# Wheeling

## Hazard Mitigation Plan Point of Contact

| Primary Point of Contact | Alternate Point of Contact |
|---|---|
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## Jurisdiction Profile

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

**Date of Incorporation:** 1894

**Current Population:** The 2020 U.S. Census population was 39,137. The 2022 U.S. Census estimate indicated the population was 37,936.

**Population Growth:** The overall population has decreased by 2.42% between 2018 and 2022.

**Location and Description:** The Village of Wheeling is a northwest suburb of Chicago in Cook County, located is located 29 miles northwest of the Chicago Loop. Suburbs adjacent to Wheeling include Riverwoods and Long Grove to the north, Prospect Heights and Arlington Heights to the south, Northbrook to the east, and Palatine to the west. Forest preserves border the entire eastern side of Wheeling, and interstate 294 runs parallel just on the opposite side of the forest preserves. The I-294/94 merge is three miles directly east of Wheeling and north of West Dundee Rd. The Chicago Executive Airport is located in Wheeling and Prospect Heights and is jointly managed by both villages. According to the U.S. Census Bureau, the Village of Wheeling has a total land area of 8.7 square miles.

**Brief History:** In 1836, the stagecoach route was created between Chicago and Green Bay, Wisconsin. This route was known as the Des Plaines Valley Road (which today is known as Milwaukee Avenue). A settler known as Joseph Filkins built a tavern and hotel which eventually became the beginning of the Village of Wheeling. By 1840, an additional hotel was built, as well as a blacksmith shop, hardware store, and the community's first school. In 1886, the Wisconsin Central Railroad was constructed and a train station was added to the community. In order to maintain law and order over the growing community, the Village was officially incorporated in 1894. In 1925, a 40-acre grass and dirt airport opened on the Village's southeast side and became known as Gauthier's Flying Field. With further enhancements, including paved runways, the airport's name was changed to Palwaukee Airport in reference to the two nearby main streets; Palatine Road and Milwaukee Avenue. In the late 2000s, the name of the airport was once again changed to Chicago Executive Airport to reflect its transition to a corporate jet airport, as well as its status as the fourth busiest airport in Illinois. During

Prohibition, the community was home to several speakeasies and gambling establishments rumored to be frequented by infamous Chicago gangsters. Following World War II, the community rapidly developed as a result of the influx of numerous manufacturing facilities and post-war construction of numerous single-family homes developments. Renewed growth occurred in the 1990s to bring Wheeling to its current population of 37,648. The community is serviced by the Metra commuter rail service which provides scheduled service to the City of Chicago.

**Climate:** The Village's climate is typical of northeastern Illinois with mild summers and moderate winters with moderate accumulations of snow and ice. The average temperature in July is 72.9 °F and the average temperature in January is 22 °F. Annual precipitation is 36.8 inches of combined rain, snow, and ice.

**Governing Body Format:** The Village of Wheeling operates under the Council-Manager form of government. Policy-making and legislative authority are vested in a governing board consisting of the Village President, Village Clerk, and six (6) Village Trustees. All members are elected at large on a non-partisan basis. Village Board members serve a four (4) year term with three (3) Village Trustees elected every two (2) years during open elections. The Village Board appoints a professional staff member to serve as the Village Manager who is responsible for overseeing the day to day operations of the Village. This body of government will assume the responsibility for the adoption and implementation of this plan. The Village provides a full range of community services including fire suppression and prevention, emergency medical treatment and transportation, police/law enforcement, design and maintenance of community infrastructure, economic development and planning, as well as senior and social services. Wheeling operates 10 Village departments including Community Development, Economic Development, Finance Department, Fire Department, Human Resources Department, Human Services, Information Technology, Police Department, Public Works Department, and Senior Services Division.

**Development Trends:** Anticipated development levels for the Village of Wheeling are low to moderate consisting of both residential and light commercial development. Most new residential development will consist of multi-family structures of moderate height. The current comprehensive plan was adopted on July 28, 2003, with a recent update addressing an active transportation component on January 1, 2013.

**Changes in Community Priorities**: There have been no significant changes in priority regarding the hazards that could potentially impact the community or changes in priority regarding resilience.

## Capability Assessment

The assessment of the jurisdiction's legal and regulatory capabilities is presented in the *Legal and Regulatory Capability Table* below. The assessment of the jurisdiction's fiscal capabilities is presented in the *Fiscal Capability Table* below. The assessment of the jurisdiction's administrative and technical capabilities is presented in the *Administrative and Technical Capability Table* below. Information on the community's National Flood Insurance Program (NFIP) compliance is presented in the *National Flood Insurance Program Compliance Table* below. Classifications under various community mitigation programs are presented in the *Community Classifications Table* below.

| TABLE: LEGAL AND REGULATORY CAPABILITY | | | | | |
|---|---|---|---|---|---|
| | **Local Authority** | **State or Federal Prohibitions** | **Other Jurisdictional Authority** | **State Mandated** | **Comments** |
| **Codes, Ordinances & Requirements** | | | | | |
| Building Code | Yes | No | No | Yes | 2018 IBC with local amendments<br>Ord. 5247 (2019) |
| Zonings | Yes | No | No | Yes | Wheeling Municipal Code<br>Ord. 4719 (2022) |
| Subdivisions | Yes | No | No | No | Ord. 3954 (2005) |
| Stormwater Management | Yes | No | Yes | Yes | 4322 (2008) Last site visit was 7/30/2019 |
| Post Disaster Recovery | No | No | No | No | |
| Real Estate Disclosure | No | No | Yes | Yes | (765 ILCS 77/) Residential Real Property Disclosure Act. |
| Growth Management | No | No | No | No | |
| Site Plan Review | Yes | No | No | No | Ord. 4719 (2012) |
| Public Health and Safety | Yes | No | Yes | No | Cook County Board of Health and local health inspectors. |
| Environmental Protection | No | No | No | No | |
| **Planning Documents** | | | | | |
| General or Comprehensive Plan | Yes | No | No | No | Ord. 3761 (2003) |
| *Is the plan equipped to provide integration to this mitigation plan?* | | | | | Yes, Plan includes land use element. |
| Floodplain or Basin Plan | Yes | No | No | No | In progress |
| Stormwater Plan | Yes | No | Yes | No | MWRD Watershed |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | Plan/Village Plan |
| Capital Improvement Plan | Yes | No | No | No | Res 2023-175 (2024-2028). |
| | | | | *What types of capital facilities does the plan address?* | Building & Equipment |
| | | | | *How often is the plan revised/updated?* | Annually |
| Habitat Conservation Plan | No | No | No | No | |
| 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 | |
| **Response/Recovery Planning** | | | | | |
| Comprehensive Emergency Management Plan | No | No | Yes | Yes | Cook County EMRS<br>Currently has an EOP that is not mandated and revised in August 2023 |
| Threat and Hazard Identification and Risk Assessment | No | No | Yes | No | Cook County EMRS Preparing THIRA |
| Terrorism Plan | No | No | Yes | Yes | Cook County EMRS |
| Post-Disaster Recovery Plan | No | No | No | No | |
| Continuity of Operations Plan | No | No | Yes | No | Cook County EMRS |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | Developed Plan in 2021, not mandated |
| Public Health Plans | No | No | Yes | No | Cook County DPH |

| TABLE: FISCAL CAPABILITY | |
|---|---|
| **Financial Resources** | **Accessible or Eligible to Use?** |
| 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 | No |
| 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 | Yes |
| Other (Storm Water Management Fee) | Yes |

| TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY | | |
|---|---|---|
| **Staff/Personnel Resources** | **Available?** | **Department/Agency/Position** |
| Planners or engineers with knowledge of land development and land management practices | Yes | Community Development – Director, Village Planner, Community Development Assistant Director |
| Engineers or professionals trained in building or infrastructure construction practices | Yes | Public Work (Water & Sewer Operations) – Director, Superintendent, and Foreman |
| Planners or engineers with an understanding of natural hazards | Yes | Public Works |
| Staff with training in benefit/cost analysis | Yes | Community Development – Director/Village Planner |
| Surveyors | No | |
| Personnel skilled or trained in GIS applications | Yes | Cook County GIS Consortium/Village GIS Staff |
| Scientist familiar with natural hazards in local area | No | |
| Emergency manager | Yes | Cook County EMRS/Village of Wheeling |
| Grant writers | Yes | Provided within each Village department |

| TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE | |
|---|---|
| What department is responsible for floodplain management in your jurisdiction? | Community Development |
| Who is your jurisdiction's floodplain administrator? (department/position) | Community Development, Village Engineer |
| Are any certified floodplain managers on staff in your jurisdiction? | No |
| What is the date of adoption of your flood damage prevention ordinance? | Ord. 4322 04/21/2008 |
| When was the most recent Community Assistance Visit or Community Assistance Contact? | 1/18/2012 - pending review in 2019 |

| | |
|---|---|
| Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are. | None identified |
| 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? | Yes - CFM Certification |
| 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 |

**NFIP Participation Activities**

Maintaining compliance under the NFIP is an important component of flood risk reduction. All planning partners that participate in the NFIP have identified actions to maintain their compliance and good standing. Cook County entered the NFIP on April 15, 1981. Structures permitted or built in the County before then are called "pre-FIRM" structures, and structures built afterwards are called "post-FIRM." The insurance rate is different for the two types of structures. The effective date for the current countywide FIRM is August 19, 2008. This map is a DFIRM (digital flood insurance rate map). The communities in Cook County that participate in the NFIP are shown in ***Table: NFIP Participating Communities in Cook County*** in **Volume I** of the Cook County MJ-HMP.

