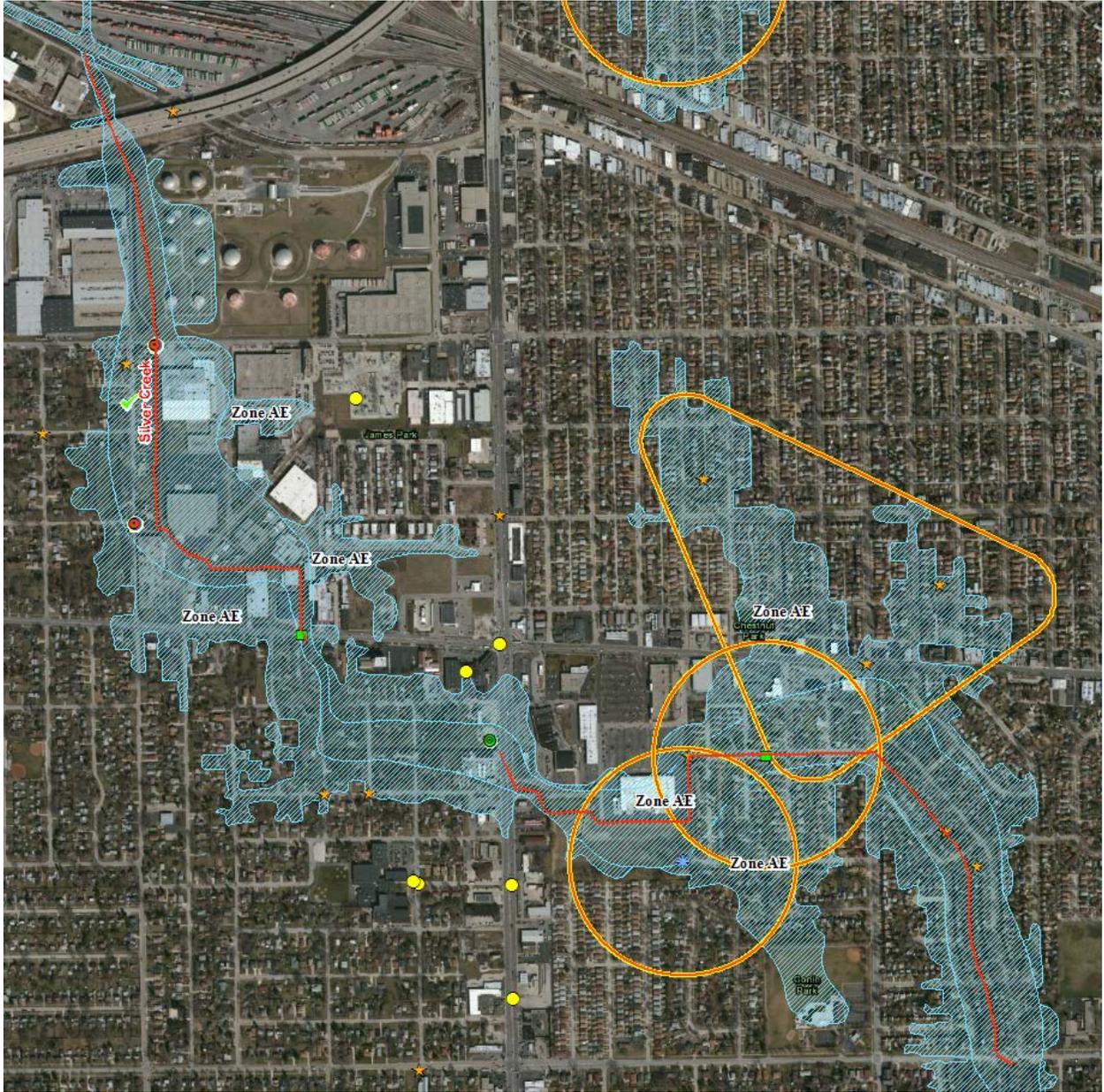
(Map provided by the Village of Franklin Park, July 2, 2014)

The high concentration of LOMCs indicates that the current floodplain map may not accurately represent current conditions. A new hydrology and hydraulics study is needed in the area to accurately represent the flood risk. An updated hydrologic and hydraulic study could develop Base Flood Elevations (BFEs) for this area to support a Benefit-Cost Analysis for buyouts and may help determine proper mitigation actions in the area.

