Orland Hills

Hazard Mitigation Plan Point of Contact

Primary Point of Contact	Alternate Point of Contact
Brian O'Neill, Village Administrator 16033 S. 94th Avenue Orland Hills, IL 60487-4623 Telephone: 708-349-6666 Email Address: boneill@orlandhills.org	Jacqueline Tuma 16033 S. 94th Avenue Orland Hills, IL. 60487-4623 Telephone: 708-349-6666 Email Address: jtuma@orlandhills.org

Jurisdiction Profile

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

Date of Incorporation: 1961

Current Population: The 2020 U.S. Census population was 6,893. The 2022 U.S. Census estimate indicated the population was 6,642.

Population Growth: The overall population has decreased by 6.21% between 2018 and 2022.

Location and Description: The Village of Orland Hills is located 30 miles southwest of the City of Chicago. The Village is situated between the two larger suburbs of Tinley Park and Orland Park. The Village is primarily bounded by 159th Street on the north and 171st Street on the south. The western boundary is 94th Avenue with some residential and commercial development west of 94th Avenue on 167th Street. There is also multi-family residential development west of LaGrange Road and just north of 167th Street. The eastern boundary is 88th Avenue. Fire service is provided by the Orland Fire Protection District. Fresh water delivery and sanitary sewer service is provided by the Illinois American Water Company. Library service is provided to Orland Hills residents by the Orland Hills Library District through an intergovernmental agreement with the Tinley Park Library. According to the U.S. Census Bureau, the Village of Orland Hills has a total land area of 1.14 square miles.

Brief History: Orland Hills is the youngest Village in Southwest Cook County and was formerly known as Westhaven. There is very little official record regarding the Westhaven area prior to incorporation in 1961. The 1960s and 1970s brought many annexations which expanded the town to its present boundaries. The Village is primarily residential in nature with an abundance of park land and open space located within and adjacent to the municipal boundaries.

Climate: Orland Hills witnesses weather similar to all other Northeastern Illinois suburbs that lie within the humid continental climate zone and experience four distinct seasons. Summers are hot and humid. Winters are cold and snowy with few sunny days. Spring and autumn are mild seasons with low humidity. Orland Hills can experience extreme winter cold waves that may last for several consecutive days. There are also many mild winter and summer days. Thunderstorms are not

uncommon during the spring and summer months which may sometimes produce hail, high winds and tornadoes.

Governing Body Format: The Village of Orland Hills is incorporated as a Village governed by a "strong Mayor" form of government under the laws of the State of Illinois. This body of Government will assume the responsibility for the adoption and implementation of this plan. Orland Hills is a non-home-rule unit of government. The Village President (Mayor), Village Clerk and six Village Trustees are elected "at-large". These elected positions are all considered as "Part-Time" positions. The Mayor, Clerk and three Trustees are elected every four years and two years later the other three Trustee positions are elected to four year terms. According to Illinois Law, this is an alternating term method which provides continuity in governance. The Village of Orland Hills operates 4 departments including the Recreation Department, Police Department, Local Services, and Building Department. Orland Hills is part of the Orland Fire Protection District.

Development Trends: Since incorporation in 1961, the Village of Orland Hills has continued to grow in a positive and well-planned manner. Adopting a Comprehensive Plan in 2004 renewed Village efforts to place an emphasis on future development of residential and commercial prospects in Orland Hills. Over the past 15 years, significant residential and commercial development has taken place with measurable population growth.

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	In accordance with Public Act 096-0704, Illinois has adopted the IBC as its state Building Code. 1995
Zonings	Yes	No	No	Yes	Orland Hills Code of

					Ordinances Title XV, Section 159/1995
Subdivisions	Yes	No	No	No	Orland Hills Code of Ordinances Title XV, Section 159/1995
Stormwater Management	Yes	No	Yes	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. Orland Hills Code of Ordinances Title XV, Section 153/ 1995
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	Orland Hills Code of Ordinances / 1995
Public Health and Safety	Yes	No	Yes	No	Orland Hills Code of Ordinances 1995 Title IX Section 93/1995
Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	Orland Hills Comprehensive Plan / 2004
Is the plan equipped to provide integration to this mitigation plan?					Yes
Floodplain or Basin Plan	Yes	No	No	No	Orland Hills Code of Ordinances Title XV, Section 153/1995
Stormwater Plan	Yes	No	No	No	Regional storm water impacts are managed by

					MWRD. The Village lies within the Marley Creek, Cal Sag, and Little Calumet watershed planning area of MWRD's comprehensive Storm water Master Planning Program.
Capital Improvement Plan	No	No	No	No	
What types of capital facilities does the plan address?					N/A
How often is the plan revised/updated?					N/A
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
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	Yes	No	No	No	Orland Hills Emergency Response Plan / 2012
Continuity of Operations Plan	Yes	No	Yes	No	Orland Hills Emergency Response Plan/ 2012
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	No
Other	