The NFIP makes federally-backed flood insurance available to homeowners, renters, and business owners in participating communities. The communities in Cook County that participate in the NFIP and their "Policies in Force," "Total Coverage," and "Total Written Premiums" are shown in ***Table: Cook County Flood Insurance Policies*** in **Volume I** of the Cook County MJ-HMP.

The following are NFIP-related activities completed by our community:

- Our staff provide the following services: permit reviews, GIS, inspections, engineering capability.
- Our community enforces local floodplain regulations and monitors compliance.
- Our floodplain development regulations meet or exceed Federal Emergency Management Agency (FEMA) or State minimum requirements.

We are a CRS 6 rated community. We do outreach programs, we completed a LOMR that removed about 700 homes from the floodplain. We do flood protection assistance for our residents, and continue to design and construct stormwater improvement projects.

**Substantial Improvement Rule and the Substantial Damage Rule**

The IDNR/OWR has developed a model ordinance for floodplain management, which has been adopted by most communities in Illinois. The ordinance includes the minimum requirements an NFIP participating jurisdiction must adopt and enforce, as well as additional higher regulatory requirements. The optional, higher regulatory standards include a minimum one foot of freeboard above the base flood elevation and cumulative tracking of damage repairs and improvements to establish substantial damage and substantial improvement compliance. Some jurisdictions have chosen to exceed the requirements of the model ordinance and have adopted more restrictive ordinances. This is most common in the communities in northeastern Illinois.

*Existing Municipal Code:*

22.06.680 Substantial Damage

A building is considered substantially damaged when it sustains damage of any origin (fire, flood earthquake, etc.), whereby the cumulative percentage of damage subsequent to the adoption of this Title equals or exceeds fifty percent of the market value of the structure before the damage occurred regardless of actual repair work performed. Volunteer labor and materials must be included in this determination. The term includes repetitive loss buildings. See Section 22.06.590 "Repetitive loss."

(Ord. 4183 § A (part), 2007)

22.06.690 Substantial Improvement

"Substantial improvement" means any repair, reconstruction, addition or improvement of a structure, subsequent to the adoption of this Title, in which the cumulative percentage of the cost of improvements equals or exceeds fifty percent of the market value of the structure either: (a) before the improvement or repair is started, or (b) if the structure has been damaged, or is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. This term includes structures which have incurred repetitive loss or substantial damage, regardless of the actual work done. The term does not, however, include either: (1) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or (2) any alteration of a structure listed on the National Register of Historic Places or Illinois Register of Historic Places, provided that the alteration will not preclude the structure's continued designation as a historic structure.

22.10 Duties of the Enforcement Official

22.10.010 Enforcement Responsibilities

The director of public works or his appointed representative shall be responsible for the general administration and enforcement of this Title which shall include the following.

(Ord. 4183 § A (part), 2007)

(Ord. No. 5613, § 3, 8-21-2023)

22.10.020 Determining the Floodplain Designation

Review all new development sites to determine whether they are in SFHA. If they are in SFHA, it shall be determined whether they are in a floodway, flood fringe or in a floodplain on which a detailed study has not been conducted which drains more than one square mile. Review whether the development is potentially within an extended SFHA (with a drainage area less than one square mile), indicating that the development would have adverse impacts regarding storage, conveyance, or inundation which would be the basis for the applicant being required to delineate the floodplain and floodway and be subject to the remaining sections of this Title.

(Ord. 4183 § A (part), 2007)

22.10.030 Professional Engineer Review

If the development site is within a floodway or in a floodplain on which a detailed study has not been conducted which drains more than one square mile then the permit shall be referred to the village engineer for review to ensure that the development meets the requirements of Chapters 22.16 and 22.18. In the case of an appropriate use, the village engineer shall state in writing that the development meets the requirements of Chapter 22.16.

(Ord. 4183 § A (part), 2007)

22.10.080 Damage Determinations

Make damage determinations of all damaged buildings in the SFHA after a flood to determine substantially damages structures which must comply with Section 22.20.050.

(Ord. 4183 § A (part), 2007)

Chapter 22.20 Permitting Requirements Applicable to all Floodplain Areas

22.20.030 Protecting Buildings

All buildings located within a one-hundred-year floodplain also known as a SFHA, shall be protected from flood damage below the flood protection elevation in accordance with provisions of Sections 22.20.040 through 22.20.060. However, existing buildings located within a regulatory floodway shall also meet the more restrictive appropriate use standards included in Chapter 22.16. This building protection criteria applies to the following situations:

(a) Construction or placement of a new building or alteration or addition to an existing building valued at more than one thousand dollars or seventy square feet;

(b) Substantial improvements or structural alterations made to an existing building that either increases the first floor area by more than twenty percent or the building's market value by fifty percent or more. Alteration shall be figured cumulatively subsequent to the adoption of this Title. If substantially improved, the existing structure and the addition must meet the flood protection standards of this section;

(c) Repairs made to a substantially damaged building. These repairs shall be figured cumulatively subsequent to the adoption of this Title. If substantially damaged the entire structure must meet the flood protection standards of this section;

(d) Installing a manufactured home on a new site or a new manufactured home on an existing site. This building protection requirement does not apply to returning a mobile home to the same site it lawfully occupied before it was removed to avoid *flood* damage;

(e) Installing a travel trailer or recreational vehicle on a site for more than one hundred eighty days per year;

(f) Repetitive loss to an existing building as defined in Section 22.06.590. This building protection requirement may be met by one of the following methods.

(Ord. 4183 § A (part), 2007)

22.20.050 Residential or Non-Residential Elevated

A residential or nonresidential building may be elevated in accordance with the following:

(a) The building or improvements shall be elevated on a crawl space, stilts, piles, walls, or other foundation that is permanently open to floodwaters and not subject to damage by hydrostatic pressures of the base *flood* or one-hundred-year frequency *flood*. Designs must either be certified by a registered professional engineer or architect or the permanent openings, one on each wall, shall be no more than one foot above existing grade, and consist of a minimum of two openings. The openings must have a total net area of not less than one square inch for every one square foot of enclosed area subject to *flooding* below the BFE.

(b) The foundation and supporting members shall be anchored and aligned in relation to *flood* flows and adjoining structures so as to minimize exposure to known hydrodynamic forces such as current, waves, ice and floating debris.

(c) All areas below the *flood* protection elevation shall be constructed of materials resistant to *flood* damage. The lowest floor (including basement) and all electrical, heating, ventilating, plumbing, and air-conditioning equipment and utility meters shall be located at or above the *flood* protection elevation. Water and sewer pipes, electrical and telephone lines, submersible pumps, and other waterproofed service facilities may be located below the *flood* protection elevation provided they are waterproofed.

(d) No area below the *flood* protection elevation shall be used for storage of items or materials and can only be used for the parking of vehicles, building access or storage in an area other than a basement and not later modified or occupied as habitable space.

(e) When the building wall encloses open space that is below the BFE, gravity storm and sanitary sewer connections are specifically prohibited and overhead sewers are required for the sanitary connections and sumps for the storm sewer connections.

(f) In lieu of the above criteria, the design methods to comply with these requirements may be certified by a registered professional engineer or architect.

(g) Manufactured homes and travel trailers to be installed on a site for more than one hundred eighty days, shall be elevated to or above the flood protection elevation; and, shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the Rules and Regulations for the Illinois Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code 870. In the case of manufactured homes placed or substantially improved: (1) outside of a manufactured home park or subdivision, (2) in a new manufactured home park or subdivision, (3) in an expansion to an existing manufactured home park or subdivision, or (4) in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage from a flood, the top of the lowest floor shall be elevated to or above the flood protection elevation. In the case of manufactured homes placed or substantially improved in an existing manufactured home park or subdivision, the manufactured home shall be elevated so that either the top of the lowest floor is above the base flood elevation or the chassis is at least thirty-six inches in height above grade and supported by reinforced piers or other foundations of equivalent strength, whichever is less.

22.20.080 Critical Facilities Outside the Floodplain Limits

Construction of new or substantially improved critical facilities shall be located outside the limits of the floodplain. Construction of new critical facilities shall be permissible within the floodplain if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor (including basement) elevated or structurally dry floodproofed to the five-hundred-year flood frequency elevation or three feet above the level of the one-hundred-year flood frequency elevation whichever is greater. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities.

(Ord. 4183 § A (part), 2007)

| **TABLE: COMMUNITY CLASSIFICATIONS** | | | |
|---|---|---|---|
| | **Participating?** | **Classification** | **Date Classified** |
| Community Rating System | Yes | 6 | 2015 |
| Building Code Effectiveness Grading Schedule | Yes | Unknown | N/A |
| Public Protection/ISO | Yes | 2 | 2017 |
| StormReady | Yes | Gold (Countywide) | 2014 |
| Tree City USA | Yes | 34 years | 1990 |

**Opportunities to Expand and Improve Capabilities**

Opportunities to expand and improve capabilities include grant funding for the managing of water retention related maintenance of retention ponds, storm water retention, and continued stormwater management improvements.

**Plan Integration**

The capability assessment describes opportunities to "link" or integrate the mitigation plan into other planning mechanisms. The process and mechanism to identify opportunities to integrate the Cook County MJ-HMP into other planning mechanisms will occur during the Annual Update Process and be reflected in the Jurisdictional Annual Report each year. Specific plan integration opportunities will include:

- The hazards, goals, and actions of the Hazard Mitigation Plan will be considered in the next update of the Comprehensive Plan.
- The hazards, goals, and actions of the Hazard Mitigation Plan will be considered in the next update of the jurisdiction’s land use plans, zoning, and subdivision codes.