Re-mapping would remove these properties from the floodplain, more accurately reflect the risk, and help the Village focus their mitigation efforts on the higher risk areas of the Village. It would reduce floodplain enforcement by village staff, as they would no longer need to review building permits for compliance with the floodplain ordinance, and would eliminate the need for substantial damage assessments and substantial improvement calculations in those areas.

The I-294 Industrial Park is not located within the regulatory floodplain; however, the area experiences regular flooding. The proposed Elgin-O'Hare West Bypass Tollway will bisect this industrial area. This large construction project provides a unique opportunity to improve the drainage and mitigate the flood damages experienced by the industrial properties. The area currently has a significant amount of impervious area and very little stormwater detention. As part of the Elgin-O'Hare Western Bypass project, the Village of Franklin Park has completed a drainage study of this area. The recommendations from this study include construction of two stormwater detention basins, expansion of an existing basin, as well as large-diameter storm sewers.

A new hydrology and hydraulics study may be needed for the upstream reach to accurately represent the flood risk, develop BFEs to support a Benefit-Cost Analysis for buyouts and to support multiple mitigation project opportunities in the area. This reach consists of two segments: Fullerton Ave to Mannheim Rd, and Grand Ave to Franklin Ave. Both segments equal a total of approximately 2.25 miles. (Information confirmed as high priority by the Village of Franklin Park, July 7, 2014)