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	B. Brink, CFM
Engineers or professionals trained in building or infrastructure construction practices	Yes	Christopher Burke Engineering, Ltd.
Planners or engineers with an understanding of natural hazards	Yes	B. Brink, CFM
Staff with training in benefit/cost analysis	Yes	Brian O'Neill, Village Administrator
Surveyors	Yes	Christopher Burke Engineering, Ltd
Personnel skilled or trained in GIS applications	Yes	Cook County GIS Consortium
Scientist familiar with natural hazards in local area	Yes	Christopher Burke Engineering, Ltd
Emergency manager	Yes	Mike Blaha, Police Chief
Grant writers	Yes	Brian O'Neill, Village Administrator

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Engineering & Building and Public Works
Who is your jurisdiction's floodplain administrator? (department/position)	B. Brink, CFM
Are any certified floodplain managers on staff in your jurisdiction?	Yes B. Brink, CFM

What is the date of adoption of your flood damage prevention ordinance?	1995
When was the most recent Community Assistance Visit or Community Assistance Contact?	October, 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, 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 review, GIS, inspections, engineering capability.
- The Community Floodplain Administrator is a Certified Floodplain Manager.
- Our Community teaches property owners or other stakeholders about the importance of flood insurance through public outreach events, workshops, and/or seminars.
- Our Community enforces local floodplain regulations and monitors compliance.
- Our floodplain development regulations meet or exceed FEMA or state minimum requirements.

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:

153.02 Definitions

SUBSTANTIAL DAMAGE. Damage of any origin sustained by a building whereby the cumulative percentage of damage during a 10-year period since August 13, 1990 equals or exceeds 50% of the market value of the building 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 ***REPETITIVE LOSS***.) .

SUBSTANTIAL IMPROVEMENT. Any reconstruction, rehabilitation, addition, or improvement of a building taking place during a 10-year period since August 13, 1990 in which the cumulative percentage of improvements equals or exceeds 50% of the market value of the building before the start of construction of the improvement or repair is started or increases the floor area by more than 20%)

(1) ***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 building. This term includes buildings which have incurred repetitive loss or substantial damage, regardless of the actual work done.

(2) The term does not, however, include either:

(a) Any project for improvement of a building to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or

(b) Any alteration of a historic structure listed on the National Register of Historic Places or the Illinois Register of Historic Places, provided that the alteration will not preclude the building's continued designation as a historic structure.

153.03 Duties of the Building Commissioner or Designee

(A) *Determining the floodplain designation.*

(1) Check all new development sites to determine whether they are in a floodplain using criteria listed in § 153.04, Base Flood Elevation.

(2) If the site is in a floodplain, determine whether the site is in a floodway, flood fringe or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile.

(a) If the site is within a flood fringe, the Building Commissioner or designee shall require that the minimum requirements of § 153.05 be met.

(b) If the site is within a floodway, the Building Commissioner or designee shall require that the minimum requirements of § 153.06 be met.

(3) If the site is located within a floodplain for which no detailed study has been completed and approved, the Building Commissioner or designee shall require that the minimum requirements of § 153.07 be met.

(B) *Professional Engineer Review.*

(1) If the development site is within a floodway or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile, the permit shall be referred to a P.E. under the employ or contract of the village for review to ensure that the development meets §§ 153.06 or 153.07.

(2) In the case of an appropriate use, the P.E. shall state in writing that the development meets the requirements of § 153.06.

(E) *Plan review and permit issuance.*

(1) Ensure that all development activities, including new construction and substantial improvements, within the floodplains of the jurisdiction of the village meet the requirements of this chapter.

(G) *Substantial damage and substantial improvement determinations*. Establish procedures for administering and documenting determinations, as outlined below, of substantial improvement and substantial damage made pursuant to § 153.08.

(1) Determine the market value or require the applicant to obtain an appraisal of the market value, prepared by a qualified independent appraiser, of the building before the start of construction of the proposed work. In the case of repair, the market value of the building shall be the market value before the damage occurred and before any repairs are made.

(2) Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building.

(3) Determine and document whether the proposed work constitutes substantial improvement or substantial damage.

(4) Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the village and this chapter is required.

153.08 Permitting Requirements Applicable to all Floodplain Areas

In addition to the requirements found in §§ 153.05 - 153.07 for development in flood fringes, designated floodways, and floodplains where no floodways have been identified, the following requirements shall be met.

(C) Protecting buildings.

(1) In addition to the damage prevention requirements in §§ 153.05(B) and 153.06(B), all buildings located within a floodplain shall be protected from flood damage below the FPE. This building protection criteria applies to the following situations:

(a) New construction or placement of a new building or alteration or addition to an existing building valued at more than $1,000 or 70 square feet.

(b) Substantial improvements, including any combination of alteration, repair, rehabilitation, reconstruction, addition, or other improvements made to an existing building that equal or exceed the market value by 50%, or that increase the floor area by more than 20%. Alteration shall be figured cumulatively ten-year period since August 13, 1990. If substantially improved, the existing building and the addition must meet the flood protection standards of this section.

