

# CHAPTER 14.

## CITY OF CALUMET CITY ANNEX

### 14.1 HAZARD MITIGATION PLAN POINT OF CONTACT

#### Primary Point of Contact

Michelle Markiewicz-Qualkinbush, Mayor  
204 Pulaski Road,  
Calumet City, IL 60409  
Telephone: 708-891-8105  
Email Address: mayorsoffice@calumetcity.org

#### Alternate Point of Contact

Leonard Chiaro, Emergency Services and Disaster  
Agency Director  
204 Pulaski Road, Calumet City, IL 60409  
Calumet City, IL 60409  
Telephone: 708-417-1274  
Email Address: esda@calumetcity.org

### 14.2 JURISDICTION PROFILE

The following is a summary of key information about the jurisdiction and its history:

- **Date of Incorporation:** 1893
- **Current Population:** 37,232 (2012 US Census Bureau)
- **Population Growth:** According to the US Census Bureau, as of 2012, Calumet City's population was 37,232 with a 1% growth from the total population reported in 2010 (37,042). And as of 2010, the total population of Calumet City was 5.19% less than it was in 2000 (population 39,071). The population growth rate is much lower than the state of Illinois average rate of 3.31% and is much lower than the national average rate of 9.71%. The Calumet City population density is 5,067.44 people per square mile, which is much higher than the state average density of 221.55 people per square mile; and is much higher than the national average density of 81.32 people per square mile.
- **Location and Description:** The City of Calumet City (commonly known as Cal City) is located within the state of Illinois and County of Cook. In addition to being bordered to the east by Hammond, Indiana, the City is also bordered by the City of Burnham and City of Chicago to the north, City of Lansing to the south, and Cities of South Holland and Dolton to the west. The City encompasses a total of 7.31 square miles (7,18 sq. mi of land and 0.12 sq. mi. of water).
- **Brief History:** The region's earliest inhabitants, the Indians, were a semi-nomadic people who came from Asia across the land bridge now drowned by the Bering Strait. These pre-historic Indians were known to have passed through the region in order to migrate to warmer climates. Memories of the "City of West Hammond," as Calumet City used to be known, include everything from people who sparked community spirit to the bootleggers who defied prohibition to run illegal drinking parlors along State Street. Calumet City was shaped by memorable people such as the Schrum Family, who were among the first settlers; Faith Bailey, a nurse who was a crusader in public health; and, even nearly every street and wooden sidewalks were constructed. A second fire department was established in order to protect the entire Calumet City territory, and one of the greatest improvements was the construction of an electric light plant that was expanded to provide street and incandescent lighting. After the great fire of 1901 that destroyed the only major industry in West Hammond at the time, the G.H. Hammond Meat Packing Plant, other industries had to step

up to fill the economic gap left behind. Some of the businesses that helped the community recover included the Hirsch Stein Starch Company, Bernard J Burczyk's Printing Company and the West Hammond Brewing Company. by such figures as crime baron and beer overlord of the 1920s, Al Capone. Calumet City also progressed in the areas of real estate, construction, public safety and industry. In the early 1900s, the population more than doubled. Land was acquired to build a two-story brick building that, today still houses City Hall.

- **Climate:** The climate in Calumet City, Illinois, is classified as humid continental, with all four seasons distinctly represented: wet springs; hot/often humid summers; pleasant autumns; and cold winters. The average rainfall is 35 inches, and the average precipitation days are 118. Annual precipitation is average - reaching its lowest points in the months of January and February and peaks in the months of May and June. Winter proves quite variable - seasonal snowfall in the City has ranged from 9.8 inches (1920–21) up to 89.7 inches (1978–79).
- **Governing Body Format:** Calumet City uses a Home-Rule, Council-Mayor form of government. Calumet City is located in the Illinois 2<sup>nd</sup> Congressional Districted. Local elected officials (Mayor, Treasurer, City Clerk, and seven Aldermen) run for election every four years. This body will assume the responsibility for the adoption and implementation of this plan. Department heads (which can be found on the City's website – as noted above) report directly to the Mayor. Department heads include: Community & Economic Development/Housing; Engineering; Community Schools & Churches; Department of Ethics and Professional Standards; Department of Inspectional Services; Department of Law; Emergency Services and Disaster Agency; Fire Department; Office of the Health Commissioner; Office of Independent Inspector General; Parks & Recreation; Police Department; Public Works; and Purchasing/Personnel.
- **Development Trends:** The City of Calumet City has taken a very assertive approach in redefining the business community by establishing and implementing various economic tools including Tax Increment Financing (TIF), Enterprise Zone, Cook County Tax Incentives, Special Service Districts, and securing various other funding resources relative to business and economic development. In addition, the City of Calumet City has *Home Rule Status*. The business community serves not only those who reside in Calumet City, but also hundreds of thousands who reside in the 15-mile radius that make Calumet City's mega shopping districts their destination. Calumet City has a rich cultural history with successful implementation of community, beautification and city marketing programs. The community is located just south of the City of Chicago and borders Northwest Indiana with highway access to I-94/ I-80 and minutes from Interstates 294, I-57 and I-55. These routes give ready access to Chicago and Chicago's northwest and western suburbs, along with central Illinois, Wisconsin, Indiana and Michigan. Additionally, rail and waterway accessibility is predominant within the industrial business districts. The City of Calumet City supports and follows the planning recommendations of CMAP (Chicago Metropolitan Agency for Planning) – the **GO TO 2040** Plan.

### 14.3 CAPABILITY ASSESSMENT

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 14-1. The assessment of the jurisdiction's fiscal capabilities is presented in Table 14-2. The assessment of the jurisdiction's administrative and technical capabilities is presented in Table 14-3. Information on the community's National Flood Insurance Program (NFIP) compliance is presented in Table 14-4. Classifications under various community mitigation programs are presented in Table 14-5.

**TABLE 14-1.  
LEGAL AND REGULATORY CAPABILITY**

|   | Local Authority | State or Federal Prohibitions | Other Jurisdictional Authority | State Mandated | Comments  |
|---|-----------------|-------------------------------|--------------------------------|----------------|---|
| <b>Codes, Ordinances &amp; Requirements</b> |                 |                               |                                |                |   |
| Building Code                               | Yes             | No                            | No                             | Yes            | Calumet City Municipal Code, Sec. 14-22, adopted: 2007  |
| Zonings                                     | Yes             | No                            | No                             | Yes            | Calumet City Municipal Code, Appendix B Sec II, adopted: 1983   |
| Subdivisions                                | Yes             | No                            | No                             | No             | Calumet City Municipal Code, Appendix A, adopted: 1980  |
| Stormwater Management                       | Yes             | No                            | Yes                            | Yes            | State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA.<br>Calumet City Municipal Code, Sec. 34-64. Erosion and sediment control, adopted: 10-12-2000 |
| Post Disaster Recovery                      | No              | No                            | No                             | No             |   |
| Real Estate Disclosure                      | No              | No                            | Yes                            | Yes            | (765 ILCS 77/) Residential Real Property Disclosure Act.  |
| Growth Management                           | Yes             | No                            | No                             | No             | Calumet City Municipal Code, Sec. 18, adopted: 2001   |
| Site Plan Review                            | Yes             | No                            | No                             | No             | Calumet City Municipal Code, Sec. 34-35, adopted: 2000  |
| Public Health and Safety                    | No              | No                            | Yes                            | Yes            | Cook County Board of Health.<br>Calumet City Municipal Code 2-161 adopted: 1980   |
| Environmental Protection                    | Yes             | No                            | No                             | No             | Calumet City Municipal Code Chapter 26  |