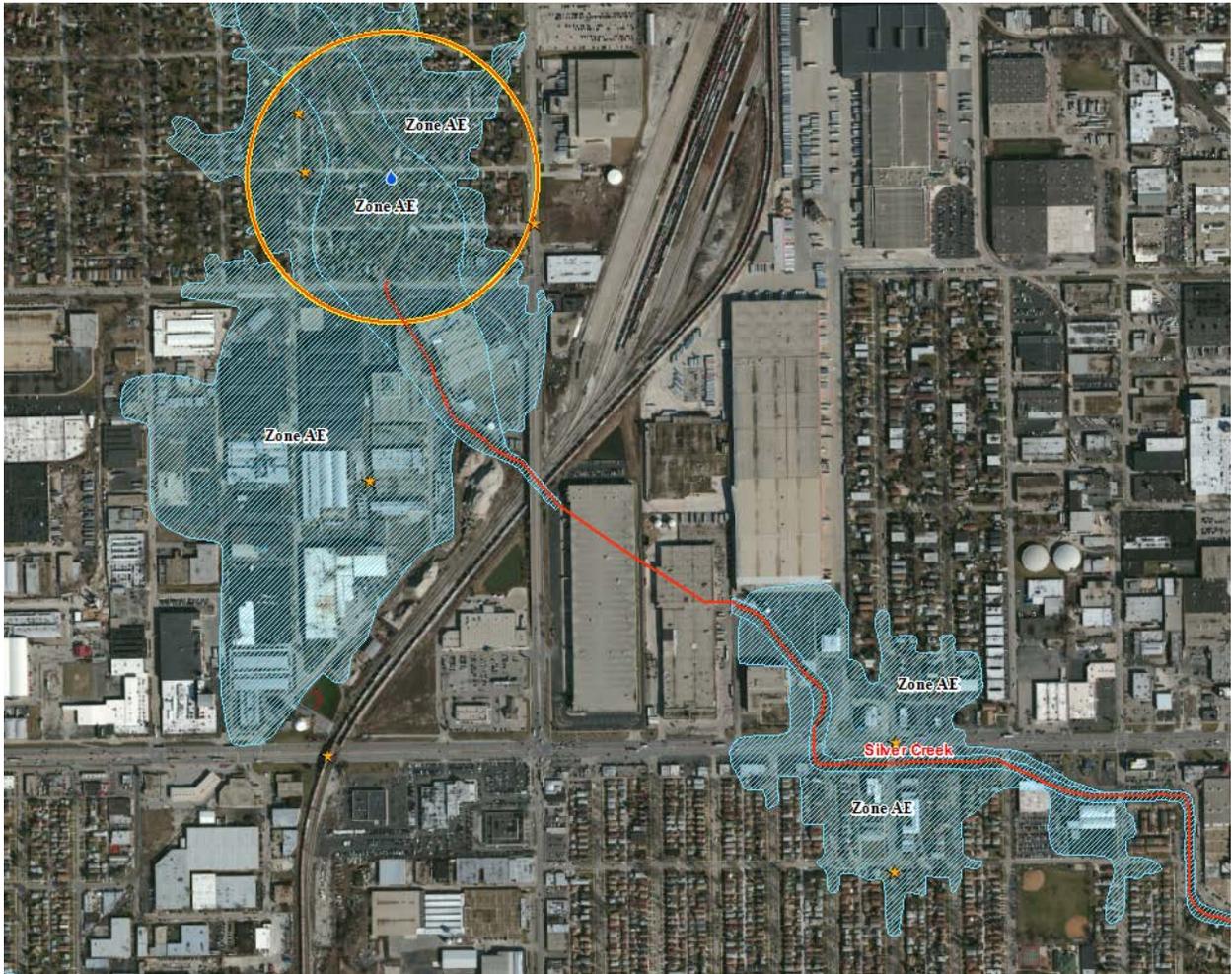


Silver Creek Upstream - Village of Franklin Park, Cook County

Silver Creek Downstream (Silver Creek DS)

An additional reach of Silver Creek in Maywood and Melrose Park, located in Cook County, has been identified as an unverified detailed study stream in CNMS. Discovery comments indicate that approximately 60 homes in the area had first floor flooding during the April 2013 flood event. These structures may be eligible for buyouts or mitigation by elevating the structures. There are also several areas of erosion along the stream and undersized culverts that cause overbank flooding during large storm events. An updated

hydrologic and hydraulic study for this 2.4 mile could develop Base Flood Elevations (BFEs) for this area to support a Benefit-Cost Analysis for buyouts and may facilitate the completion of mitigation projects in the area.