(c) Any repairs made to a substantially damaged building. Substantial damage shall be figured cumulatively ten-year period since August 13, 1990 by comparing the cost to repair the building to its pre- damage condition with the market value of the building

immediately prior to the damage, for each event in which the building sustains damage, and adding the percentages of damage for each event.. If substantially damaged, the entire building must meet the flood protection standards of this section.

(d) Installing a manufactured home on a new site or a manufactured home on an existing site. (The building protection requirements do not apply when returning a manufactured 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 180 consecutive days; and

(f) Repetitive loss to an existing building as defined in § 153.02.

(2) The lowest floor (including basement) of new construction of residential buildings, and substantially improved residential buildings, must be elevated to the FPE, subject to the more specific additional requirements in § 153.08(C)(2)(a) - (c) below.

(a) If fill, including grading to redistribute onsite material to alter existing topography, is used as a means of elevation:

1. The lowest floor (including basement) shall be at or above the FPE.

2. The fill shall be placed in layers no greater than six inches before compaction and must extend at least ten feet beyond the foundation before sloping below the FPE.

3. The top of the fill shall be above the FPE. However, the ten foot minimum may be waived if a structural engineer certifies an alternative method to protect the building from damages due to hydrostatic pressures.

4. The fill shall be protected against erosion and scour during flooding by vegetative cover, riprap, or other structural measure.

5. The fill shall be composed of clean rock or soil and not include debris or refuse material.

6. The fill shall not adversely affect the flow of surface drainage from or onto neighboring properties.

(b) If the building's lowest floor is elevated above ground level with an enclosed or unenclosed area below the lowest floor:

1. The building shall be elevated on piles, walls, columns, crawlspace, or other foundation that is permanently open to floodwaters.

2. All enclosed areas below the FPE shall provide for equalization of hydrostatic pressures by allowing the automatic entry and exit of floodwaters. Each wall must have a minimum of one permanent opening that is below the BFE and no more than one foot above finished grade. The openings shall provide 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, or the design must be certified by a registered P.E, as providing the equivalent performance in accordance with accepted standards of practice. Refer to FEMA TB1, Openings in Foundation Walls and Walls of Enclosures , for additional guidance.

3. All electrical, heating, ventilating, plumbing, and air conditioning equipment and utility meters shall be located at or above the FPE.

4. The building, foundation, and supporting members shall be adequately anchored to prevent flotation, collapse, or lateral movement of the building resulting from hydrodynamic and hydrostatic loads, including the effects of

buoyancy, and be designed so as to minimize exposure to current, waves, ice, and floating debris.

5. All building components below the FPE shall be constructed of materials resistant to flood damage.

6. Water and sewer pipes, electrical and telephone lines, submersible pumps, and other service facilities may be located below the FPE provided they are waterproofed.

7. The area below the FPE shall be used solely for parking or building access and not later modified or occupied as habitable space.

8. A non-conversion agreement shall be signed by the applicant for all buildings with an enclosed area, below the FPE, with a height of four feet or greater. This agreement shall state that the enclosed area below FPE may be inspected on an annual basis or as requested by the village upon written notice and shall not be converted for use other than for parking, building access or for allowable storage as detailed in this chapter. The applicant agrees to notify prospective purchasers of the existence of the non-conversion agreement. It shall be the responsibility of the applicant to transfer the non-conversion agreement at closing to the purchaser through notarized signature, a copy of all new non-conversion agreements shall be provided to the Building Commissioner or designee. Failure to transfer the non-conversion agreement and provide a signed copy to the Building Commissioner or designee shall subject the violator to the penalties set forth in this chapter.

(c) If the floor of any area of a building below the lowest floor is proposed to be below grade on all sides, typical for crawlspace construction, the building shall meet the requirements of this chapter and FEMA TB 11 Crawlspace Construction for Buildings Located in Special Flood Hazard Areas. The building, while NFIP compliant, will be considered to have a basement for NFIP insurance purposes.

1. The building shall be designed and adequately anchored to resist flotation, collapse, and lateral movement of the building resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

2. All enclosed areas below the FPE shall provide for equalization of hydrostatic pressures by allowing the automatic entry and exit of floodwaters. Each wall must have a minimum of one permanent opening that is below the BFE and no more than one foot above finished grade. The openings shall provide 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, or the design must be certified by a registered P.E. as providing the equivalent performance in accordance with accepted standards of practice. Refer to FEMA TB 1, Openings in Foundation Walls and Walls of Enclosures, for additional guidance.

3. Per FEMA TB 11, the crawlspace shall be designed so that:

a. The interior grade of the crawlspace floor below the FPE must not be more than two feet below the lowest adjacent grade.

b. The interior height of the crawlspace measured from the interior grade of the crawl to the top of the foundations wall must not exceed four feet at any point.

c. An adequate drainage system must be installed to remove floodwaters from the interior area of the crawlspace within a reasonable period of time after a flood event.

d. The velocity of floodwater at the site shall not exceed five feet per second.