*Emergency Plan Integration:*

Cook County EMRS is supporting communities to develop and update their respective Emergency Operations Plans, Continuity of Operations Plan/Continuity of Government Plan, and Recovery Plan in 2024. This is an ongoing countywide initiative and is being implemented in all municipalities.

Emergency Operations Plan (EOP)

An EOP template was created for all municipalities. The 2019 Cook County MJ-HMP and the hazards in the mitigation plan have been integrated into the Situation and Assumptions section of the EOP. Within that section, the natural hazards based on the 2019 MJ-HMP were added in the Initial Analysis and Assessment and Identification of Hazards section of the EOP. The hazards in the 2019 plan and the 2024 MJ-HMP did not change apart from adding wildfires for the Forest Preserve and

unincorporated areas of the County. Future updates of the EOP will take into consideration any additional new natural hazards that are added to subsequent updates to the MJ-HMP.

Continuity of Operations Plan (COOP)
The Continuity of Operations Plan (COOP) for the municipality includes a Situation section that is based on the 2019 Cook County MJ-HMP jurisdictional annex, and specifically the hazards identified in the annex. The COOP-specific risk assessment is hazard-specific and based on likelihood of occurrence and severity of impact.

Recovery Plan
The goals of the Recovery Plan were developed to align with the 2019 Cook County MJ-HMP, and specifically prioritizes the responsibility of officials under this plan to save lives, protect property, relieve human suffering, sustain survivors, repair essential facilities, restore services, and protect the environment. The plan acknowledges that hazard mitigation is an important priority and consideration during the rebuilding process.

## Jurisdiction-Specific Natural Hazard Event History

The information provided below was solicited from the jurisdiction and supported by NOAA and other relevant data sources.

The *Natural Hazard Events Table* lists all past occurrences of natural hazards within the jurisdiction. Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 17 (16 Single Family, 1 Other-Nonresidential)
- Number of FEMA-Identified Severe Repetitive Loss Properties: 1 (1 Single Family)
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 2

**Federal Disasters Declared**

| Disaster Declaration Number | Date Declared | Event |
|---|---|---|
| DR-227 | 4/25/1967 | Tornado |
| DR-351 | 9/4/1972 | Flood |
| DR-373 | 4/26/1973 | Flood |
| DR-509 | 6/18/1976 | Severe Storm(s) |
| DR-643 | 6/30/1981 | Severe Storm(s) |
| DR-776 | 10/7/1986 | Flood |
| DR-798 | 8/21/1987 | Flood |
| DR-997 | 7/9/1993 | Flood |
| DR-1129 | 7/25/1996 | Severe Storm(s) |
| DR-1188 | 9/17/1997 | Severe Storm(s) |
| DR-1729 | 9/25/2007 | Severe Storm(s) |
| DR-1800 | 10/3/2008 | Severe Storm(s) |
| DR-1935 | 8/19/2010 | Severe Storm(s) |
| DR-1960 | 3/17/2011 | Snow |
| EM-3068 | 1/16/1979 | Snow |

| | | |
|---|---|---|
| EM-3134 | 1/8/1999 | Snow |
| EM-3161 | 1/17/2001 | Snow |
| EM-3230 | 9/7/2005 | Hurricane – Katrina Evacuation |
| EM-3435 | 3/13/2020 | Biological |
| DR-4116 | 5/10/2013 | Flood |
| DR-4489 | 3/26/2020 | Biological |
| DR-4728 | 8/15/2023 | Severe Storm(s) |
| DR-4749 | 11/20/2023 | Flood |

**State Disaster Declarations**

| Date Declared | Event |
|---|---|
| 7/26/2010 | Severe Storms, High Winds, Torrential Rain |
| 1/31/2011 | Winter Weather |
| 4/25/2011<br>5/25/2011 | High Wind, Tornadoes, Torrential Rain |
| 4/18/2013<br>4/20/2013<br>4/21/2013<br>4/25/2013<br>4/30/2013 | Severe Storms, Heavy Rainfall, Flooding, Straight-line Winds |
| 1/6/2014 | Heavy Snowfall, Frigid Temperatures |
| 7/12/2017<br>7/14/2017 | Thunderstorms, Heavy Rainfall, Flooding |
| 1/29/2019 | Winter Storm |
| 2/6/2020 | Severe Storms |
| 3/12/2020 – present (reissued monthly) | COVID-19 |
| 2/16/2021 | Winter Storms |
| 2/1/2022 | Winter Storms |
| 8/1/2022<br>(reissued monthly through 10/28/2022) | Monkeypox |

| **TABLE: NATURAL HAZARD EVENTS** | | | |
|---|---|---|---|
| **Type of Event** | **FEMA Disaster Number (if applicable)** | **Date** | **Preliminary Damage Assessment/ Event Narrative** |
| High Wind | - | 2/24/2019 | - |
| High Wind, Heavy Snow, and Ice Storm | - | 2/11/2019 - 2/12/2019 | - |
| Extreme Cold | - | 1/31/2019 | - |
| Extreme Cold | - | 1/30/2019 | - |
| Heavy Snow | - | 1/19/2019 | - |
| Heavy Snow | - | 11/27/2018 | - |
| High Wind | - | 10/20/2018 | - |
| Heavy Rain | - | 8/7/2018 | - |
| Extreme Heat | - | 6/29/2018 - 7/1/2018 | - |
| Extreme Heat | - | 6/16/2018 - 6/18/2018 | - |

| | | | |
|---|---|---|---|
| Flash Flood | - | 6/8/2018 | - |
| Extreme Heat | - | 5/27/2018 | - |
| Heavy Rain | - | 5/2/2018 | - |
| High Wind | - | 4/14/2018 | - |
| Extreme Cold | - | 1/8/2018 | - |
| High Wind | - | 12/5/2017 | - |
| Heavy Rain | - | 10/14/2017 - 10/15/2017 | - |
| Extreme Heat | - | 9/20/2017 - 9/27/2017 | - |
| Heavy Rain | - | 7/12/2017 - 7/13/2017 | - |
| Heavy Rain | - | 4/29/2017 - 4/30/2017 | - |
| Heavy Snow | - | 3/12/2017 - 3/15/2017 | - |
| High Wind | - | 3/8/2017 | - |
| High Wind | - | 1/10/2017 | - |
| Heavy Snow | - | 12/12/2016 | - |
| Heavy Rain | - | 6/23/2016 | - |
| Heavy Rain | - | 5/26/2016 | - |
| High Wind | - | 4/2/2016 | - |
| High Wind | - | 3/16/2016 | - |
| High Wind | - | 2/19/2016 | |
| High Wind | | 11/28/2015 | - |
| Heavy Snow | - | 11/22/2015 | - |
| Heavy Snow | - | 1/31/2015 | - |
| High Wind | - | 11/1/2014 | - |
| Severe Weather | - | 9/5/2014 | - |
| High Wind | - | 6/21/2014 | - |
| Hail | - | 4/12/2014 | - |
| Heavy Snow | - | 1/4/2014 - 1/5/2014 | - |
| Heavy Rain | - | 6/23/2013 | - |
| Flood | DR-4116 | 4/2013 | 46 structures |
| Heavy Rain | - | 3/5/2013 | - |
| Severe Winter Storm | DR-1960 | 1/2011 | - |
| Flood | - | 6/2009 | - |
| Flood | - | 3/2009 | - |
| Flood | - | 12/2008 | - |
| Flood | DR-1800 | 9/2008 | - |
| Flood | - | 4/2008 | - |
| Flood | DR-1168 | 8/2007 | - |
| Flood | - | 5/2004 | - |
| Severe Winter Storm | EM-3161 | 12/2000 | - |
| Severe Winter Storm | EM-3134 | 1/1999 | - |
| Flood | DR-798 | 8/1987 | - |
| Flood | - | 7/1982 | - |

| | | | |
|---|---|---|---|
| Severe Winter Storm | EM-3068 | 1/1979 | - |
| Severe Winter Storm | - | 1/1967 | - |

**Jurisdiction-Specific Hazards: Vulnerabilities and Impacts**

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2024 Cook County Multi-Jurisdictional Hazard Mitigation Plan Update. This section only addresses the hazards and their associated impacts that are **relevant** and **unique** to the municipality.

***Earthquake:*** Current ICC Building Codes are from 2018. Need to determine how many buildings are susceptible to earthquakes.

***Flood*:*** The Village has experienced flooding at the Dunhurst East (Southeast of Dundee Road and Elmhurst Road) and Meadowbrook (Wolf Road) Subdivisions. Multiple areas in the Village suffer from repeated flooding. Potential buyouts or infrastructure projects to address the flooding in the rep. loss areas represent future mitigation projects/opportunities. River flooding along the Des Plaines river could cause flooding on a major thoroughfares through Wheeling. The Chicago Executive Airport is also susceptible to flooding which can affects flights inbound and outbound.

***Extreme Heat:*** The Village's seven (7) nursing homes leave the community vulnerable to extreme heat.

***High Winds:*** The community has experienced high winds at the Chicago Executive Airport (Milwaukee Avenue and Palatine Road).

***Extreme Cold:*** Similar to the impacts of extreme heat, the community is especially vulnerable to extreme cold because of its seven (7) nursing homes.

**The intersection of Wayne Pl/Bridget PL intersection and Lakeside Circle once suffered from repeated flooding. These intersections have been dealt with through the installation of larger storm drains. Flooding should no longer be an issue.*

***Severe Weather:*** Buildings that house seniors, child day care, and individuals with disabilities would be affected by extreme heat or high winds if the building generators or power lines were affected during a storm or power outage.