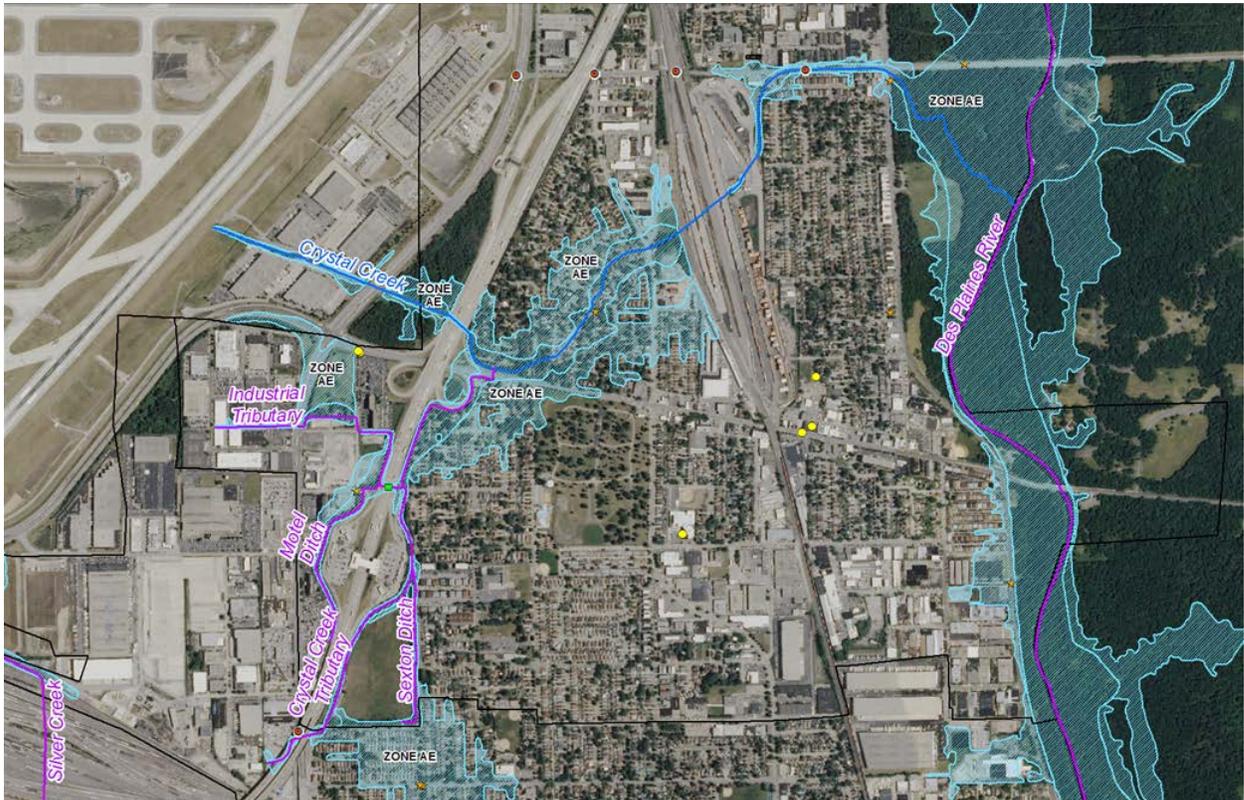


Silver Creek Downstream - Village of Franklin Park, Cook County

Crystal Creek – Village of Franklin Park, Cook County

IDNR recently completed the Crystal Creek Phase 2B project, which enlarged Crystal Creek through Franklin Park and Schiller Park. The preliminary modeling prior to construction showed that nearly all of Crystal Creek’s floodplain within Franklin Park would be eliminated as a result of the project and over 300 parcels could be removed from the floodplain. Re-mapping of this area would remove these properties from the floodplain and more accurately reflect the risk and help the Village focus their mitigation efforts on the higher risk areas of the Village. It would reduce floodplain enforcement by Village staff, as they would no longer need to review Building permits for compliance with the

floodplain ordinance, and would eliminate the need for substantial damage assessments and substantial improvement calculations in those areas. Crystal Creek is approximately 2.3 miles from O’Hare airport to its confluence with the Des Plaines River while the segment that runs between Des Plaines River Road and Interstate 294 in Schiller Park is approximately 1.33 miles. (Information confirmed as high priority by the Village of Franklin Park, July 7, 2014.)

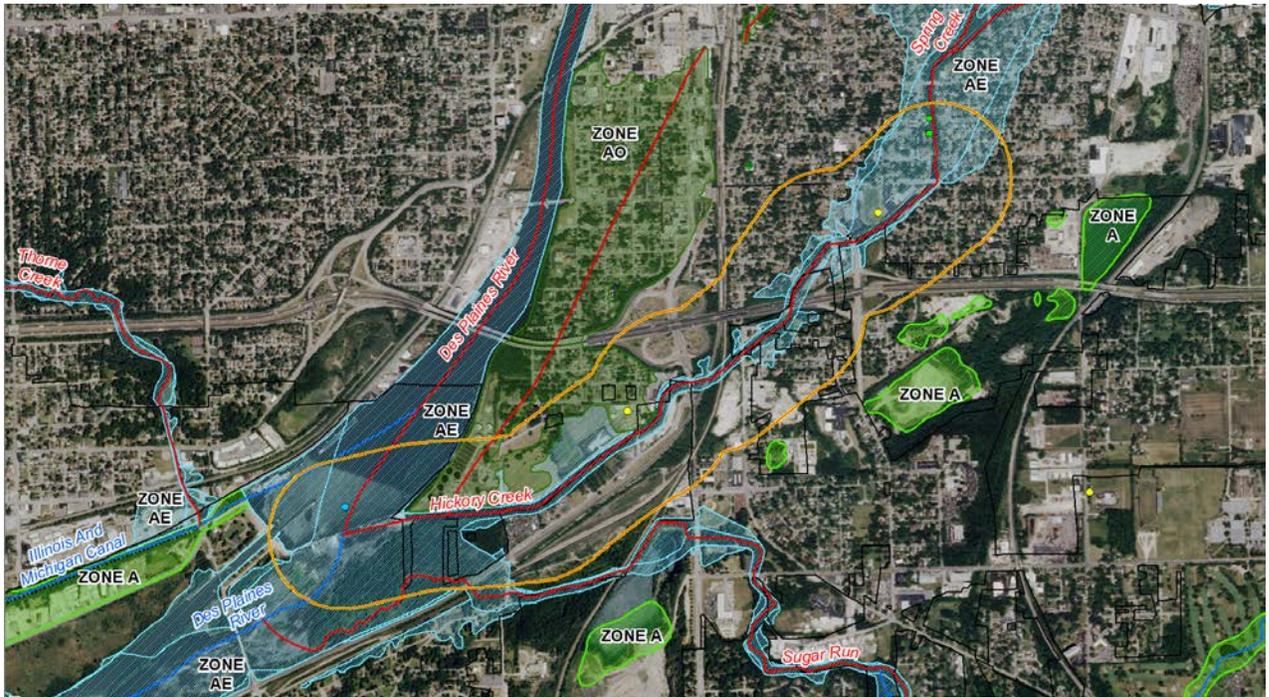


Crystal Creek – Village of Franklin Park, Cook County

Rock Run North, St Francis Academy Creek, St Anne School Tributary –City of Crest Hill, Will County