4. Portions of the building below the FPE must be constructed with materials resistant to flood damage.

5. Utility systems within the crawlspace must be elevated above the FPE.

(3) The lowest floor (including basement) of new construction of nonresidential buildings, and substantial improvement of nonresidential buildings, must either (1) be elevated to or above the FPE, subject to the more specific additional requirements of § 153.08(C)(2)(a) - (c) above; or (2) be structurally dry- floodproofed (in lieu of elevation), provided a registered P.E. or architect submits a FEMA floodproofing certificate, documenting that the registered P.E. or architect developed and/or reviewed the structural design, specifications, and plans for construction, and that the engineer or architect certifies that the design and methods of construction are in accordance with accepted standards of practice for meeting the requirements of ASCE 24-14 and the requirements listed below:

(a) Below the FPE, the building and attendant utility and sanitary facilities are watertight with walls substantially impermeable to the passage of water and structural components capable of resisting hydrostatic and hydraulic loads and the effects of buoyancy.

(b) The building design accounts for flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impact from debris and ice.

(c) Floodproofing measures will be incorporated into the building design and operable without human intervention and without an outside source of electricity.

(d) The building, utility, and sanitary facilities' design and construction will prevent the effect of sewer backup into the building.

(e) Levees, berms, floodwalls and similar works are not considered floodproofing for the purpose of this chapter.

(4) All placement of manufactured homes and/or travel trailers, to be permanently installed on site for more than 180 consecutive days, shall be:

(a) Elevated to or above the FPE using a support and anchoring system, designed by a P.E. pursuant to 77 Ill. Adm. Code § 870.110.

(b) 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 § 870.220.

(5) Travel trailers and recreational vehicles, on site for more than 180 consecutive days, shall meet the elevation requirement and anchoring requirements of § 153.08(C)(4) unless the following conditions are met:

(a) The vehicle must be either self-propelled or towable by a light duty truck.

(b) The vehicle must not be attached to any permanent additions or external structures, such as decks and porches.

(c) The vehicle must be designed solely for recreation, camping, travel, or seasonal use rather than as a permanent dwelling.

(d) The vehicles having a total area not exceeding 400 square feet measured when all horizontal projections are fully expanded.

(e) The vehicle's wheels must remain on axles and have inflated tires.

(f) Any air conditioning units must be attached to the frame so as to be safe for movement out of the floodplain.
(g) The vehicle must be attached to a site only by quick disconnect type utilities and security devices. Utility connections include, but are not limited to, propane tanks, electrical and sewage.
(h) The vehicle must be licensed and titled as a recreational vehicle or park model, and must either be entirely supported by jacks, or have a hitch jack permanently mounted, have the tires touching the ground and be supported by block in a manner that will allow the block to be easily removed by use of the jacks/hitch jack.

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	**Classification**	**Date Classified**
Community Rating System	Yes	5	October 2013
Building Code Effectiveness Grading Schedule	Yes	5	January 2013
Public Protection/ISO	Unknown	Unknown	Unknown
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	Yes	N/A	November 2013

Opportunities to Expand and Improve Capabilities
At this time, the City of Orland Hills has not identified opportunities to expand or improve our current capabilities. Should such opportunities be identified in the future, this Capability Assessment will be updated accordingly."

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: 0
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

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 5/25/2011	High Wind, Tornadoes, Torrential Rain
4/18/2013 4/20/2013 4/21/2013 4/25/2013 4/30/2013	Severe Storms, Heavy Rainfall, Flooding, Straight-line Winds
1/6/2014	Heavy Snowfall, Frigid Temperatures
7/12/2017 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 (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
Severe Storms	DR-4116	2013	-
Severe Winter Storms	DR-1960	2011	-
Severe Storms/Flooding	DR-1935	2010	-
Severe Storms/Flooding	DR-1800	2008	-
Severe Storms/Flooding	DR-1729	2007	-
Severe Winter Storm	EM-3161	2000	-
Winter Snow Storm	EM-3134	1999	-
Flooding	DR-1188	1997	-
Flooding	DR-1129	1996	-

Severe Storms/Flooding	DR-997	1993	-
Severe Storms/Flooding	DR-798	1987	-
Severe Storms/Flooding	DR-776	1986	-

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.

Drought: Drought could affect our community/village's 2 lakes, which could lead to the drying of natural plants and cause potential fires.

Flood: We have several locations who seem to be affected by flooding when we have excessive rainfall. The Stormwater Channel System through town is subject to erosion causing it to be less effective. In addition, some areas in town are too flat causing stormwater to flood many backyards.

Extreme Heat: The Village's vulnerability to the impacts of extreme heat would be mitigated by emergency relocation centers. The Village also needs back up generators as a redundant power source in case this natural hazard occurs.

High Winds: High winds could cause power outages, and our critical facilities such as our Sports complex and village Hall could be used as shelters for our village if we had a secondary power supply. Hail damage to our village cars could lead to insurance claims. Extreme heat could also lead to power outages or rolling outages. Our facilities, if equipped, could house our residents. The Village's vulnerability to the impacts of high winds would be mitigated by emergency relocation centers. The Village also needs back up generators as a redundant power source in case this natural hazard occurs.

Blizzards: Build as salt shortage facility at our Public Works building in order to ensure proper inventory in cases of extreme snow and ice events.