***Tornado:*** We currently have 415 mobile home trailers that could be affected during a tornado. Mobile homes in a tornado are susceptible to structural damage and personal injuries. Some critical facilities such as nursing, adult daycare and senior housing could also be affected during a tornado if there was a loss of power. Not having a functioning backup generator could result in a loss of life.

***Severe Winter Weather:*** Seniors, young children, adults and children with disabilities will be affected if a loss of power is sustained during a blizzard, heavy snow or ice, or extreme cold.

***Wildfire (Wildfire Smoke):*** Wheeling covers portions of the Cook County Forest Preservers. Having an uncontrolled fire could cause a hazard if uncontained. A wildfire would cause smoke to enter Wheeling which may cause undo harm to individuals with respiratory illnesses and post a driving hazard as well. Uncontrolled fire could could affect damage to buildings close to the river.

| Indicator | Number | Percent |
|---|---|---|
| Families in poverty | 808 | 5.5% |
| People with disabilities | 4,958 | 8.8% |
| People over 65 years | 10,337 | 18.1% |
| People under 5 years | 3,276 | 5.7% |
| People of color | 26,044 | 45.7% |
| Black | 1,486 | 2.6% |
| Native American | 485 | 0.9% |

| | | |
|---|---|---|
| Hispanic | 13,907 | 24.4% |
| Difficulty with English | 5,593 | 10.4% |
| Households with no car | 1,192 | 5.4% |
| Mobile homes | 517 | 2.3% |

*Data are from the U.S. Census Bureau, American Community Survey. See methods for more information.*

The community evaluated whether vulnerability, and subsequently the potential impacts, in hazard-prone areas had increased, decreased, or remained the same for each natural hazard identified in this Hazard Mitigation Plan. Climate change, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard area or is not built to the updated building codes, it may increase the community's vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics were taken into consideration when assessing development trends.

**Jurisdiction-Specific Climate Change Vulnerability and Impacts**

The table below outlines if climate change, as assessed by the local planning team, has increased or decreased the municipality's vulnerability/exposure, and thereby the potential impacts, to each natural hazard over the past five (5) years (**Current Vulnerability**), and the effect of climate change in the future probability of occurrence and impacts (**Future Vulnerability**) from each natural hazard.

Future studies are needed to better understand the impact of climate change on the community's assets.

| Hazard | Vulnerability |
|---|---|
| **Current Vulnerability** | |
| Dam and Levee Failure | Not Applicable |
| Drought | Increased |
| Earthquake | Unknown |
| Flood (Riverine, Urban, Shoreline) | Remained the Same |
| Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings) | Increased |
| Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold) | Increased |
| Tornado | Unknown |
| Wildfire (Wildfire Smoke) | Unknown |

| Hazard | Vulnerability |
|---|---|
| **Future Vulnerability** | |
| Dam and Levee Failure | Not Applicable |
| Drought | Increase |
| Earthquake | Unknown |
| Flood (Riverine, Urban, Shoreline) | No Change is Anticipated |
| Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings) | Increase |
| Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold) | Increase |
| Tornado | Unknown |

| | |
|---|---|
| Wildfire (Wildfire Smoke) | Unknown |

**Jurisdiction-Specific Changes (or Expected Changes) in Development Trends in Hazard-Prone Areas**

The table below outlines if development, as assessed by the local planning team, over the past five (5) years (**Current Vulnerability**) has increased or decreased the jurisdiction's vulnerability / exposure, and thereby the potential impacts, to these natural hazards, and the anticipated effects changes in development may have on the future probability of occurrence and impacts (**Future Vulnerability**) from these natural hazards.

| Hazard | Vulnerability |
|---|---|
| **Current Vulnerability** | |
| Dam and Levee Failure | Remained the Same |
| Drought | Remained the Same |
| Earthquake | Remained the Same |
| Flood (Riverine, Urban, Shoreline) | Remained the Same |
| Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings) | Remained the Same |
| Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold) | Remained the Same |
| Tornado | Remained the Same |
| Wildfire (Wildfire Smoke) | Remained the Same |

| Hazard | Vulnerability |
|---|---|
| **Future Vulnerability** | |
| Dam and Levee Failure | No Change is Anticipated |
| Drought | No Change is Anticipated |
| Earthquake | No Change is Anticipated |
| Flood (Riverine, Urban, Shoreline) | No Change is Anticipated |
| Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings) | No Change is Anticipated |
| Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold) | No Change is Anticipated |
| Tornado | No Change is Anticipated |
| Wildfire (Wildfire Smoke) | No Change is Anticipated |

Our community anticipates that the following future major assets may be exposed or vulnerable to any of the natural hazards identified in this Hazard Mitigation Plan:

- Fire department buildings and ambulances and fire equipment, train lines, grocery stores, major roads can all be affected by a natural hazard. In addition to, senior living facilities, police department, water pumping stations, and water distribution for fresh water.
- Climate change has destabilized weather patterns, and so the impact of continued change is unknown at this time.

## Hazard Risk Ranking

The *Hazard Risk Ranking Table* below 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: HAZARD RISK RANKING** | |
|---|---|
| **Rank** | **Hazard Type** |
| 1 | Severe Weather |
| 2 | Severe Winter Weather |
| 3 | Tornado |
| 4 | Flood |
| 5 | Earthquake |
| 6 | Drought |
| 7 | Dam Failure |

## New Mitigation Actions

The following are new mitigation actions created during the 2024 update.

**Action W-3.30**

| **Mitigation Action #30: Will be officially adopting the 2021 International Building Code-ICC digital codes in 2025.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Community Development | **Supporting Agencies/ Organizations:** Wheeling Fire Department | **Estimated Cost:** Low | **Potential Funding Source:** General Fund | **Estimated Projected Completion Date:** Short-term | **Hazard(s) Mitigated:** Flood (Riverine, Urban, Coastal/Shoreline) Severe Weather (Extreme Heat, Lightning. Hail, Fog, High Winds) Severe Winter Weather (Ice Storm, Heavy Snow, Blizzards, Extreme Cold) Tornado |
| **Year Initiated** | | 2025 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 2,3 | | | |
| **Applicable Objective** | | 2,3,4,10 | | | |
| **Cost Analysis (Low, Medium, High)** | | Low | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | Medium | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | Medium | | | |
| **Action/Implementation Plan and Project Description:** | | Will be officially adopting the 2021 International Building Code-ICC digital codes in 2025. | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority** | | N | | | |

| | |
|---|---|
| **Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed;<br>**R** = Want Removed from Annex; **X** = No Action Taken/Delayed | |

## Ongoing Mitigation Actions

The following are ongoing actions with no definitive end or that are still in progress. During the 2024 update, these "ongoing" mitigation actions and projects were modified and/or amended, as needed.

**Action W-3.5**

| **Mitigation Action #5: Harden Glass on all Village Buildings.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** $1.5million; Medium | **Potential Funding Source:** Highway Bridge Replacement & Rehabilitation, General Fund | **Estimated Projected Completion Date:** Short-term | **Hazard(s) Mitigated:** Severe Weather, Tornado, Earthquake |
| **Year Initiated** | | 2014 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,2,3 | | | |
| **Applicable Objective** | | 1, 4, 5 | | | |
| **Cost Analysis (Low, Medium, High)** | | Low | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | High | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | Medium | | | |
| **Action/Implementation Plan and Project Description:** | | Incomplete, insufficient funding. Apply for FEMA PDA Grant in 2019. | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion; | | O | | | |

| | |
|---|---|
| **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | |

**Action W-3.6**

| **Mitigation Action #6: Where appropriate, support retrofitting, purchasing, or relocating structures in hazard-prone areas to prevent future damage. Give priority to properties with exposure to repetitive losses.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** High | **Potential Funding Source:** FEMA Hazard Mitigation Grants, BRIC, HMGP, FMA | **Estimated Projected Completion Date:** Long-term (depending on funding) | **Hazard(s) Mitigated:** All |
| **Year Initiated** | | 2014 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,2,3 | | | |
| **Applicable Objective** | | 7,13 | | | |
| **Cost Analysis (Low, Medium, High)** | | High | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | Medium | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | High | | | |
| **Action/Implementation Plan and Project Description:** | | Implemented when opportunities arise (Ex. High Tech Automotive – flood proofing project completed in 2017). | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | | O | | | |

**Action W-3.7**

| **Mitigation Action #7: Continue to support the countywide actions identified in this plan.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** Low | **Potential Funding Source:** General Fund | **Estimated Projected Completion Date:** Short- and Long-term | **Hazard(s) Mitigated:** All |
| **Year Initiated** | 2014 | | | | |
| **Applicable Jurisdiction** | Village of Wheeling | | | | |
| **Applicable Goal** | 1,5 | | | | |
| **Applicable Objective** | All | | | | |
| **Cost Analysis (Low, Medium, High)** | Low | | | | |
| **Priority and Level of Importance (Low, Medium, High)** | High | | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | Medium | | | | |
| **Action/Implementation Plan and Project Description:** | Continued involvement in the HMP process. | | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | O | | | | |

**Action W-3.8**

| **Mitigation Action #8: Actively participate in the plan maintenance strategy identified in this plan.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** | **Supporting Agencies/ Organizations:** | **Estimated Cost:** Low | **Potential Funding Source:** | **Estimated Projected** | **Hazard(s) Mitigated:** All |

| | | | | | |
|---|---|---|---|---|---|
| EMRS, Village Administration | | | General Fund | **Completion Date:** Short-term | |
| **Year Initiated** | | 2014 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,5 | | | |
| **Applicable Objective** | | 3,4,6 | | | |
| **Cost Analysis (Low, Medium, High)** | | Low | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | High | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | Medium | | | |
| **Action/Implementation Plan and Project Description:** | | Continued involvement in the HMP process. | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | | O | | | |