Rock Run (1.77 mi) and its tributaries St. Francis Academy Creek (0.7 mi) and St Anne School Tributary (0.8 mi) are classified in CNMS as unverified detailed studies. Comments received during Discovery confirm that the effective mapping and models no longer reflect current conditions. The community of Crest Hill submitted a comprehensive list of flooding issues throughout their community near these streams, and they consider mitigation for these areas a high priority. There are reports of overtopped roads that could be opportunities for mitigation projects to install appropriately sized culverts. There are numerous homes that flood but are not shown in the effective floodplain mapping There are also areas that are mapped as within the Zone AE floodplain and/or floodway that do

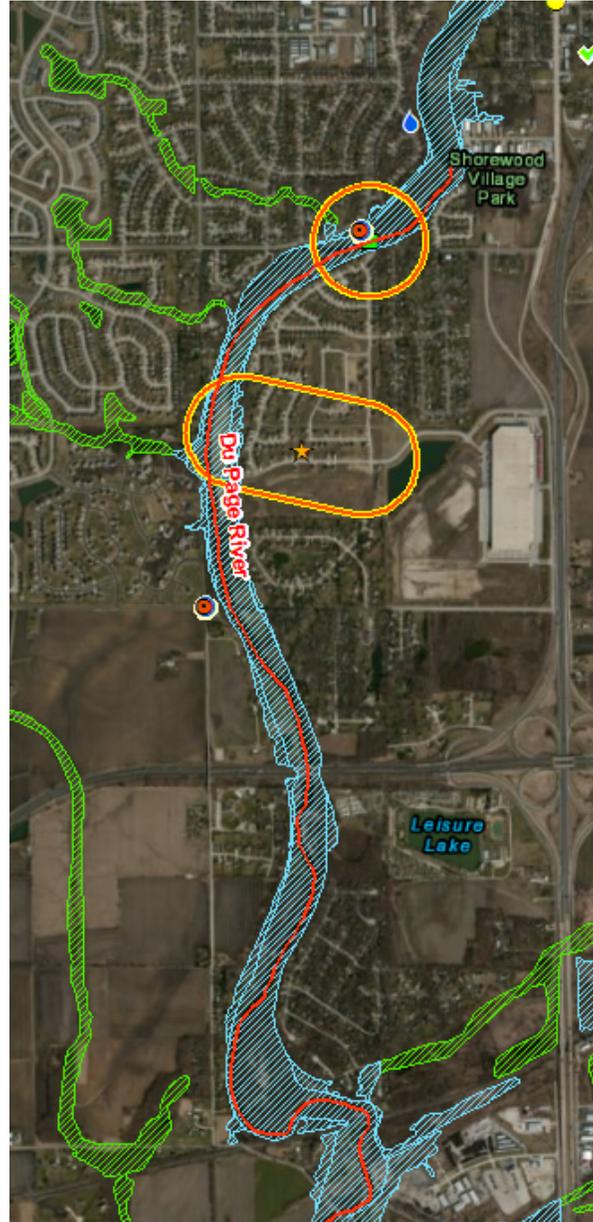
cost for LOMR submittal would be the responsibility of the City. The stream reach for Hickory Creek between its confluence with the Des Plaines River and Third Ave is approximately 1.9 Miles. (Information provided by the City of Joliet, April 14, 2014.)



Hickory and Spring Creeks, City of Joliet, Will County

Du Page River – Will County

Discovery comments confirm the unverified CNMS status of this reach of the Du Page River in Will County. Given the high risk area, this should be considered for new study. This reach of the DuPage River is approximately 9.7 miles from its confluence at the Des Plaines River to a point approximately 0.33 miles upstream of the bridge at Seil Road.



Du Page River – Will County

Buffalo Creek – Village of Lake Zurich, Lake County

Buffalo Creek in the Village of Lake Zurich, located in Lake County, is a detailed study stream with a CNMS status of unverified. Discovery comments indicated over two feet of water overtopped Stanton Road and Riley Road, possibly due to undersized culvert openings. The current mapping incorrectly indicates the flow is contained in the culverts. Follow-up conversations in July, 2014 with the Village Engineer indicated that major flooding events in this watershed in April, 2013 and June, 2013 have raised flooding