Extreme Cold: Given the Village's vulnerability to extreme cold, the community would benefit from burying all overhead power lines so the buildup of ice does not cause them to break and fail.

Ice Storms: Given the Village's vulnerability to ice storms, the community would benefit from burying all overhead power lines so the buildup of ice does not cause them to break and fail.

Tornado: Tornadoes can have a huge impact on our village. Our sports complex and village could be a place for our residents to gather if secondary power sources were available. The Village's vulnerability to the impacts of tornadoes would be mitigated by emergency relocation centers. The Village also needs back up generators as a redundant power source in case this natural hazard occurs.

Earthquake: On 4/18/2008 at 09:36:59, a magnitude 5.4 earthquake occurred 217.0 miles away from the city center.

Dam/Levee Failure: N/A

Severe Winter Weather: Our sports complex is a warming location, but if we lose power, we could not be in a safe place without a secondary power source.

Wildfire (Wildfire Smoke): Our lakes which have natural grasses could cause potential fires if a drought occurs.

Indicator	Number	Percent
Families in poverty	452	7.7%

People with disabilities	2,103	9.6%
People over 65 years	4,480	20.2%
People under 5 years	992	4.5%
People of color	3,207	14.5%
Black	887	4%
Native American	0	0%
Hispanic	1,596	7.2%
Difficulty with English	446	2.1%
Households with no car	199	2.4%
Mobile homes	0	0%

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	Remained the Same
Drought	Remained the Same
Earthquake	Not Applicable
Flood (Riverine, Urban, Shoreline)	Increased
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Increased
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	Remained the Same
Tornado	Increased
Wildfire (Wildfire Smoke)	Increased

Hazard	Vulnerability
Future Vulnerability	
Dam and Levee Failure	No Change is Anticipated
Drought	Increase
Earthquake	Not Applicable

Flood (Riverine, Urban, Shoreline)	Increase
Severe Weather (Extreme Heat, Lightning, Hail, Fog, High Wings)	Increase
Severe Winter Weather (Ice Storms, Heavy Snow, Blizzards, Extreme Cold)	No Change is Anticipated
Tornado	Increase
Wildfire (Wildfire Smoke)	Increase

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

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	Earthquake
4	Tornado
5	Flood
6	Drought
7	Dam Failure

New Mitigation Actions

Orland Hills did not have any new mitigation actions identified during the 2024 update.

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 O-6.1

Mitigation Action #1: 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:** BRIC, HMGP, FMA	**Estimated Projected Completion Date:** Long-term (depending on funding)	**Hazard(s) Mitigated:** All
Year Initiated		2014			
Applicable Jurisdiction		Village of Orland Hills			
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:					
Actual Completion Date or Ongoing Indefinite					
Project Status & Changes in Priority		O			

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	

Action O-6.2

Mitigation Action #2: 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 Orland Hills			
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:					
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 O-6.3

Mitigation Action #3: Actively participate in the plan maintenance strategy identified in this plan.					
Lead Agency/Department Organization: EMRS, Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** All
Year Initiated	2014				
Applicable Jurisdiction	Village of Orland Hills				
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:					
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 O-6.4

Mitigation Action #4: Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Low	**Potential Funding Source:**	**Estimated Projected**	**Hazard(s) Mitigated:** All

			General Fund	**Completion Date:** Long-term	
Year Initiated		2014			
Applicable Jurisdiction		Village of Orland Hills			
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:					
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 O-6.5

Mitigation Action #5: 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.					
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 Orland Hills
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:	
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 O-6.6

Mitigation Action #6: Where feasible, 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 Orland Hills			
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:	
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 O-6.7

Mitigation Action #7: Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** Medium	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** All
Year Initiated		2014			
Applicable Jurisdiction		Village of Orland Hills			
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:					

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 O-6.8

Mitigation Action #8: Consider the development and implementation of a Capital Improvements Program (CIP) to increase the Village's regulatory, financial and technical capability to implement mitigation actions.					
Lead Agency/Department Organization: Public Works	**Supporting Agencies/ Organizations:**	**Estimated Cost:** High	**Potential Funding Source:** CIP Component of General Fund (if implemented)	**Estimated Projected Completion Date:** Long-term and Ongoing	**Hazard(s) Mitigated:** All
Year Initiated	2014				
Applicable Jurisdiction	Village of Orland Hills				
Applicable Goal	1,5				
Applicable Objective	1,2,7				
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:					
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;	O				

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

Action O-6.9

Mitigation Action #9: Improve sirens.					
Lead Agency/Department Organization: Orland Fire Protection District and Village	**Supporting Agencies/ Organizations:**	**Estimated Cost:** High	**Potential Funding Source:** BRIC, HMGP	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Tornado, Severe Weather
Year Initiated		2014			
Applicable Jurisdiction		Village of Orland Hills			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		1, 3, 5, 8			
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:					
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 O-6.10

Mitigation Action #10: Improve flood control structures.