**Action W-3.9**

| **Mitigation Action #9: Continue to Maintain/Enhance the Village's Classification Under the CRS Program.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** Low | **Potential Funding Source:** General Fund | **Estimated Projected Completion Date:** Long-term | **Hazard(s) Mitigated:** All |
| **Year Initiated** | | 2014 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,2,3,5,6 | | | |
| **Applicable Objective** | | 3, 4, 5, 6, 7, 9, 10, 11, 13 | | | |

| | |
|---|---|
| **Cost Analysis (Low, Medium, High)** | Low |
| **Priority and Level of Importance (Low, Medium, High)** | Medium |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | Medium |
| **Action/Implementation Plan and Project Description:** | Re-adopted in 2019. Community Re-assessment pending. Repetitive loss documentation annually submitted. |
| **Actual Completion Date or Ongoing Indefinite** | |
| **Project Status & Changes in Priority Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | O |

**Action W-3.10**

| **Mitigation Action #10: Maintain good standing under the National Flood Insurance Program.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** Low | **Potential Funding Source:** General Fund | **Estimated Projected Completion Date:** Short-term and Ongoing | **Hazard(s) Mitigated:** Flooding |
| **Year Initiated** | | 2014 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,2,5 | | | |
| **Applicable Objective** | | 4,6,9 | | | |
| **Cost Analysis (Low, Medium, High)** | | Low | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | High | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | Medium | | | |

| | |
|---|---|
| **Action/Implementation Plan and Project Description:** | Documentation required by FEMA and ISO are maintained current. All renovations and new construction managed in accordance with all requirements of the program. |
| **Actual Completion Date or Ongoing Indefinite** | |
| **Project Status & Changes in Priority**<br>**Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed;<br>**R** = Want Removed from Annex; **X** = No Action Taken/Delayed | O |

**Action W-3.11**

| **Mitigation Action #11: Implement a Program to Record High Water Marks Following High Water Events.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** Medium | **Potential Funding Source:** General Fund, FEMA Public Assistance (PA) | **Estimated Projected Completion Date:** Long Term | **Hazard(s) Mitigated:** Flooding; Severe Weather |
| **Year Initiated** | | 2014 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,2,5 | | | |
| **Applicable Objective** | | 3,6,9 | | | |
| **Cost Analysis (Low, Medium, High)** | | Medium | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | Medium | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | Medium | | | |
| **Action/Implementation Plan and Project Description:** | | Program implemented in 2015 and ongoing, as needed. | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority** | | O | | | |

| | |
|---|---|
| **Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed;<br>**R** = Want Removed from Annex; **X** = No Action Taken/Delayed | |

**Action W-3.12**

| **Mitigation Action #12:Integrate the HMP into Other Plans, Programs, or Resources that Dictate Land Use or Redevelopment.** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:**<br>Community Development | **Supporting Agencies/ Organizations:** | **Estimated Cost:**<br>Low | **Potential Funding Source:**<br>General Fund | **Estimated Projected Completion Date:**<br>Short-term and ongoing | **Hazard(s) Mitigated:**<br>All |
| **Year Initiated** | | 2014 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,5 | | | |
| **Applicable Objective** | | 3,4,6,10,13 | | | |
| **Cost Analysis (Low, Medium, High)** | | Low | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | High | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | Medium | | | |
| **Action/Implementation Plan and Project Description:** | | Completed and integrated into the Village's land use planning/development process, as needed. Incorporated into the Village's ordinances and codes. | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority**<br>**Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed;<br>**R** = Want Removed from Annex; **X** = No Action Taken/Delayed | | O | | | |

**Action W-3.20**

| **Mitigation Action #20: Stream Bank stabilization project** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** High | **Potential Funding Source:** BRIC, HMGP | **Estimated Projected Completion Date:** Long-term | **Hazard(s) Mitigated:** Flood |
| **Year Initiated** | | 2021 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,2,3 | | | |
| **Applicable Objective** | | 3, 9 | | | |
| **Cost Analysis (Low, Medium, High)** | | High | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | High | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | HIgh | | | |
| **Action/Implementation Plan and Project Description:** | | Based on the Lake County Stormwater Commission assessment, stabilize 1,500 linear feet of Buffalo Creek. Phase I and II: $245,000 Phase III: $2,100,000 | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority Completion status legend:** **N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | | O | | | |

**Action W-3.21**

| **Mitigation Action #21: Hintz Road/Echo Lake storm sewer improvement project** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** Medium | **Potential Funding Source:** | **Estimated Projected** | **Hazard(s) Mitigated:** Flooding |

| | | | | | |
|---|---|---|---|---|---|
| | | | BRIC, HMGP | **Completion Date:** Long-term | |
| **Year Initiated** | | 2014 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1 | | | |
| **Applicable Objective** | | 9 | | | |
| **Cost Analysis (Low, Medium, High)** | | Medium | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | Low | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | Low | | | |
| **Action/Implementation Plan and Project Description:** | | repair 48" storm sewer--$350,000<br>completed repairs on a storm sewer into Echo Lake 2024. It was a 54"x83" elliptical pipe | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | | O | | | |

**Action W-3.22**

| **Mitigation Action #22: South Dunhurst Drainage Improvement Project** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** High | **Potential Funding Source:** BRIC, HMGP | **Estimated Projected Completion Date:** Long-term | **Hazard(s) Mitigated:** Flooding |
| **Year Initiated** | | 2024 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,2,3 | | | |

| | |
|---|---|
| **Applicable Objective** | 1,9 |
| **Cost Analysis (Low, Medium, High)** | High |
| **Priority and Level of Importance (Low, Medium, High)** | High |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | High |
| **Action/Implementation Plan and Project Description:** | Based on the findings of the drainage study, replace or reconstruct neighborhood drainage system, and add 4 acre feet of detention and compensatory storage to eliminate single family home flooding--$5,500,000 |
| **Actual Completion Date or Ongoing Indefinite** | |
| **Project Status & Changes in Priority**<br>**Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed;<br>**R** = Want Removed from Annex; **X** = No Action Taken/Delayed | O<br>Should be completed in 2025 |

**Action W-3.25**

| **Mitigation Action #25: Minimize disruption of emergency services** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:**<br>Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:**<br>$350,000 | **Potential Funding Source:**<br>SHSP, HSGP | **Estimated Projected Completion Date:**<br>2025 | **Hazard(s) Mitigated:**<br>All |
| **Year Initiated** | | 2023 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 2,3 | | | |
| **Applicable Objective** | | 1, 2 | | | |
| **Cost Analysis (Low, Medium, High)** | | Low—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | Medium | | | |

| | |
|---|---|
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | Protect communications of emergency services by burying the fiber optic line. This will minimize disruption of emergency services<br>High—Project will provide an immediate reduction of risk exposure for life and property. |
| **Action/Implementation Plan and Project Description:** | Mitigating communication between Village owned buildings. A fiber optic connection is needed for improving the network connections. The current wireless point-to-point connections are running about 100 Mbps to 200 Mbps and are often overloaded due to various technology demands used by the Wheeling Fire Department for its emergency operations on a daily basis. The old wireless connections are also not very reliable, often degraded by bad weather conditions. This fiber will run from Village Hall to the New Fire Station on McHenry Road. |
| **Actual Completion Date or Ongoing Indefinite** | |
| **Project Status & Changes in Priority**<br>**Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion; **O** = Ongoing Indefinitely; **C** = Project Completed; **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | O |

**Action W-3.26**

| **Mitigation Action #26: Better flow pattern for storm water and reduce upstream flooding** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:**<br>Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:**<br>$200,000 | **Potential Funding Source:**<br>BRIC, HMGP, FMA | **Estimated Projected Completion Date:**<br>2028 | **Hazard(s) Mitigated:**<br>Flooding |
| **Year Initiated** | | 2023 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 2,3,5 | | | |
| **Applicable Objective** | | 1, 9 | | | |

| | |
|---|---|
| **Cost Analysis (Low, Medium, High)** | High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). |
| **Priority and Level of Importance (Low, Medium, High)** | High |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | Replacing failed culvert will allow better flow of stormwater and help to protect the traveling public during a flood event and mitigate potential upstream flooding<br>Medium—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property. |
| **Action/Implementation Plan and Project Description:** | Replacing failed culvert under Wheeling Road North of Mercantile Ct will allow better flow of storm water and help to protect the traveling public during a flood event and mitigate potential upstream flooding. The existing corrugated culvert will be replaced with concrete box culvert. |
| **Actual Completion Date or Ongoing Indefinite** | |
| **Project Status & Changes in Priority**<br>**Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed;<br>**R** = Want Removed from Annex; **X** = No Action Taken/Delayed | O |

**Action W-3.27**

| **Mitigation Action #27: Emergency interconnect of water main with Prospect Heights** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:**<br>Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:**<br>$600,000 | **Potential Funding Source:**<br>BRIC, HMGP, FMA | **Estimated Projected Completion Date:**<br>2024 | **Hazard(s) Mitigated:**<br>High Wind, Snow, Blizzard, Extreme Cold, Ice Storms, Tornado, |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | Widespread power outage |
| **Year Initiated** | 2023 | | | | |
| **Applicable Jurisdiction** | Village of Wheeling | | | | |
| **Applicable Goal** | 2,3 | | | | |
| **Applicable Objective** | 1, 9 | | | | |
| **Cost Analysis (Low, Medium, High)** | High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases). | | | | |
| **Priority and Level of Importance (Low, Medium, High)** | Medium | | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | These interconnections provide alternate water in case of a catastrophic failure to the NWWC feed, electrical grid, or other interruptions to the supply of potable water to residents and businesses<br>Medium—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property. | | | | |
| **Action/Implementation Plan and Project Description:** | These interconnections provide alternate water in case of a catastrophic failure to the NWWC feed, electrical grid, or other interruptions to the supply of potable water to residents and businesses. This project is located at the intersection of Wheeling Road and Inwood Drive at the south end of the Village and connects Village water main with Prospect Heights. This connection will benefit both communities. | | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority**<br>**Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed;<br>**R** = Want Removed from Annex; **X** = No Action Taken/Delayed | O | | | | |