| <b>TABLE 14-1.<br/>LEGAL AND REGULATORY CAPABILITY</b>                  |                    |                                     |  |                   |   |
|---|--------------------|-------------------------------------|--|-------------------|---|
|   | Local<br>Authority | State or<br>Federal<br>Prohibitions | Other<br>Jurisdictional<br>Authority   | State<br>Mandated | Comments  |
| <b>Planning Documents</b>   |                    |                                     |  |                   |   |
| General or Comprehensive Plan   | Yes                | No                                  | No   | No                | Plan is in final stages of development, has not been formally approved yet by the council.  |
| <i>Is the plan equipped to provide linkage to this mitigation plan?</i> |                    |                                     |  |                   | It will   |
| Floodplain or Basin Plan  | No                 | No                                  | No   | No                | Sec. 34-33  |
| Stormwater Plan   | No                 | No                                  | MWRD   | No                | Regional stormwater impacts are managed by MWRD. The Village lies within the Little Calumet River watershed planning area of MWRD's comprehensive Stormwater Master Planning Program        |
| Capital Improvement Plan  | Yes                | No                                  | No   | No                | Calumet City CIP  |
| <i>What types of capital facilities does the plan address?</i>          |                    |                                     | Detention ponds, fresh water, booster station, water tanks, pumping station, 6 million gallon reservoir. |                   |   |
| <i>How often is the plan revised/updated?</i>                           |                    |                                     | On a yearly basis.   |                   |   |
| Habitat Conservation Plan   | Yes                | No                                  | No   | No                | Calumet City Municipal Code Sec. 34-65, Adopted 2000  |
| Economic Development Plan   | No                 | No                                  | Yes  | Yes               | The Economic Development Commission is charged with reviewing all economic development related programs and incentives including tax incentives offered through the Cook County 6b program. |
| Shoreline Management Plan   | No                 | No                                  | No   | No                |   |
| <b>Response/Recovery Planning</b>                                       |                    |                                     |  |                   |   |
| Comprehensive Emergency Management Plan                                 | No                 | No                                  | Yes  | Yes               | Cook County DHSEM   |
| Threat and Hazard Identification and Risk Assessment                    | No                 | No                                  | Yes  | No                | Cook County DHSEM Preparing THIRA   |
| Terrorism Plan  | No                 | No                                  | Yes  | Yes               | Cook County DHSEM   |
| Post-Disaster Recovery Plan   | No                 | No                                  | No   | No                |   |
| Continuity of Operations Plan   | No                 | No                                  | Yes  | No                | Cook County DHSEM   |
| Public Health Plans   | No                 | No                                  | Yes  | No                | Cook County DPH   |

| <b>TABLE 14-2.<br/>FISCAL CAPABILITY</b>             |                                       |
|--|---------------------------------------|
| <b>Financial Resources</b>                           | <b>Accessible or Eligible to Use?</b> |
| Community Development Block Grants                   | Yes                                   |
| Capital Improvements Project Funding                 | Yes                                   |
| Authority to Levy Taxes for Specific Purposes        | Yes                                   |
| User Fees for Water, Sewer, Gas or Electric Service  | Yes                                   |
| Incur Debt through General Obligation Bonds          | Yes                                   |
| Incur Debt through Special Tax Bonds                 | Yes                                   |
| Incur Debt through Private Activity Bonds            | No                                    |
| Withhold Public Expenditures in Hazard-Prone Areas   | No                                    |
| State Sponsored Grant Programs                       | Yes                                   |
| Development Impact Fees for Homebuyers or Developers | No                                    |

| <b>TABLE 14-3.<br/>ADMINISTRATIVE AND TECHNICAL CAPABILITY</b>                          |                   |                                     |
|---|-------------------|-------------------------------------|
| <b>Staff/Personnel Resources</b>  | <b>Available?</b> | <b>Department/Agency/Position</b>   |
| Planners or engineers with knowledge of land development and land management practices  | Yes               | City Engineer                       |
| Engineers or professionals trained in building or infrastructure construction practices | Yes               | City Engineer                       |
| Planners or engineers with an understanding of natural hazards                          | Yes               | City Engineer                       |
| Staff with training in benefit/cost analysis  | Yes               | City Treasurer                      |
| Surveyors   | Yes               | City Engineer                       |
| Personnel skilled or trained in GIS applications  | Yes               | Cook County GIS Consortium          |
| Scientist familiar with natural hazards in local area                                   | No                | Emergency Service & Disaster Agency |
| Emergency Manager   | Yes               | Emergency Service & Disaster Agency |
| Grant writers   | Yes               | Economic Development Department     |

| <b>TABLE 14-4.<br/>NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE</b>  |  |
|---|--|
| What department is responsible for floodplain management in your jurisdiction?  | Emergency Services and Disaster Agency                             |
| Who is your jurisdiction’s floodplain administrator? (department/position)  | Leonard Chiaro, Director<br>Emergency Services and Disaster Agency |
| Are any certified floodplain managers on staff in your jurisdiction?  | No   |
| What is the date of adoption of your flood damage prevention ordinance?   | August 14, 2008  |
| When was the most recent Community Assistance Visit or Community Assistance Contact?  | September 25, 2013   |
| Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.  | No   |
| Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)   | Yes  |
| Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?  | No   |
| Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program? | Yes ongoing  |

| <b>TABLE 14-5.<br/>COMMUNITY CLASSIFICATIONS</b> |                |                   |                 |
|--|----------------|-------------------|-----------------|
|  | Participating? | Classification    | Date Classified |
| Community Rating System                          | Yes            | 6                 | April 2011      |
| Building Code Effectiveness Grading Schedule     | Yes            | Unknown           | April 2011      |
| Public Protection/ISO                            | No             | N/A               | N/A             |
| StormReady                                       | Yes            | Gold (countywide) | 2014            |
| Tree City USA                                    | No             | N/A               | N/A             |

## 14.4 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 14-6 lists all past occurrences of natural hazards within the jurisdiction. Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 28
- Number of FEMA-Identified Severe Repetitive Loss Properties: 1
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 17

**TABLE 14-6.  
NATURAL HAZARD EVENTS**

| Type of Event                      | FEMA Disaster #<br>(if applicable) | Date      | Preliminary Damage<br>Assessment |
|------------------------------------|------------------------------------|-----------|----------------------------------|
| Tornado                            | DR-227                             | 4/25/1967 | Not Available                    |
| Flood                              | DR-351                             | 9/4/1972  | Not Available                    |
| Flood                              | DR-373                             | 4/27/1973 | Not Available                    |
| Severe Storms, Tornadoes, Flooding | DR-509                             | 6/18/1976 | Not Available                    |
| Blizzards, Snowstorms              | EM-3068                            | 1/16/1979 | Not Available                    |
| Severe Storms, Tornadoes, Flooding | DR-643                             | 6/30/1981 | Not Available                    |
| Severe Storms, Flooding            | DR-776                             | 10/7/1986 | Not Available                    |
| Severe Storms, Flooding            | DR-798                             | 8/21/1987 | Not Available                    |
| Severe Storms, Flooding            | DR-997                             | 7/9/1993  | Not Available                    |
| Flooding                           | DR-1129                            | 7/25/1996 | Not Available                    |
| Flooding                           | DR-1188                            | 9/17/1997 | Not Available                    |
| Winter Snow Storm                  | EM-3134                            | 1/8/1999  |                                  |
| Severe Winter Storm                | EM-3161                            | 1/17/2001 |                                  |
| Severe Storms, Flooding            | DR-1800                            | 10/3/2008 |                                  |
| Severe Storms, Flooding            | DR-1935                            | 8/7/2010  |                                  |
| Severe Winter Storm and Snow       | DR-1960                            | 3/17/2011 |                                  |

## 14.5 HAZARD RISK RANKING

Table 14-7 presents the ranking of the hazards of concern. Hazard area extent and location maps are included at the end of this chapter. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

**TABLE 14-7.  
HAZARD RISK RANKING**

| Rank | Hazard Type           | Risk Rating Score (Probability x Impact) |
|------|-----------------------|--|
| 1    | Severe Weather        | 54                                       |
| 2    | Severe Winter Weather | 54                                       |
| 3    | Tornado               | 54                                       |
| 4    | Flood                 | 24                                       |
| 5    | Earthquake            | 12                                       |
| 6    | Drought               | 4  |
| 7    | Dam Failure           | 0  |

## 14.6 HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED ACTIONS

Table 14-8 lists the actions that make up the jurisdiction’s hazard mitigation plan. Table 14-9 identifies the priority for each action. Table 14-10 summarizes the mitigation actions by hazard of concern and the six mitigation types. This community had a prior approved hazard mitigation plan, and Table 14-11 reviews the status of actions recommended in that previous plan.