Lead Agency/Department Organization: Metropolitan Water Reclamation District	**Supporting Agencies/ Organizations:**	**Estimated Cost:** High	**Potential Funding Source:** BRIC, HMGP, FMA	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flooding, Severe Weather
Year Initiated		2014			
Applicable Jurisdiction		Village of Orland Hills			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		1,8,9			
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)		Medium			
Action/Implementation Plan and Project Description:					
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 O-6.11

Mitigation Action #11: Install backup generators at all village facilities					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $1,000,000 - High	**Potential Funding Source:** BRIC, HMGP	**Estimated Projected Completion Date:** Short-term	**Hazard(s) Mitigated:** Earthquake, Flood, Extreme Heat, Lightning, Hail, Fog, High Wind, Snow,

					Blizzard, Extreme Cold, Ice Storms, Tornado, Epidemic or Pandemic, Widespread Power Outage, Secondary Impacts from Mass Influx of Evacuees
Year Initiated		2019			
Applicable Jurisdiction		Village of Orland Hills			
Applicable Goal		1,2,3			
Applicable Objective					
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)		Reduce the risk of a power outage crippling the village's ability to manage a natural disaster High - Project will provide an immediate reduction of risk exposure for life and property.			
Action/Implementation Plan and Project Description:					
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 O-6.12

Mitigation Action #12: Install a new underground drainage system and one or more lift stations to mitigate flooding.					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $2,000,000	**Potential Funding Source:** BRIC, HMGP, FMA	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Flood
Year Initiated		2019			
Applicable Jurisdiction		Village of Orland Hills			
Applicable Goal		1,2,3			
Applicable Objective		1,2,7,9			
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)		Reduction of flood risk to more than 100 homes. Reduction of sediment accumulating in Lake Lorin. High - Project will provide and immediate reduction of risk exposure for life and property			
Action/Implementation Plan and Project Description:					
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 O-6.13

Mitigation Action #13: Replace current HMP Village parking lot with porous material

Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $2,000,000; High	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Earthquake, Flood, Hail, Snow, Blizzard, Extreme Cold, Ice Storms
Year Initiated		2019			
Applicable Jurisdiction		Village of Orland Hills			
Applicable Goal		1,2,3,4,5,6			
Applicable Objective		3,13			
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)		Reduce flooding overall by replacing HMP surfaces with porous High - Project will provide and immediate reduction of risk exposure for life and property			
Action/Implementation Plan and Project Description:					
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 O-6.14

Mitigation Action #14: Replace existing overhead power lines to underground

Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $2,000,000; High	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Earthquake, Lightning, Hail, Fog, High Wind, Snow, Blizzard, Extreme Cold, Ice Storms, Tornado, Epidemic or pandemic, Widespread Power Outage
Year Initiated		2019			
Applicable Jurisdiction		Village of Orland Hills			
Applicable Goal		1,2,3			
Applicable Objective		1,2,3,7			
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)		Reduce the risk of residents losing power during an extreme weather event High - Project will provide and immediate reduction of risk exposure for life and property			
Action/Implementation Plan and Project Description:					
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 O-6.15

Mitigation Action #15: Construct a salt storage facility in order to ensure proper inventory of snow removal supplies					
Lead Agency/Department Organization: Village Administration	**Supporting Agencies/ Organizations:**	**Estimated Cost:** $500,000; High	**Potential Funding Source:** General Fund	**Estimated Projected Completion Date:** Long-term	**Hazard(s) Mitigated:** Snow, Blizzard, Extreme Cold, Ice Storms, Tornado, Hazardous Materials Incident
Year Initiated		2019			
Applicable Jurisdiction		Village of Orland Hills			
Applicable Goal		1,2,3			
Applicable Objective		13			
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)		Mitigate run off of de-icing supplies currently stored outside High - Project will provide and immediate reduction of risk exposure for life and property			
Action/Implementation Plan and Project Description:					
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			

Completed Actions

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

Completed Action Items
Streambank Stabilization & Flood Control Project along Tinley Creek