**Action W-3.28**

| **Mitigation Action #28: Reducing anthropogenically accelerated streambank erosion** |
|---|

| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** Northwest Water Commission | **Estimated Cost:** $3,000,000 | **Potential Funding Source:** HMGP, BRIC, FMA | **Estimated Projected Completion Date:** 2026 | **Hazard(s) Mitigated:** Flooding |
|---|---|---|---|---|---|
| **Year Initiated** | | 2023 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,2,5 | | | |
| **Applicable Objective** | | 1, 2, 3, 9 | | | |
| **Cost Analysis (Low, Medium, High)** | | Low—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | Medium | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | reducing anthropogenically accelerated streambank erosion<br>Medium—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property. | | | |
| **Action/Implementation Plan and Project Description:** | | This project involves a streambank erosion assessment that includes collecting field streambank erosion data, estimating sediment loads from streambank erosion, extrapolating streambank erosion sediment loads to the entire stream, estimating the potential for reducing anthropogenically accelerated streambank erosion and provide cost estimates to construct improvements. | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority**<br>**Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed;<br>**R** = Want Removed from Annex; **X** = No Action Taken/Delayed | | O | | | |

**Action W-3.29**

| **Mitigation Action #29: Mapping Storm Sewer System** | | | | | |
|---|---|---|---|---|---|
| **Lead Agency/Department Organization:** Village Administration | **Supporting Agencies/ Organizations:** | **Estimated Cost:** $3,000,000 | **Potential Funding Source:** Explore outside sources of funding to support implementation | **Estimated Projected Completion Date:** 2026 | **Hazard(s) Mitigated:** Flooding |
| **Year Initiated** | | 2023 | | | |
| **Applicable Jurisdiction** | | Village of Wheeling | | | |
| **Applicable Goal** | | 1,3,5 | | | |
| **Applicable Objective** | | 1, 9 | | | |
| **Cost Analysis (Low, Medium, High)** | | Low—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program. | | | |
| **Priority and Level of Importance (Low, Medium, High)** | | Medium | | | |
| **Benefits of the Mitigation Project** (Loss Avoided or Issue Being Mitigated) | | ensure power is maintained for vital Village operations including the main server system<br>Medium—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property. | | | |
| **Action/Implementation Plan and Project Description:** | | This project includes replacing the the backup generator at Village Hall along with upgrading the controls. There have been ongoing concerns, such as failures to transfer power, obsolete controls and generator failure since the transfer switch and generator have been installed in 2009. A new backup generator along with upgrading the transfer switch are needed to streamline operations and ensure power is maintained for vital Village operations including the main server system. | | | |
| **Actual Completion Date or Ongoing Indefinite** | | | | | |
| **Project Status & Changes in Priority**<br>**Completion status legend:**<br>**N** = New; **I** = In Progress Toward Completion;<br>**O** = Ongoing Indefinitely; **C** = Project Completed; | | O | | | |

| | |
|---|---|
| **R** = Want Removed from Annex; **X** = No Action Taken/Delayed | |

## Completed Actions

**Completed Mitigation Actions - An archive of all identified and completed projects, including completed actions since 2014.**

| Completed Action Items |
|---|
| Corrugated Metal Arch Storm Line Replacement. |
| Replacement of Jeffery Avenue Bridge Structure (Removal of Creek Flow Impediment). |
| Develop Stormwater Master Community Plan. |
| Complete Acquisition of Fox Point Mobile Home Park (Repetitive Loss Mitigation) |
| Develop Storm Water Modeling Program of the Dunhurst Subdivision to Analyze the Options for Further Flood Mitigation. |
| Implementation of Storm Water Credit Allocation Program (I.E. Heritage Lake Utilization by Developers). |
| Storm Water Diversion - Northside of Dundee Road to Heritage Lake. |
| Remapping of Buffalo Creek Floodplain. |
| Implement Drainage Improvements in East Dunhurst subdivision, East Chester subdivison, and North Wheeling Road |
| Implement Wheeling Park District – Chamber Park Rain Garden |
| South Dunhurst Drainage Study |
| A generator is needed for a new fire station |

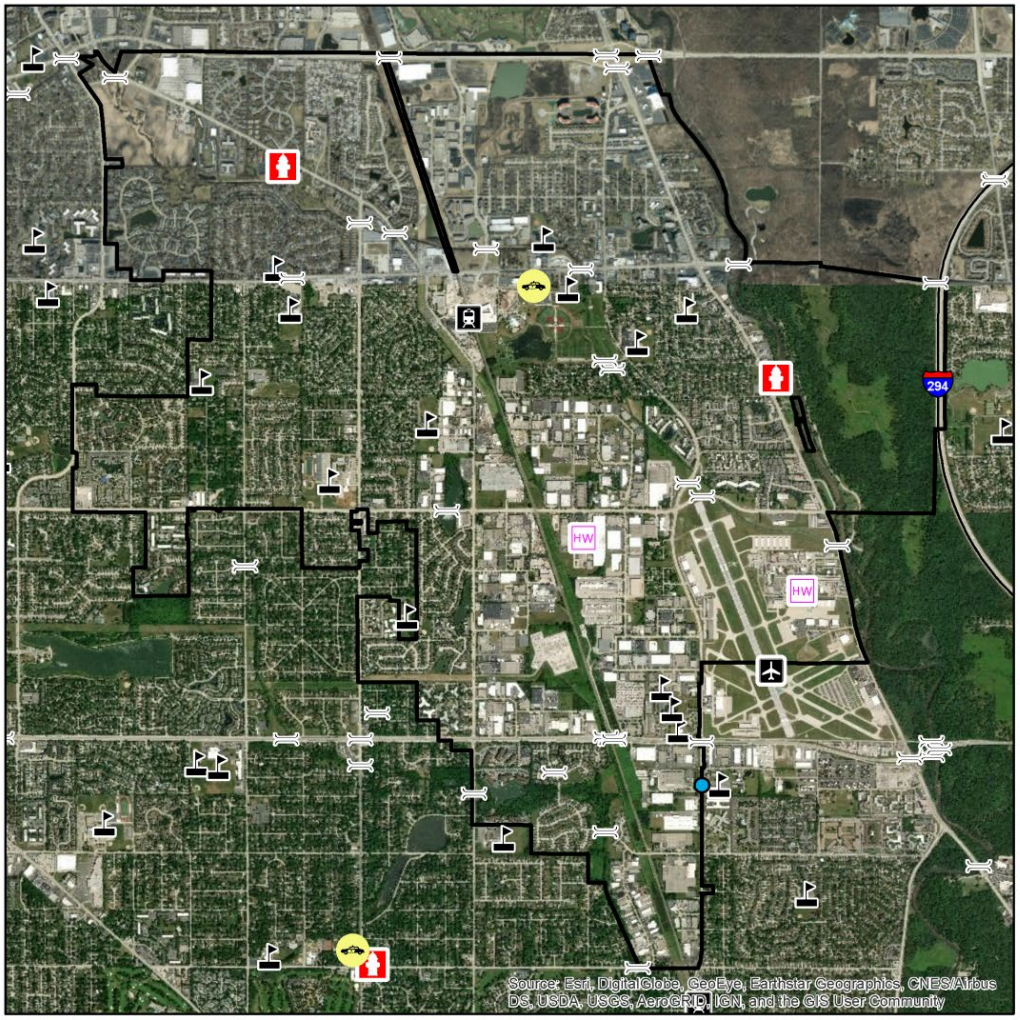
## Future Needs to Better Understand Risk/Vulnerability

Assistance finding grants that are applicable to our projects.

## Additional Comments

No additional comments at this time.