| TABLE 14-8.<br>HAZARD MITIGATION ACTION PLAN MATRIX  |                          |                           |   |                   |                               |                       |                                     |
|--|--------------------------|---------------------------|---|-------------------|-------------------------------|-----------------------|-------------------------------------|
| Applies to<br>New or<br>Existing<br>Assets   | Hazards<br>Mitigated     | Objectives<br>Met         | Lead Agencies   | Estimated<br>Cost | Sources of<br>Funding         | Timeline <sup>a</sup> | Included<br>in<br>Previous<br>Plan? |
| <b>Action C1.1</b> —Continue using the Floodplain Management Committee as hazard advisory board to the City Council. Collect information, report to City Council, participating offices, and the public on Plan implementation.  |                          |                           |   |                   |                               |                       |                                     |
| New and existing   | Flooding                 | 3, 4, 5, 6, 8, 10, 12, 13 | Emergency Services and Disaster Agency                          | Low               | City, General Revenue         | Short-term Ongoing    | Yes                                 |
| <b>Action C1.2</b> —Continue participation in CRS and Program Reviews: Building code review to improve Building Code Effectiveness Grading Schedule classification, community assistance visit by FEMA, cycle verification visit for the CRS.  |                          |                           |   |                   |                               |                       |                                     |
| New and existing   | Flooding                 | 3, 10, 11                 | Emergency Services and Disaster Agency                          | Low               | City, General Revenue         | Short-term Ongoing    | Yes                                 |
| <b>Action C1.3</b> —Floodplain Regulations; review and enforcement.  |                          |                           |   |                   |                               |                       |                                     |
| New and existing   | Flooding                 | 1, 3, 4, 9, 10, 12, 13    | Floodplain Management Committee, Dept. of Inspectional Services | Low               | City, General Revenue         | Short-term Ongoing    | Yes                                 |
| <b>Action C1.4</b> —Flood Response Plan: Flood stage forecast map and new flood response procedures.   |                          |                           |   |                   |                               |                       |                                     |
| New and existing   | Flooding                 | 1, 5, 8, 9, 12            | Emergency Services and Disaster Agency                          | Medium            | City, General Revenue         | Short-term            | Yes                                 |
| <b>Action C1.5</b> —Mitigation of Floodplain Properties: Properties exposed to flood damage shall be protected through property protection measures where regional structural projects are not feasible.   |                          |                           |   |                   |                               |                       |                                     |
| New and existing   | Flooding                 | 1, 2, 6, 7, 9, 10         | Dept. of Inspectional Services                                  | High              | City, General Revenue, Grants | Ongoing               | Yes                                 |
| <b>Action C1.6</b> —The Department of Inspectional Services will continue to administer the rebate program to encourage and assist property owners with protecting their properties from sewer backup. For every dollar spent by City, \$2 will be spent to protect a property from damage (50% rebate). |                          |                           |   |                   |                               |                       |                                     |
| New and existing   | Flooding, Severe Weather | 2, 7, 9                   | Dept. of Inspectional Services                                  | \$30,000 Medium   | City, General Revenue         | Ongoing               | Yes                                 |



**TABLE 14-8.  
HAZARD MITIGATION ACTION PLAN MATRIX**

| Applies to<br>New or<br>Existing<br>Assets  | Hazards<br>Mitigated                                       | Objectives<br>Met    | Lead Agencies   | Estimated<br>Cost | Sources of<br>Funding  | Timeline <sup>a</sup>                 | Included<br>in<br>Previous<br>Plan? |
|---|--|----------------------|---|-------------------|--|---------------------------------------|-------------------------------------|
| <b>Action C1.7—Investigation of Critical Facilities to determine if buildings/facilities are located in hazardous locations.</b>  |  |                      |   |                   |  |                                       |                                     |
| New<br>(2011)   | All Hazards  | 1, 2, 7              | Emergency<br>Services and<br>Disaster Agency                  | \$100,000<br>High | City, General<br>Revenue,<br>Grants  | Long –term<br>Depending<br>on funding | Yes                                 |
| <b>Action C1.8—Critical Facilities Emergency Response Plans.</b> Provide advice and assistance on developing emergency response plans for the interested critical facilities regarding appropriate hazards.   |  |                      |   |                   |  |                                       |                                     |
| New<br>(2011)   | Multi-Hazard   | 1, 2, 7              | Emergency<br>Services and<br>Disaster Agency                  | Low               | City, General<br>Revenue   | Short-term                            | Yes                                 |
| <b>Action C1.9—Levee Evaluation:</b> Continue to mow and inspect levee on regular basis. Pursue advice from the Army Corps of Engineers as to the long term rehabilitation of the levee. An analysis using the Corps’ Levee Owner’s Manual for Non-Federal Flood Control Works should be conducted. |  |                      |   |                   |  |                                       |                                     |
| New and<br>existing   | Flooding   | 1, 2, 3, 8, 9,<br>12 | City Engineer   | Low               | City, General<br>Revenue   | Ongoing                               | Yes                                 |
| <b>Action C1.10—Stormwater System Maintenance:</b> Continue to maintain drainage channels and the Little Calumet River levee. Maintain stormwater facilities. Implement 2009 Storm Water System Capital Improvement Plan.   |  |                      |   |                   |  |                                       |                                     |
| New and<br>existing   | Flooding/Sewer<br>Backup                                   | 1, 2, 9, 12          | City Engineer and<br>Sewer and Water<br>Dept.                 | Medium            | City Water<br>Capitalization<br>Program.<br>CDBG<br>Disaster<br>Recovery Ike<br>Program. | Ongoing                               | Yes                                 |
| <b>Action C1.11—Safe Rooms and Sheltering:</b> Residences, businesses, critical facilities, health care facilities and schools should be considered. As needs are identified, construction of safe rooms should be considered.  |  |                      |   |                   |  |                                       |                                     |
| New<br>(2011)   | Tornado,<br>Severe<br>Weather,<br>Severe Winter<br>Weather | 1, 3, 6, 8, 12       | Emergency<br>Services and<br>Disaster Agency,<br>Area Schools | High              | City, General<br>Revenue,<br>Grants  | Long-term                             | Yes                                 |
| <b>Action C1.12—Promotion of Flood Insurance:</b> Property owners in 100-year and 500-year floodplain should be encouraged to purchase and maintain flood insurance.  |  |                      |   |                   |  |                                       |                                     |
| New and<br>existing   | Flooding   | 4, 6                 | Dept. of<br>Inspectional<br>Services                          | Low               | City, General<br>Revenue   | Ongoing                               | Yes                                 |
| <b>Action C1.13—Outreach Projects to receive CRS credit:</b> Mail newsletters, handouts, public access TV, personal permit advising, on site visits and drainage reviews, internet based information, and public library references to convey hazard mitigation information.                        |  |                      |   |                   |  |                                       |                                     |
| New and<br>existing   | All Hazards  | 6, 8, 11             | Dept. of<br>Inspectional<br>Services                          | Low               | City, General<br>Revenue   | Ongoing                               | Yes                                 |