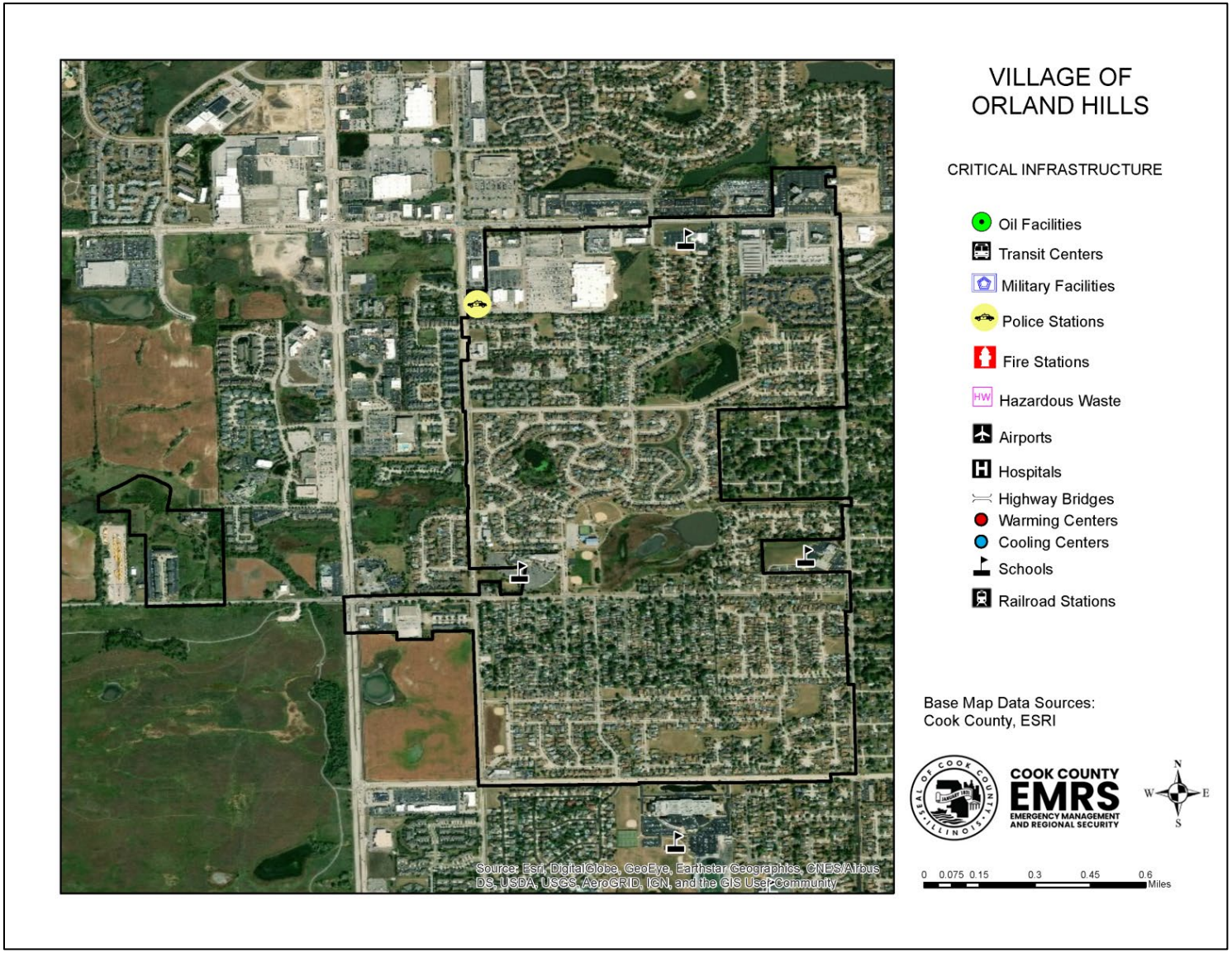
Future Needs to Better Understand Risk/Vulnerability

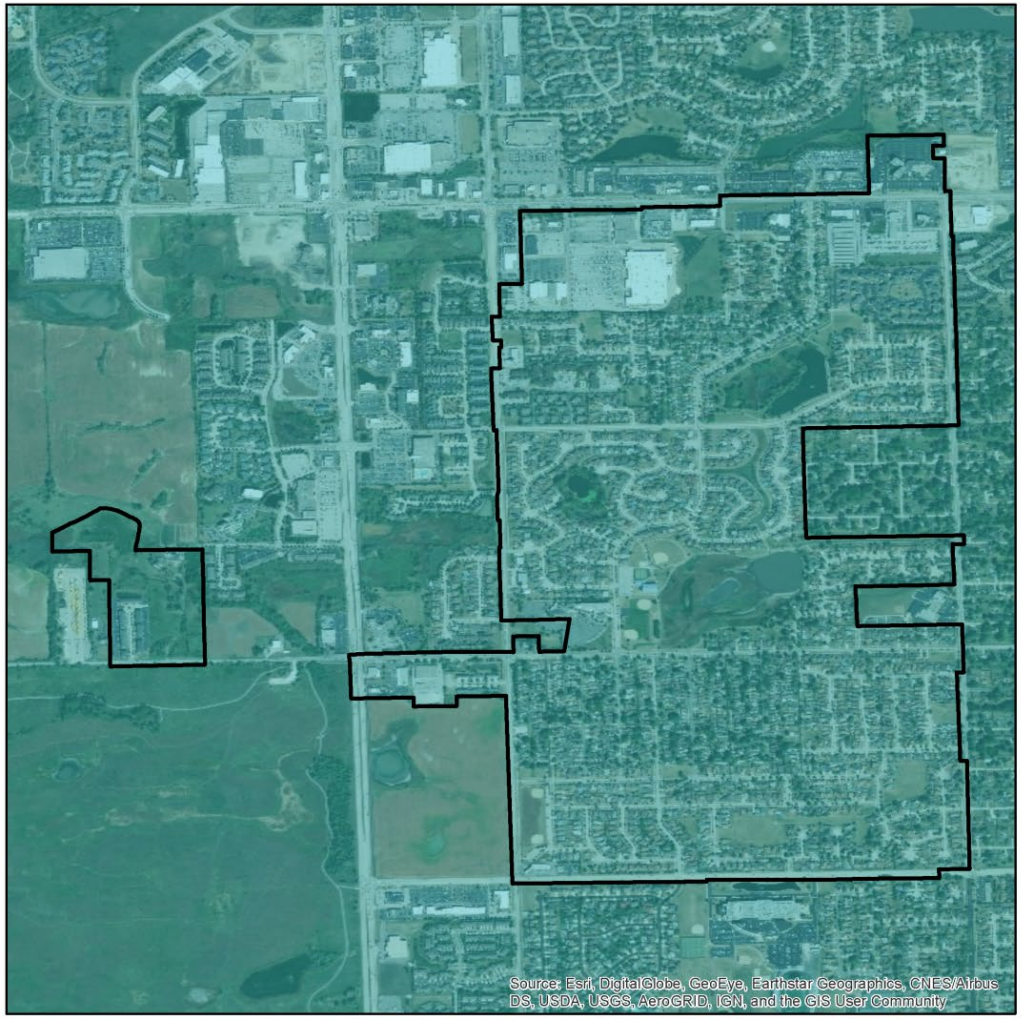
None at this time.