## Hazard Mapping




VILLAGE OF WHEELING

CRITICAL INFRASTRUCTURE

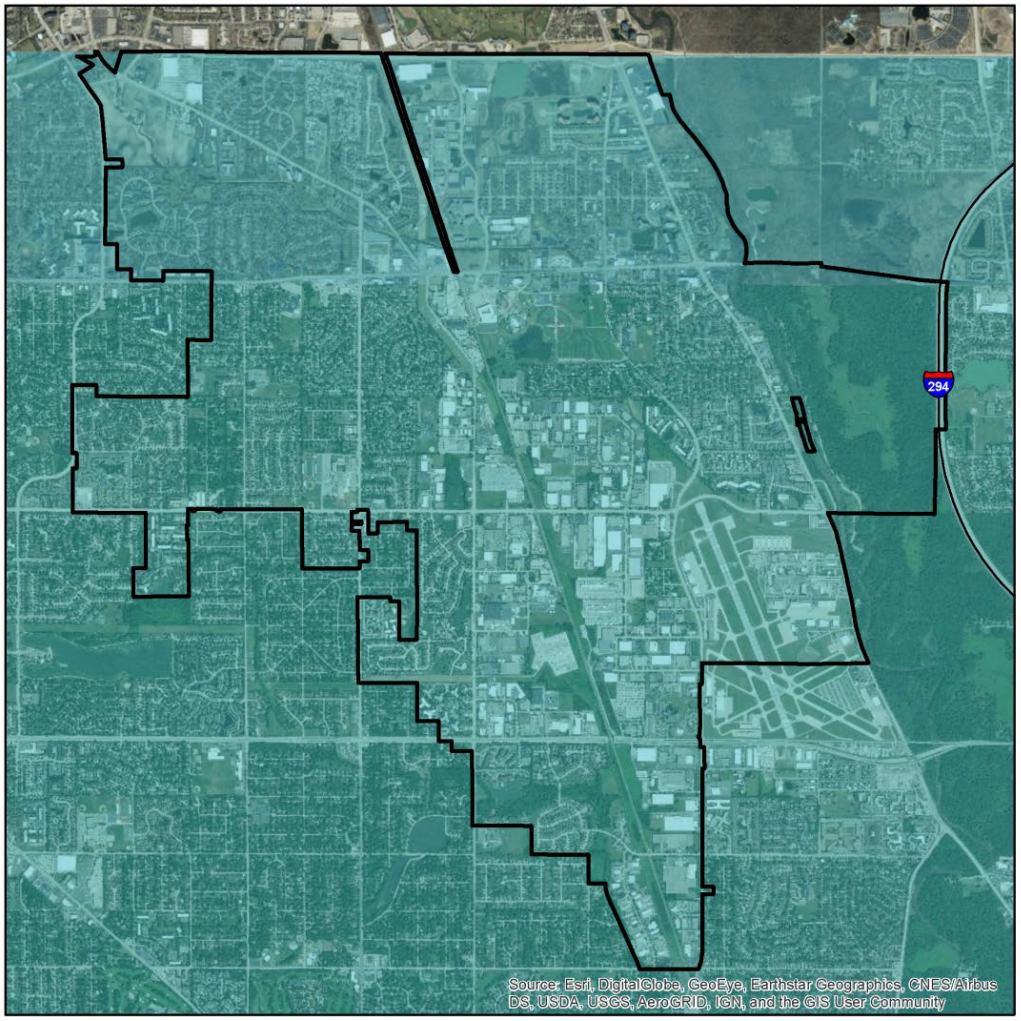
- Oil Facilities
- Transit Centers
- Military Facilities
- Police Stations
- Fire Stations
- Hazardous Waste
- Airports
- Hospitals
- Highway Bridges
- Warming Centers
- Cooling Centers
- Schools
- Railroad Stations

Base Map Data Sources:
Cook County, ESRI

COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N W E S

0 0.15 0.3 0.6 0.9 1.2 Miles




# VILLAGE OF WHEELING

## PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

**Mercalli Scale, Potential Shaking**

II-III Weak

Data provided by the USGS Earthquake Hazards Program and Cook County.

Probabilistic seismic-hazard maps were prepared for the conterminous United States for 2014 portraying peak horizontal acceleration and horizontal spectral response acceleration for 0.2- and 1.0-second periods with probabilities of exceedance of 10 percent in 50 years and 2 percent in 50 years. All of the maps were prepared by combining the hazard derived from spatially smoothed historical seismicity with the hazard from fault-specific sources. The acceleration values contoured are the random horizontal component. The reference site condition is firm rock, defined as having an average shear-wave velocity of 760 m/s in the top 30 meters corresponding to the boundary between NEHRP (National Earthquake Hazards Reduction program) site classes B and C.

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COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

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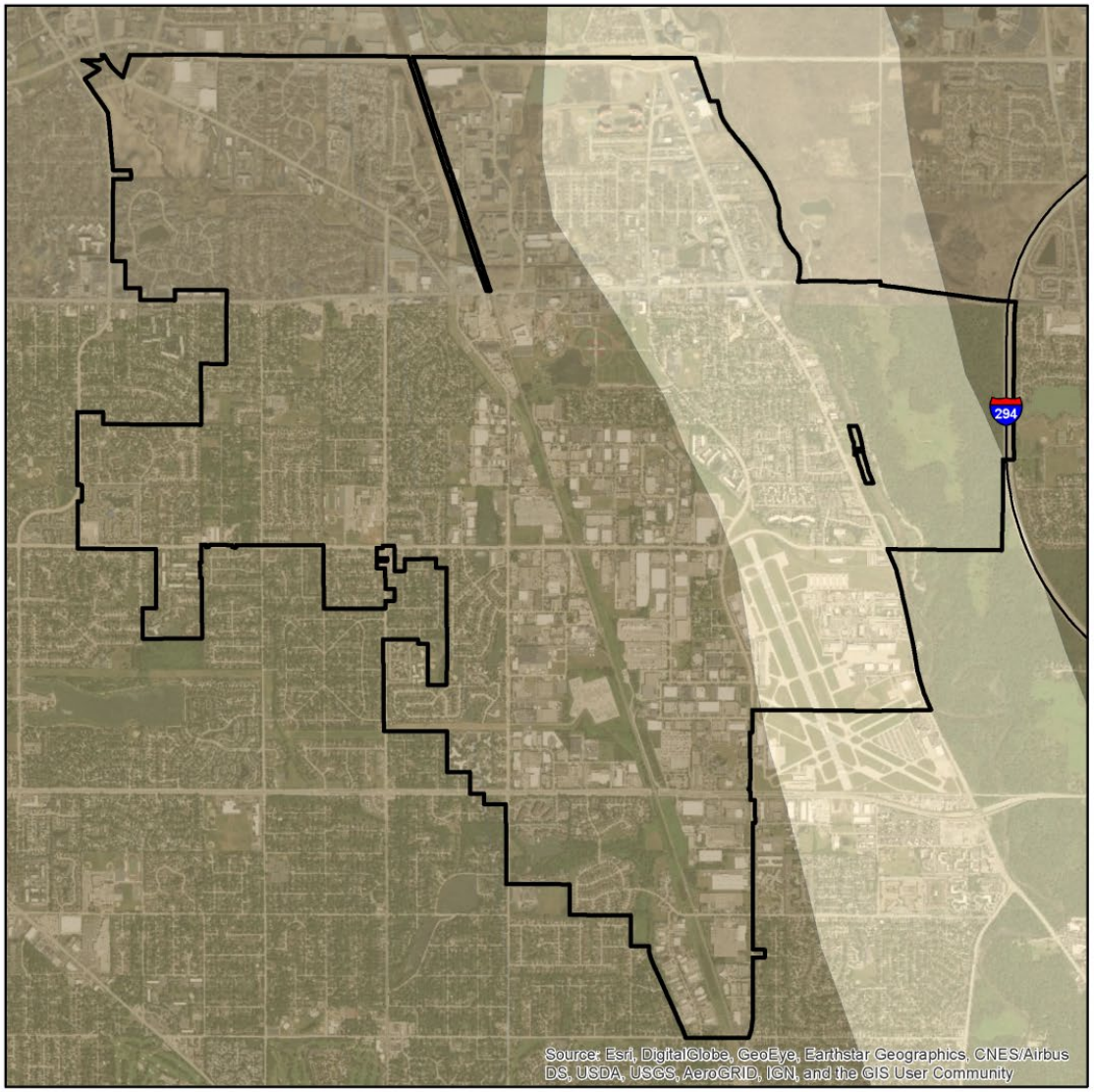


# VILLAGE OF WHEELING

## NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

**TYPE**

- C - Very Dense Soil, Soft Rock
- D - Stiff Soil
- F- Site Specific Evaluation

Data provided by the Illinois State Geological Survey and Cook County.

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean N. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. 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. CUSEC State Geologists used the entire column of soils 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.