**TABLE 14-8.  
HAZARD MITIGATION ACTION PLAN MATRIX**

| Applies to<br>New or<br>Existing<br>Assets  | Hazards<br>Mitigated     | Objectives<br>Met | Lead Agencies   | Estimated<br>Cost | Sources of<br>Funding                                       | Timeline <sup>a</sup>  | Included<br>in<br>Previous<br>Plan? |
|---|--------------------------|-------------------|---|-------------------|---|------------------------|-------------------------------------|
| <b>Action C1.14</b> —Special Public Information Projects: Additional public information projects.   |                          |                   |   |                   |   |                        |                                     |
| New and existing  | All Hazards              | 6, 8, 11          | Emergency Services and Disaster Agency, Floodplain Management Committee | Low               | City, General Revenue                                       | Ongoing                | Yes                                 |
| <b>Action C1.15</b> —Staff Training: Pursue training seminars and conferences conducted by Illinois Association of Floodplain and Stormwater Management, Illinois Dept. of Natural Resources, Metropolitan Water Reclamation District of Greater Chicago and FEMA.  |                          |                   |   |                   |   |                        |                                     |
| New and existing  | Flooding                 | 1, 4, 6, 8, 10    | City Dept. of Inspectional Services                                     | Low               | City, General Revenue                                       | Ongoing                | Yes                                 |
| <b>Action C1.16</b> —Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts. |                          |                   |   |                   |   |                        |                                     |
| New and existing  | Flooding                 | 4, 6, 9           | Emergency Services and Disaster Agency                                  | Low               | City, General Revenue                                       | Short-term and ongoing | No                                  |
| <b>Actions C1.17</b> —Where feasible, implement a program to record high water marks following high-water events.   |                          |                   |   |                   |   |                        |                                     |
| New and existing  | Flooding, Severe Weather | 3, 6, 9           | Calumet City  | Medium            | City, General Revenue; FEMA Grant Funds (Public Assistance) | Long-term              | No                                  |
| <b>Action C1.18</b> —Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.  |                          |                   |   |                   |   |                        |                                     |
| New and existing  | All                      | 3, 4, 6, 10, 13   | City Council  | Low               | City, General Revenue                                       | Short-term             | No                                  |
| <b>Action C1.19</b> —Continue to support the countywide actions identified in this plan.  |                          |                   |   |                   |   |                        |                                     |
| New and existing  | All                      | All               | Calumet City  | Low               | City, General Revenue                                       | Short- and long-term   | No                                  |
| <b>Action C1.20</b> —Actively participate in the plan maintenance strategy identified in this plan.   |                          |                   |   |                   |   |                        |                                     |
| New and existing  | All                      | 3, 4, 6           | DHSEM (Calumet City)  | Low               | City, General Revenue                                       | Short-term             | No                                  |
| a. Ongoing indicates continuation of an action that is already in place. Short-term indicates implementation within five years. Long-term indicates implementation after five years.  |                          |                   |   |                   |   |                        |                                     |

**TABLE 14-9.  
MITIGATION STRATEGY PRIORITY SCHEDULE**

| Action # | # of Objectives Met | Benefits | Costs  | Do Benefits Equal or Exceed Costs? | Is Project Grant-Eligible? | Can Project Be Funded Under Existing Programs/ Budgets? | Priority <sup>a</sup> |
|----------|---------------------|----------|--------|------------------------------------|----------------------------|---|-----------------------|
| 1        | 8                   | Medium   | Low    | Yes                                | No                         | Yes   | High                  |
| 2        | 3                   | Medium   | Low    | Yes                                | No                         | Yes   | High                  |
| 3        | 7                   | Medium   | Low    | Yes                                | No                         | Yes   | High                  |
| 4        | 5                   | High     | Medium | Yes                                | Yes                        | Yes   | High                  |
| 5        | 6                   | High     | High   | Yes                                | Yes                        | No  | Medium                |
| 6        | 3                   | Medium   | Medium | Yes                                | No                         | Yes   | High                  |
| 7        | 3                   | High     | High   | Yes                                | Yes                        | No  | Medium                |
| 8        | 3                   | Medium   | Low    | Yes                                | Yes                        | Yes   | High                  |
| 9        | 6                   | Medium   | Low    | Yes                                | No                         | Yes   | High                  |
| 10       | 4                   | Medium   | Medium | Yes                                | No                         | Yes   | High                  |
| 11       | 5                   | High     | High   | Yes                                | Yes                        | No  | Medium                |
| 12       | 2                   | Low      | Low    | Yes                                | No                         | Yes   | High                  |
| 13       | 3                   | Low      | Low    | Yes                                | No                         | Yes   | High                  |
| 14       | 3                   | Low      | Low    | Yes                                | No                         | Yes   | High                  |
| 15       | 5                   | Medium   | Low    | Yes                                | No                         | Yes   | High                  |
| 16       | 3                   | Medium   | Low    | Yes                                | No                         | Yes   | High                  |
| 17       | 3                   | Medium   | Medium | Yes                                | Yes                        | No  | Medium                |
| 18       | 5                   | Medium   | Low    | Yes                                | No                         | Yes   | High                  |
| 19       | 13                  | Medium   | Low    | Yes                                | No                         | Yes   | High                  |
| 20       | 3                   | Low      | Low    | Yes                                | Yes                        | Yes   | High                  |

a. See Chapter 1 for definitions of high, medium and low priorities.

**TABLE 14-10.  
ANALYSIS OF MITIGATION ACTIONS**

| Hazard Type           | Action Addressing Hazard, by Mitigation Type <sup>a</sup> |                        |                                   |                                |                       |                        |
|-----------------------|---|------------------------|-----------------------------------|--------------------------------|-----------------------|------------------------|
|                       | 1. Prevention   | 2. Property Protection | 3. Public Education and Awareness | 4. Natural Resource Protection | 5. Emergency Services | 6. Structural Projects |
| Dam Failure           | N/A   | N/A                    | N/A                               | N/A                            | N/A                   | N/A                    |
| Drought               | 7, 18, 20   |                        | 13, 14, 19                        |                                | 8, 19                 |                        |
| Earthquake            | 7, 18, 20   |                        | 13, 14, 19                        |                                | 8, 19                 |                        |
| Flood                 | 1, 2, 3, 7, 10, 15, 16, 17, 18, 20                        | 2, 5, 6, 16            | 2, 12, 13, 14, 16, 19             | 2, 16                          | 2, 4, 8, 16, 19       | 2, 9, 10               |
| Severe Weather        | 7, 10, 17, 18, 20   | 6                      | 13, 14, 19                        |                                | 8, 11, 19             | 10                     |
| Severe Winter Weather | 7, 18, 20   |                        | 13, 14, 19                        |                                | 8, 11, 19             |                        |
| Tornado               | 7, 18, 20   |                        | 13, 14, 19                        |                                | 8, 11, 19             |                        |

a. See Chapter 1 for explanation of mitigation types.

**TABLE 14-11.  
PREVIOUS ACTION PLAN IMPLEMENTATION STATUS**

| Action # | Action Status |                           |                             | Comments          |
|----------|---------------|---------------------------|-----------------------------|-------------------|
|          | Completed     | Carry Over to Plan Update | Removed; No Longer Feasible |                   |
| 1        |               | ✓                         |                             | This is now C1.1  |
| 2        |               | ✓                         |                             | This is now C1.2  |
| 3        |               | ✓                         |                             | This is now C1.3  |
| 4        |               | ✓                         |                             | This is now C1.4  |
| 5        |               | ✓                         |                             | This is now C1.5  |
| 6        |               | ✓                         |                             | This is now C1.6  |
| 7        |               | ✓                         |                             | This is now C1.7  |
| 8        |               | ✓                         |                             | This is now C1.8  |
| 9        |               | ✓                         |                             | This is now C1.9  |
| 10       |               | ✓                         |                             | This is now C1.10 |
| 11       |               | ✓                         |                             | This is now C1.11 |
| 12       |               | ✓                         |                             | This is now C1.12 |
| 13       |               | ✓                         |                             | This is now C1.13 |
| 14       |               | ✓                         |                             | This is now C1.14 |
| 15       |               | ✓                         |                             | This is now C1.15 |