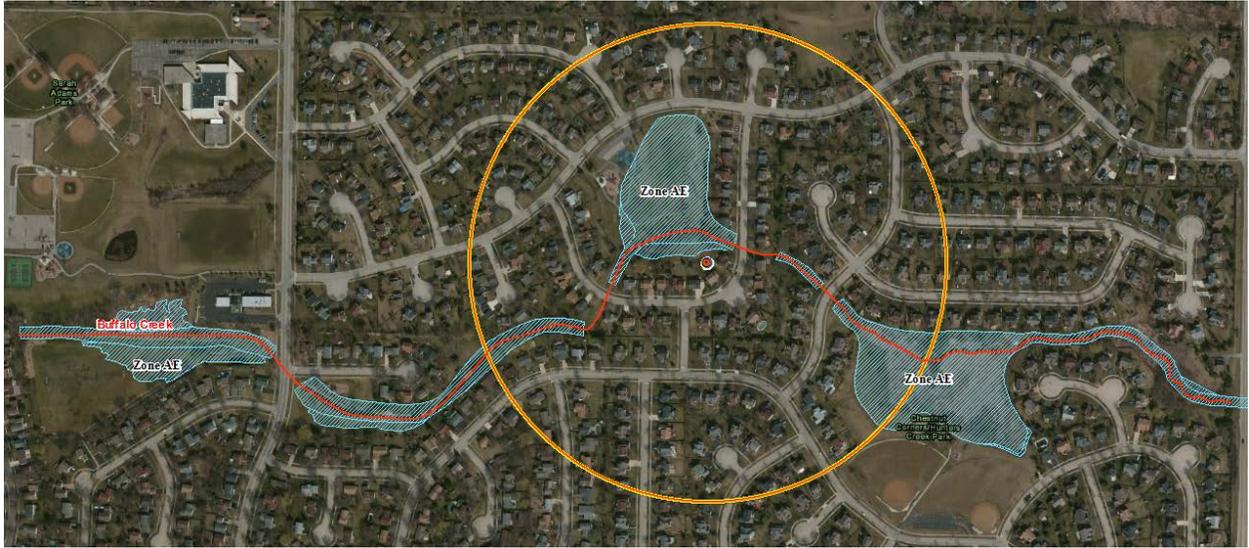
awareness and desire for mitigation to a very high priority for the community. Much of the flooding and damage has occurred in areas outside the mapped SFHA, indicating that the effective studies are not accurate. The Village is actively working to develop a plan to implement improvements to reduce flooding and erosion impacts along Buffalo Creek and its tributaries, but could use all the help they can get for this effort. The Village Engineer reported that this area has had flooding problems consistently over the years, especially in the Cedar Creek subdivision, but a storm event on June 26, 2013 was significantly worse than previous events, causing basement and first-floor flooding to 16 residential structures near Buffalo Creek. Down-cutting and channel erosion on Buffalo Creek also continues to worsen and expand. The Village is interested in a stream restoration project to fix the erosion problem and reduce flooding. The Village hired a consultant to perform a drainage study (using EPA SWMM) in this watershed, which could be used as leverage data. An updated hydrologic and hydraulic study of Buffalo Creek for the 1.1 mile reach would support the Village's continuing efforts to understand the flooding dynamics, pursue erosion mitigation, restore the channel, and manage the significant flooding problems in this watershed.



Buffalo Creek – Village of Lake Zurich, Lake County



Buffalo Creek – Village of Lake Zurich, Lake County



Buffalo Creek – Village of Lake Zurich, Lake County

Mill Creek – Village of Third Lake, Lake County

Mill Creek in Lake County is classified as unverified in CNMS. A new hydrologic and hydraulic study of Mill Creek (March, 2014) has been performed by the Illinois State Water Survey (ISWS) and is currently being reviewed by Lake County. Lake County is interested in pursuing a Physical Map Revision (PMR), using the ISWS study. Discovery comments indicate the dam controlling outflow from Third Lake is in need of replacement and an engineering analyses needs to be performed using the updated study to determine the correct specifications for the new dam as it is controlling flows that affect flooding. (Information confirmed by the Village Engineer for Third Lake, Lake County, July 8, 2014)



Mill Creek – Village of Third Lake, Lake County

V. **Appendix and Tables**

- Appendix A: Pre-Discovery Meeting Contacts & Materials
- Appendix B: Stakeholder Contact Information & Meeting Invitations
- Appendix C: Discovery Meeting Attendance & Handouts
- Appendix D: Discovery Meeting Summary & Comments
- Appendix E: Discovery Maps
- Appendix F: Discovery Meeting Participant Feedback
- Appendix G: Comprehensive List of Study Needs

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