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N W E S

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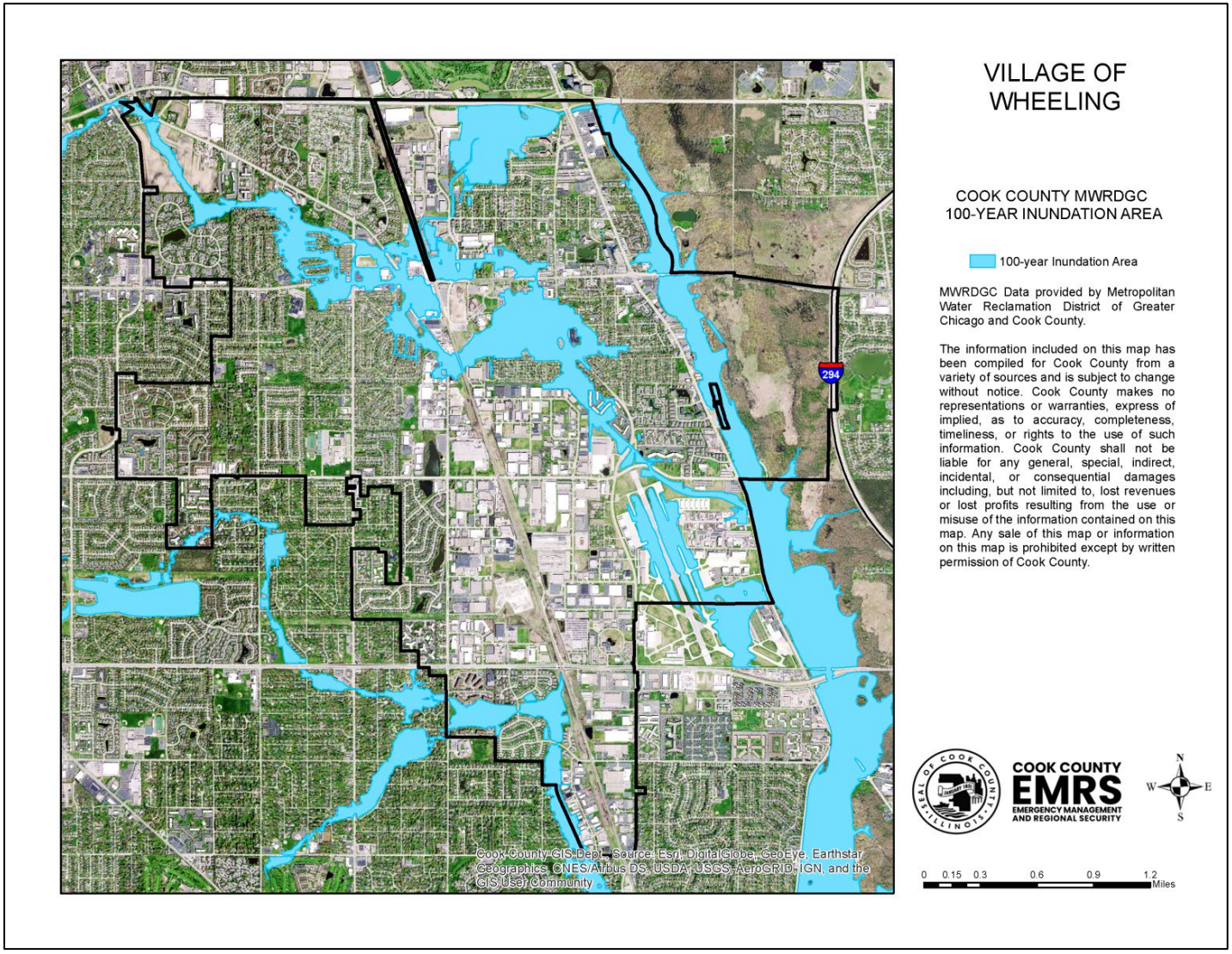
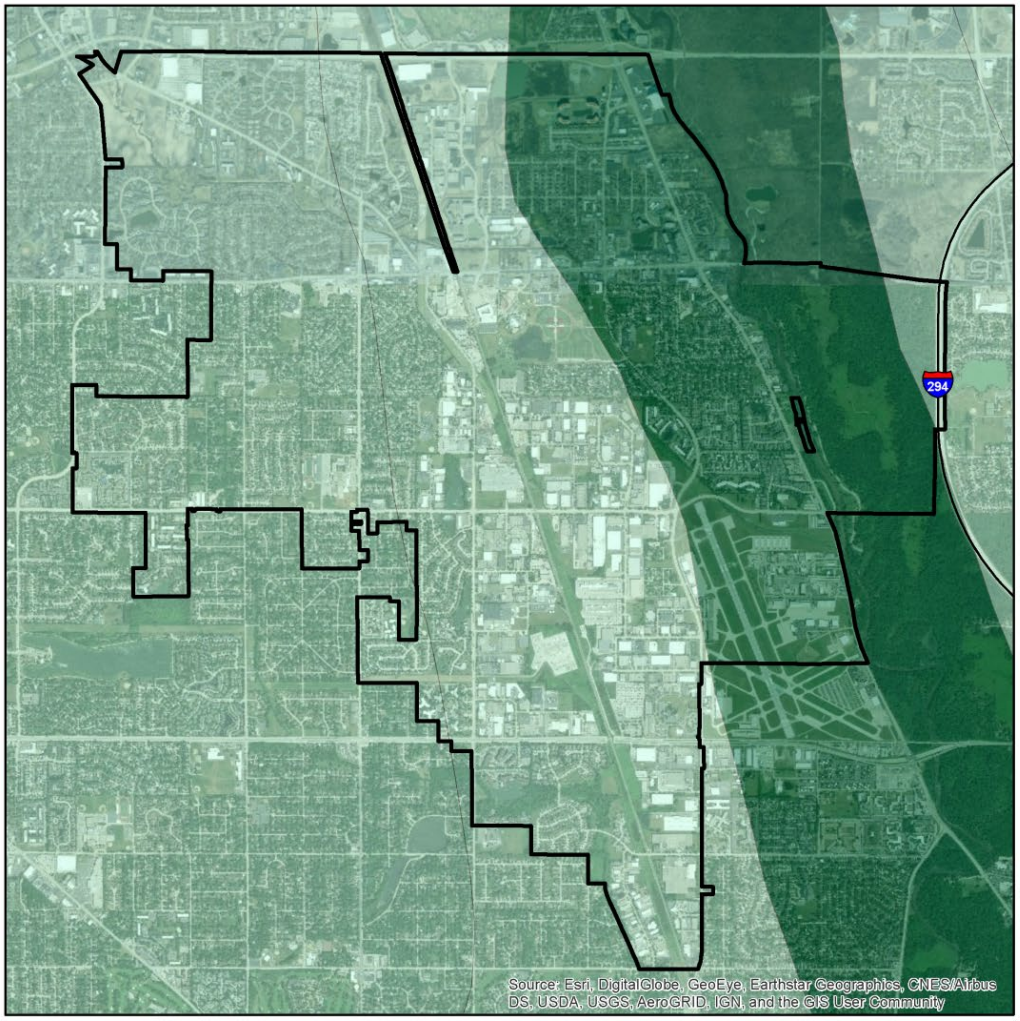
DISCLAIMER: The Cook County MWRDGC 100-year Inundation Map is provided to show general flood risk information regarding floodplains and inundation areas. This map is not regulatory. Official FEMA Flood Insurance Study information and regulatory maps can be obtained from http://www.fema.gov.






# VILLAGE OF WHEELING

## LIQUEFACTION SUSCEPTIBILITY

**LIQUEFACTION SUSCEPTIBILITY**

- high
- low
- very low

Data provided by the Illinois State Geological Survey and Cook County.

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EMERGENCY MANAGEMENT AND REGIONAL SECURITY

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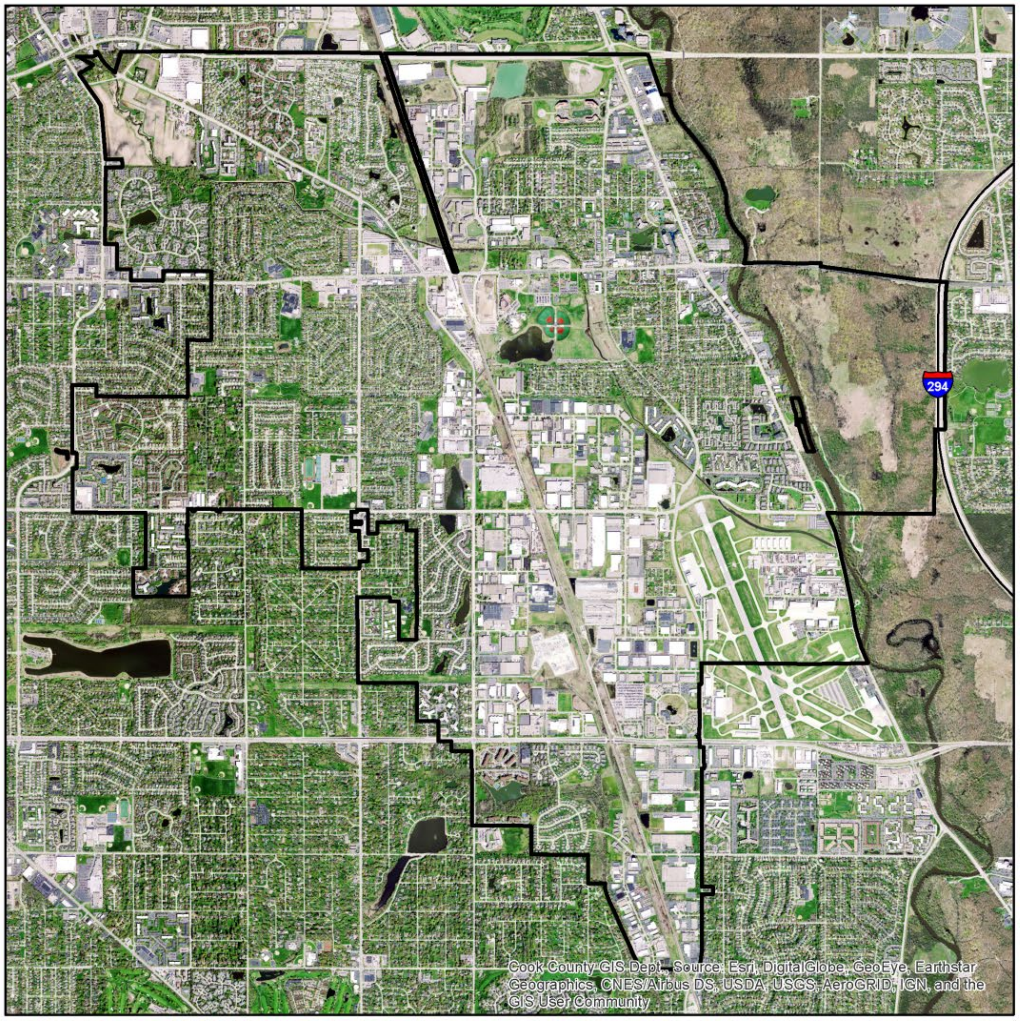


## VILLAGE OF WHEELING

100- AND 500- YEAR TORNADO EVENTS

**Magnitude**

- 4 (100 year event)
- 5 (500 year event)

Historic tornado data provided by NOAA/NWS showing the initial points and paths of all F4 and F5 events observed from 1950 to 2017.

COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N W E S

0 0.15 0.3 0.6 0.9 1.2 Miles