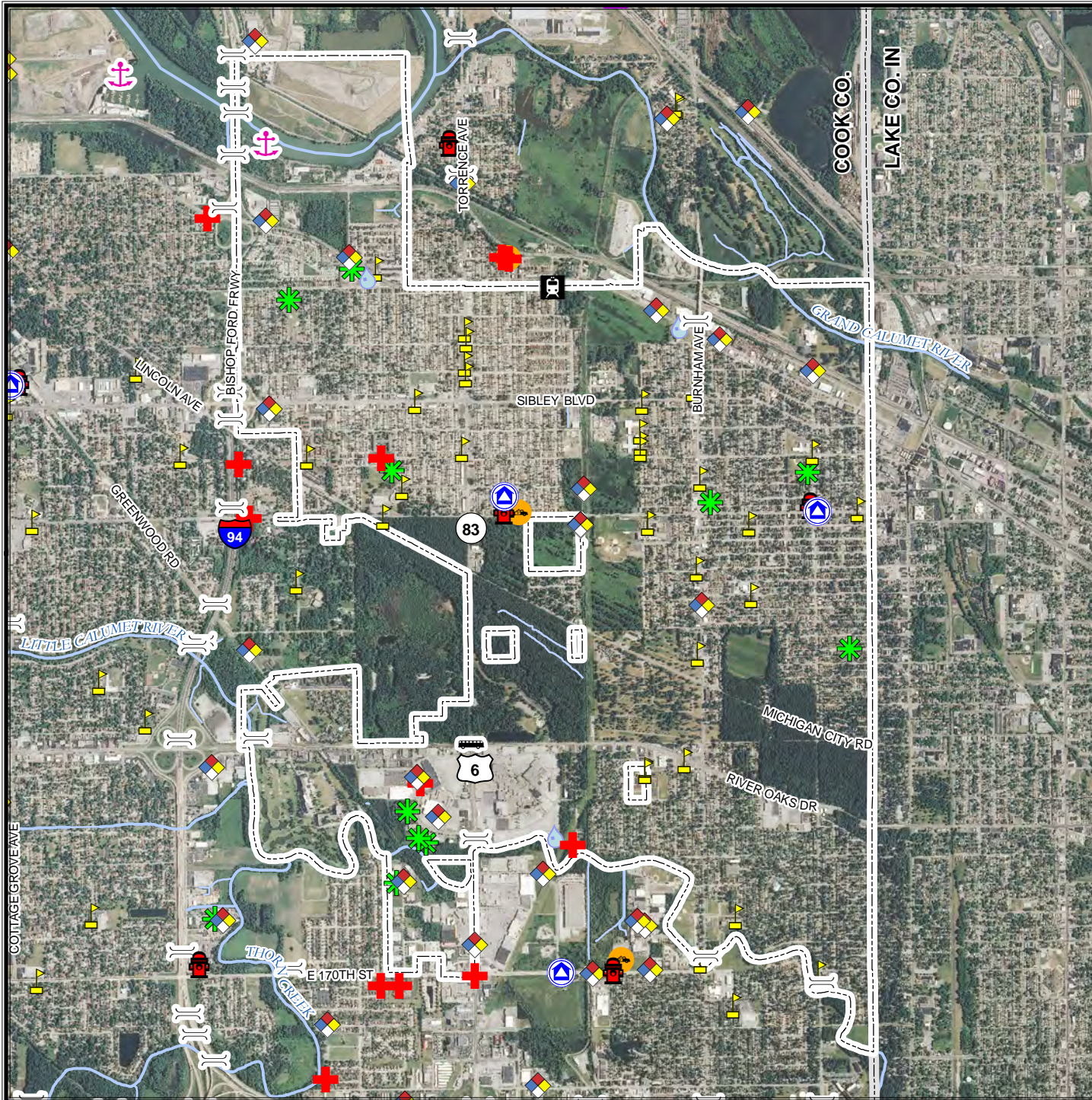
**HAZUS-MH RISK ASSESSMENT RESULTS FOR  
CALUMET CITY**

| <b>CALUMET CITY EXISTING CONDITIONS</b>               |                  |
|---|------------------|
| 2010 Population.....                                  | 37,042           |
| Total Assessed Value of Structures and Contents ..... | \$17,245,287,353 |
| Area in 100-Year Floodplain .....                     | 338.42 acres     |
| Area in 500-Year Floodplain .....                     | 925.68 acres     |
| Number of Critical Facilities .....                   | 81               |

| <b>HAZARD EXPOSURE IN CALUMET CITY</b> |                |           |                         |                 |                        |                                   |
|--|----------------|-----------|-------------------------|-----------------|------------------------|-----------------------------------|
|  | Number Exposed |           | Value Exposed to Hazard |                 |                        | % of Total Assessed Value Exposed |
|  | Population     | Buildings | Structure               | Contents        | Total                  |                                   |
| <b>Dam Failure</b>                     |                |           |                         |                 |                        |                                   |
| Buffalo Creek                          | 0              | 0         | \$0                     | \$0             | <b>\$0</b>             | 0.00%                             |
| U. Salt Cr. #2                         | 0              | 0         | \$0                     | \$0             | <b>\$0</b>             | 0.00%                             |
| Touhy                                  | 0              | 0         | \$0                     | \$0             | <b>\$0</b>             | 0.00%                             |
| U. Salt Cr. #3                         | 0              | 0         | \$0                     | \$0             | <b>\$0</b>             | 0.00%                             |
| U. Salt Cr. #4                         | 0              | 0         | \$0                     | \$0             | <b>\$0</b>             | 0.00%                             |
| <b>Flood</b>                           |                |           |                         |                 |                        |                                   |
| 100-Year                               | 1,349          | 415       | \$108,299,162           | \$67,434,142    | <b>\$175,733,304</b>   | 1.02%                             |
| 500-Year                               | 7,163          | 2,204     | \$593,717,025           | \$367,387,972   | <b>\$961,104,997</b>   | 5.57%                             |
| <b>Tornado</b>                         |                |           |                         |                 |                        |                                   |
| 100-Year                               | —              | —         | \$791,554,649           | \$679,781,954   | <b>\$1,471,336,603</b> | 8.53%                             |
| 500-Year                               | —              | —         | \$2,483,082,643         | \$2,275,785,509 | <b>\$4,758,868,152</b> | 27.60%                            |




















| <b>ESTIMATED PROPERTY DAMAGE VALUES IN CALUMET CITY</b> |   |               |                      |                                   |
|---|---|---------------|----------------------|-----------------------------------|
|   | Estimated Damage Associated with Hazard |               |                      | % of Total Assessed Value Damaged |
|   | Building                                | Contents      | Total                |                                   |
| <b>Dam Failure</b>                                      |   |               |                      |                                   |
| Buffalo Creek   | \$0                                     | \$0           | <b>\$0</b>           | 0.00%                             |
| U. Salt Cr. #2  | \$0                                     | \$0           | <b>\$0</b>           | 0.00%                             |
| Touhy   | \$0                                     | \$0           | <b>\$0</b>           | 0.00%                             |
| U. Salt Cr. #3  | \$0                                     | \$0           | <b>\$0</b>           | 0.00%                             |
| U. Salt Cr. #4  | \$0                                     | \$0           | <b>\$0</b>           | 0.00%                             |
| <b>Earthquake</b>                                       |   |               |                      |                                   |
| 1909 Historical Event                                   | \$73,455,285                            | \$19,041,974  | <b>\$92,497,260</b>  | 0.54%                             |
| <b>Flood</b>  |   |               |                      |                                   |
| 10-Year   | \$110,083                               | \$180,339     | <b>\$290,422</b>     | 0.00%                             |
| 100-Year  | \$8,316,345                             | \$8,042,832   | <b>\$16,359,176</b>  | 0.09%                             |
| 500-Year  | \$43,471,094                            | \$30,925,812  | <b>\$74,396,906</b>  | 0.43%                             |
| <b>Tornado</b>  |   |               |                      |                                   |
| 100-Year  | \$79,155,465                            | \$67,978,195  | <b>\$147,133,660</b> | 0.85%                             |
| 500-Year  | \$362,530,066                           | \$332,264,684 | <b>\$694,794,750</b> | 4.03%                             |

# **HAZARD MAPPING FOR CALUMET CITY**

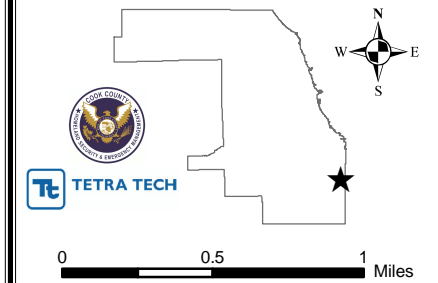


# CITY OF CALUMET CITY

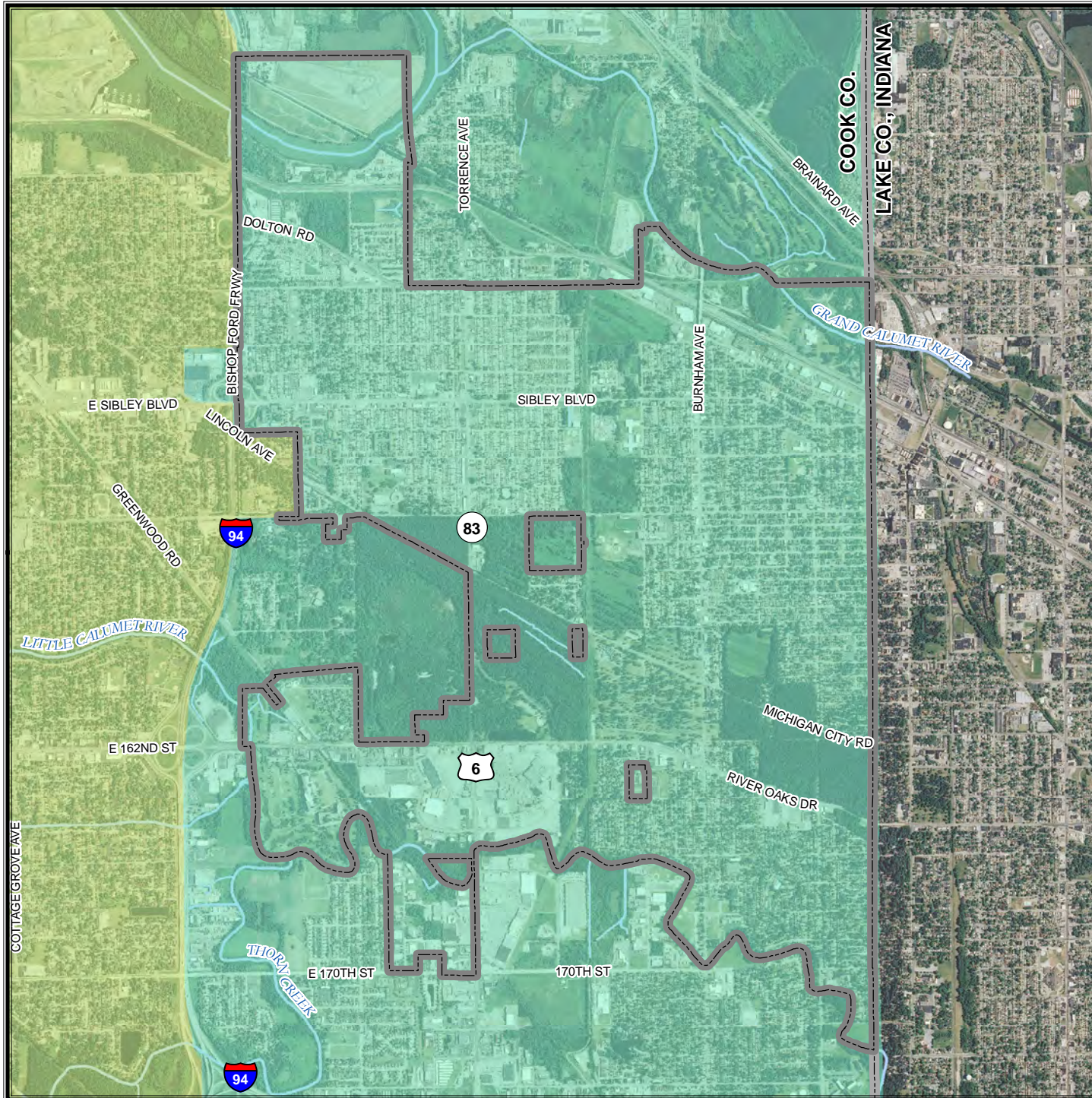
## Critical Facilities

-  Airport Facility
-  Bus Facility
-  Dams
-  Emergency Operations Center
-  Fire Station Facility
-  Hazardous Materials
-  Highway Bridge
-  Light Rail Bridge
-  Light Rail Facility
-  Medical Care Facility
-  Military
-  Oil Facility
-  Police Station Facility
-  Port Facility
-  Potable Water Facility
-  Rail Facility
-  Railway Bridge
-  School Facility
-  Other Facility

Base Map Data Sources:  
Cook County, U.S. Geological Survey







# CITY OF CALUMET CITY

## Illinois Historical 1909 Earthquake

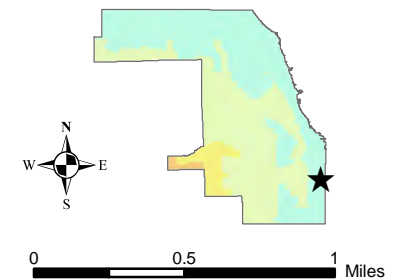
### Modified Mercalli Intensity

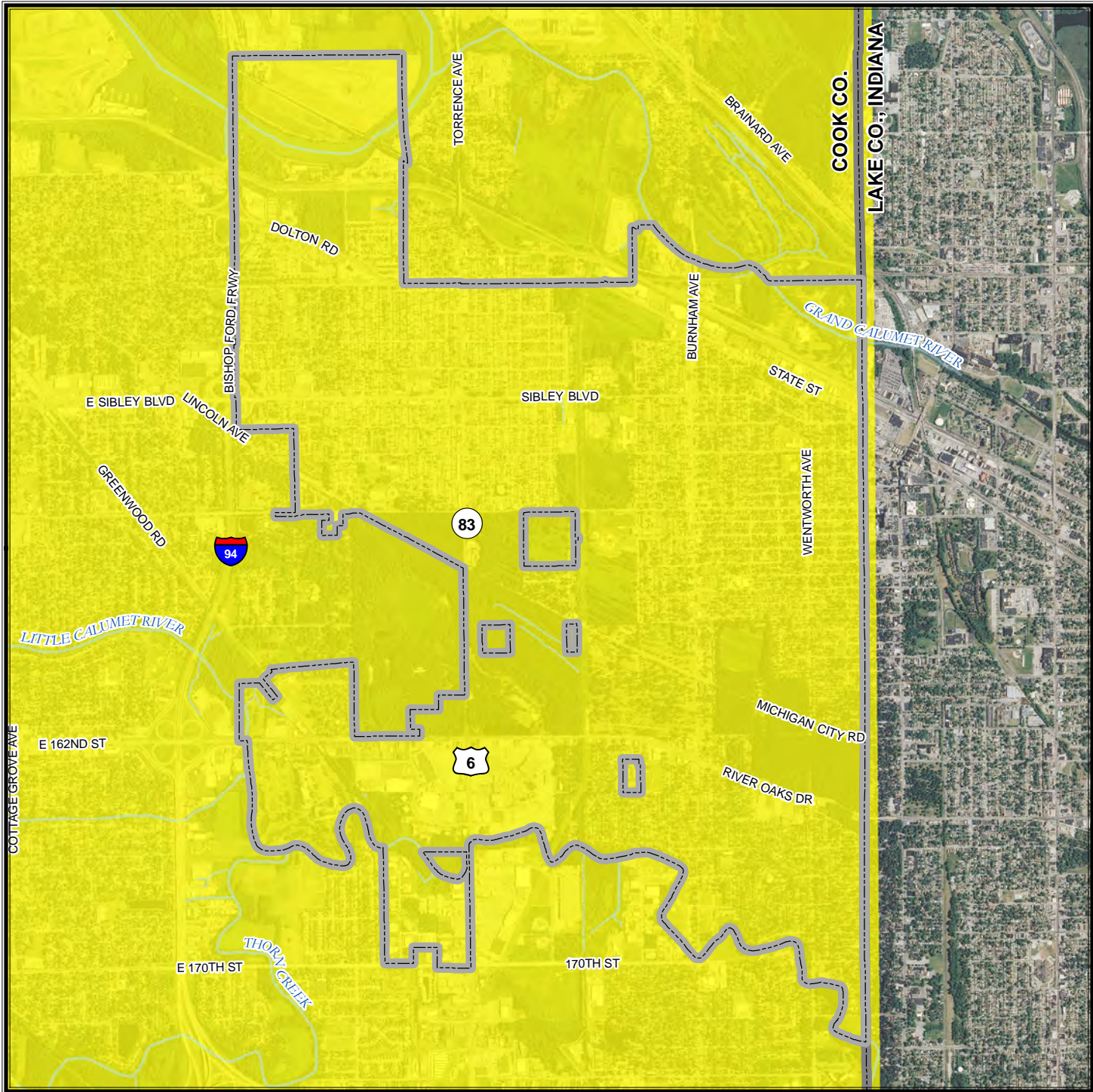
- I (Not Felt)
- II-III (Weak)
- IV (Light)
- V (Moderate)
- VI (Strong)
- VII (Very Strong)
- VIII (Severe)
- IX (Violent)
- X+ (Extreme)

Event Date of May 26, 1909. Original magnitude of 5.0; increased magnitude for analysis of 6.0. Depth: 10 km. Epicenter Lat/Long: 41.6N 88.1W

An Epicenter Map is derived from a database of historical earthquakes developed from three sources (Composite Earthquake Catalog, 2002, Earthquake Data Base, 2002, and Earthquake Seismicity Catalog, 1996). The database has been sorted to remove historical earthquakes with magnitudes less than 5.0. The Epicenter Map is based on a historical earthquake epicenter, selected from the database.

Base Map Data Sources:  
Cook County, U.S. Geological Survey





# CITY OF CALUMET CITY

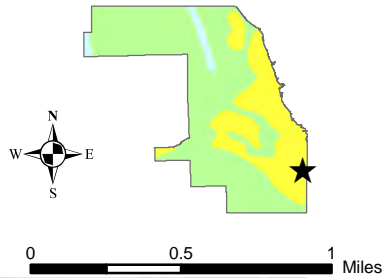
## National Earthquake Hazard Reduction Program (NEHRP) Soil Classification

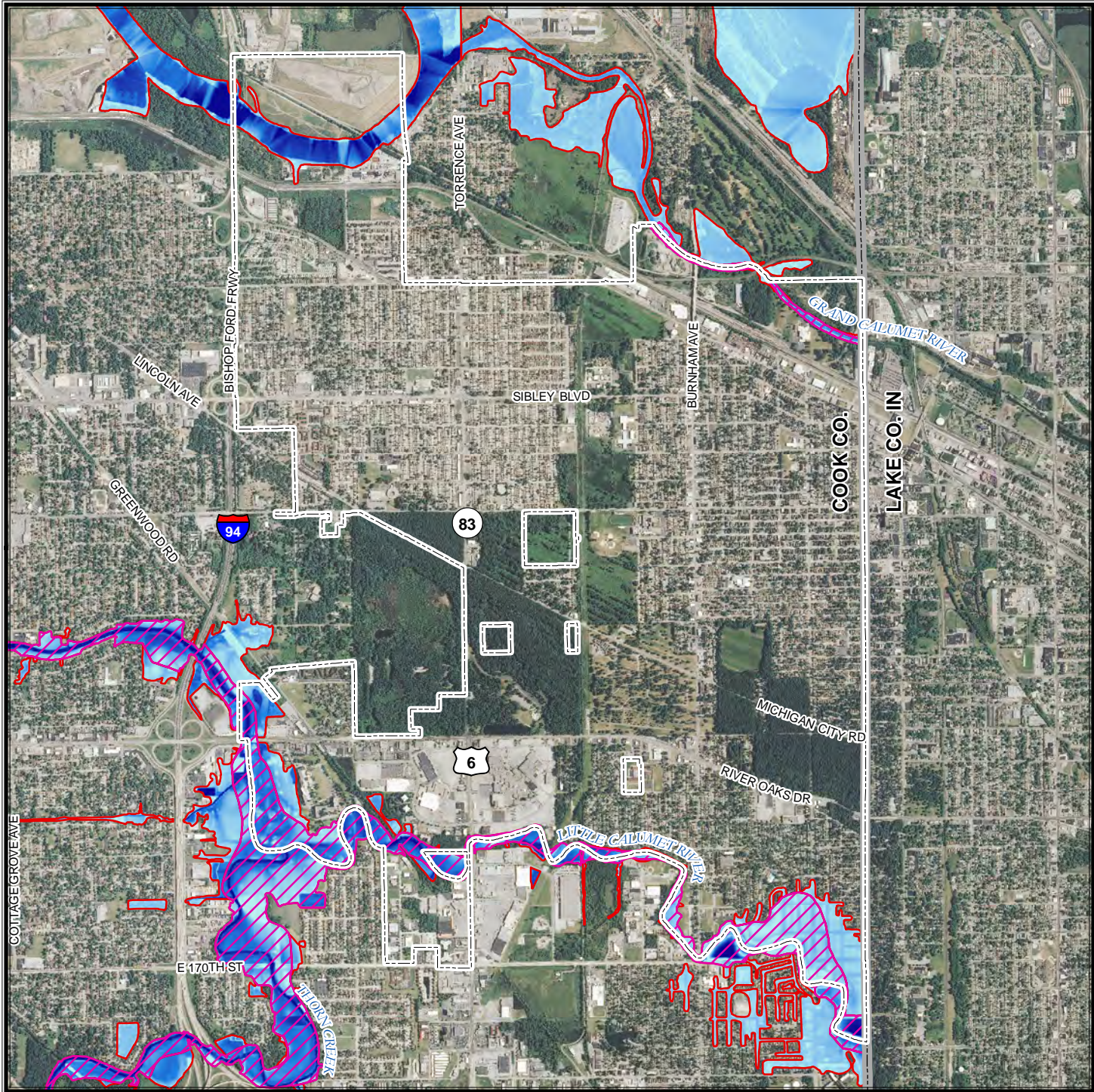
- Site Class**
- A - Hard Rock
  - B - Rock
  - C - Very Dense Soil, Soft Rock
  - D - Stiff Soil
  - E - Soft Soil
  - F - Site-Specific Evaluation

Soil classification data provided by the Illinois State Geological Society.

The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. Central U.S. Earthquake Consortium (CUSEC) State Geologists used the entire column of soil material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

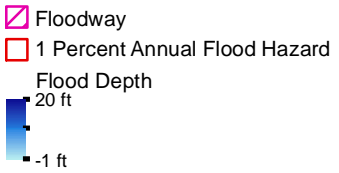
Base Map Data Sources:  
Cook County, U.S. Geological Survey





# CITY OF CALUMET CITY

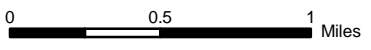
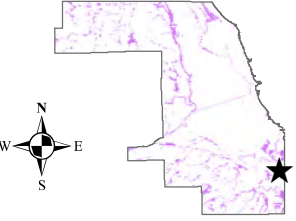
## FEMA DFIRM Flood Hazard Areas

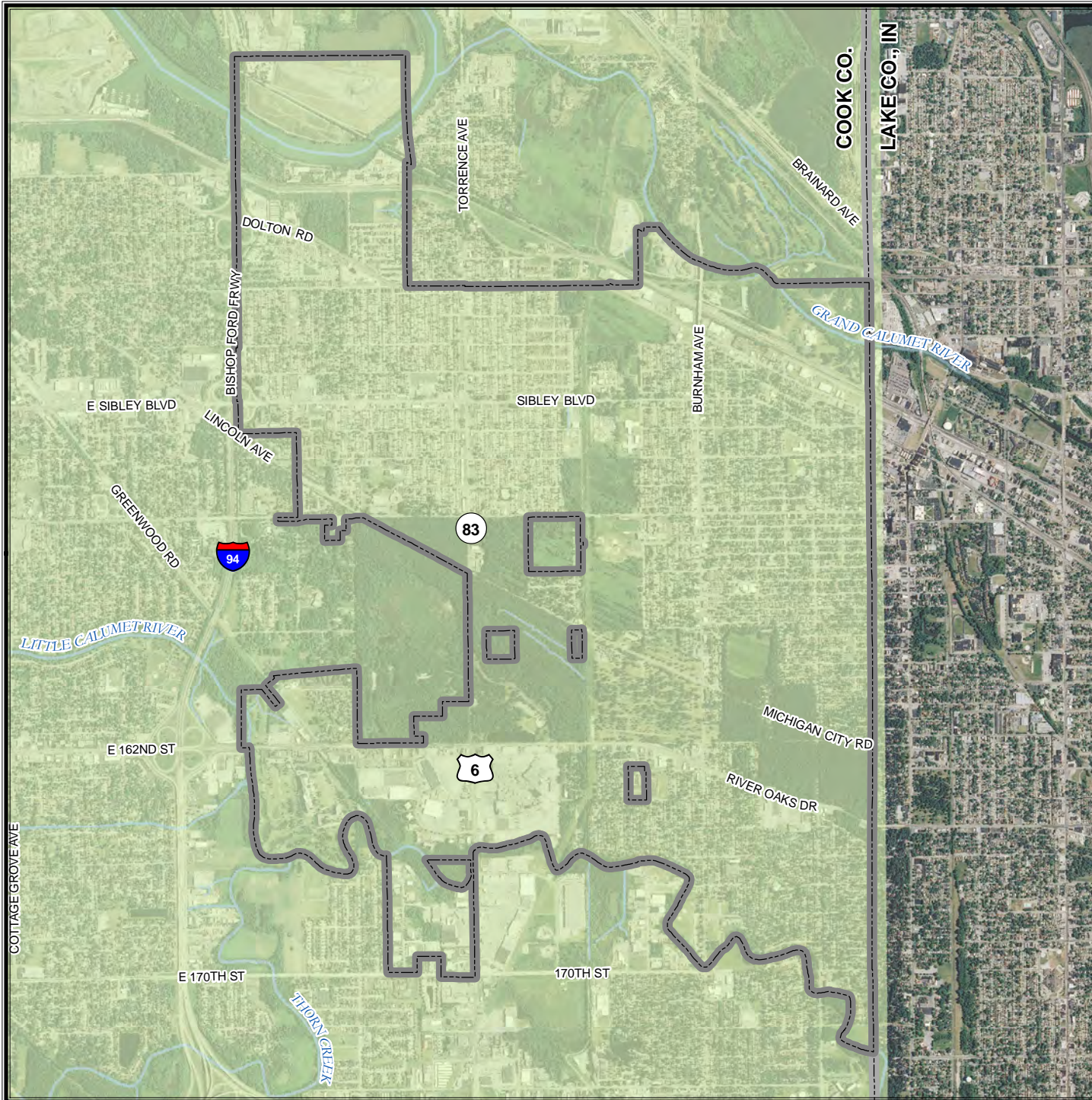


Flood hazard areas as depicted on FEMA Digital Flood Insurance Rate Maps (DFIRM).

The 1 percent annual flood hazard is commonly referred to as the 100 year floodplain.

Base Map Data Sources:  
Cook County, U.S. Geological Survey





# CITY OF CALUMET CITY

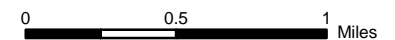
## Liquefaction Susceptibility

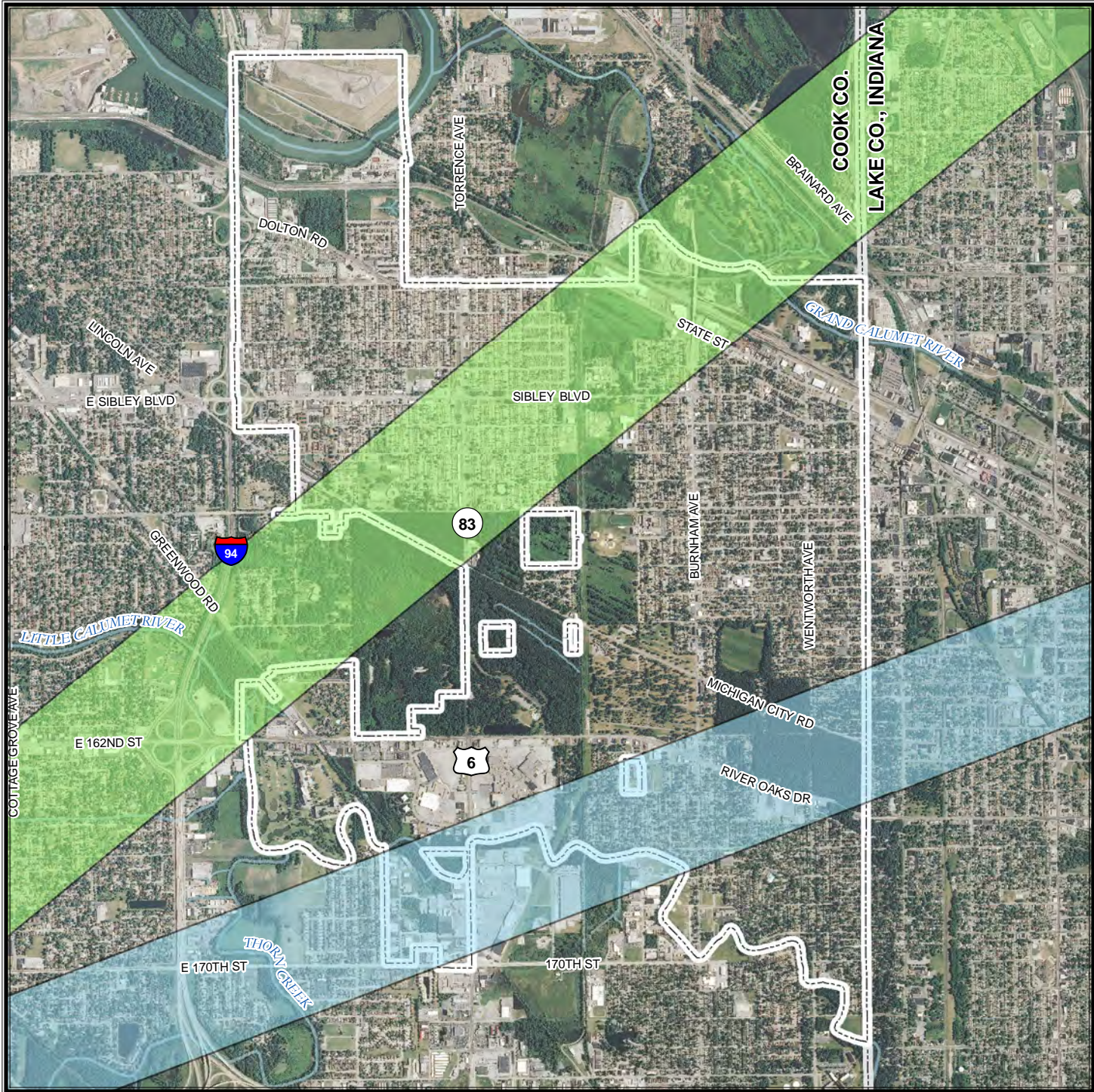
| Susceptible   |  | Not Susceptible                           |  |
|---|--|---|--|
| <span style="color: red;">■</span> High                   | <span style="color: gray;">■</span> Bedrock  | <span style="color: brown;">■</span> Peat | <span style="color: lightblue;">■</span> Water |
| <span style="color: orange;">■</span> Moderate to High    | <span style="color: lightgray;">■</span> Ice |   |  |
| <span style="color: yellow;">■</span> Moderate            |  |   |  |
| <span style="color: lightgreen;">■</span> Low to Moderate |  |   |  |
| <span style="color: green;">■</span> Low                  |  |   |  |
| <span style="color: darkgreen;">■</span> Very Low to Low  |  |   |  |
| <span style="color: teal;">■</span> Very Low              |  |   |  |

Liquefaction data provided by the Illinois State Geological Society. Liquefaction data based on the Youd and Perkins (1978) method.

A liquefaction susceptibility map provides an estimate of the likelihood that soil will liquefy as a result of earthquake shaking. This type of map depicts the relative susceptibility in a range that varies from very low to high. Areas underlain by bedrock or peat are mapped separately as these earth materials are not liquefiable, although peat deposits may be subject to permanent ground deformation caused by earthquake shaking.

Base Map Data Sources:  
Cook County, U.S. Geological Survey





# CITY OF CALUMET CITY

## 100- and 500-Year Tornado Events

- 100-Year Modeled Tornado Event (F4)
- 500-Year Modeled Tornado Event (F5)

The 100- and 500-year events have been modeled based on fifty-nine years of tornado data for Cook County. The wind speeds, widths, lengths, and direction for each event were developed using existing historical tornado data. The simulated storms and their corresponding losses within this jurisdiction were used to determine the 100- and 500-year economic loss event.

Base Map Data Sources:  
Cook County, U.S. Geological Survey