Additional Comments

No additional comments at this time.

Hazard Mapping





VILLAGE OF ORLAND HILLS

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

Mercalli Scale, Potential Shaking

II-III Weak

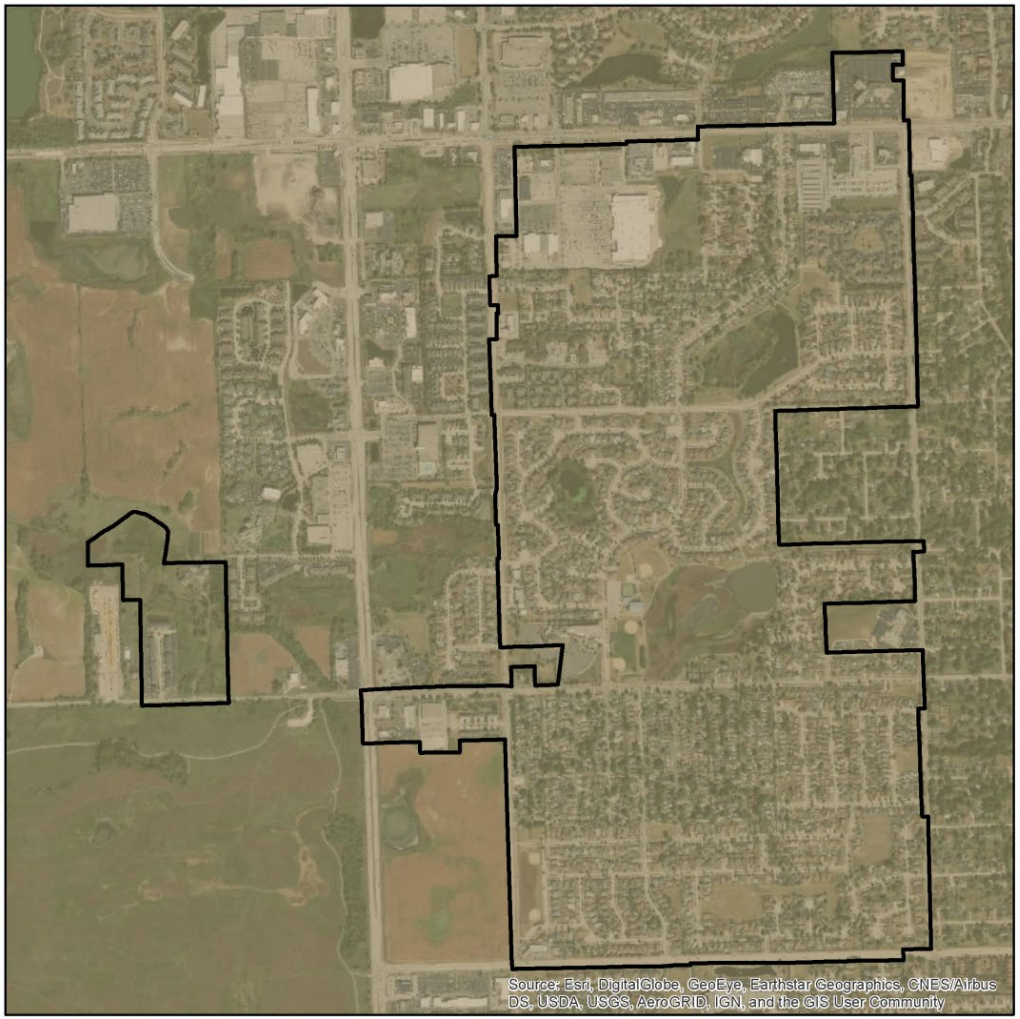
Data provided by the USGS Earthquake Hazards Program and Cook County.

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.

COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N W E S

0 0.075 0.15 0.3 0.45 0.6 Miles



VILLAGE OF ORLAND HILLS

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.

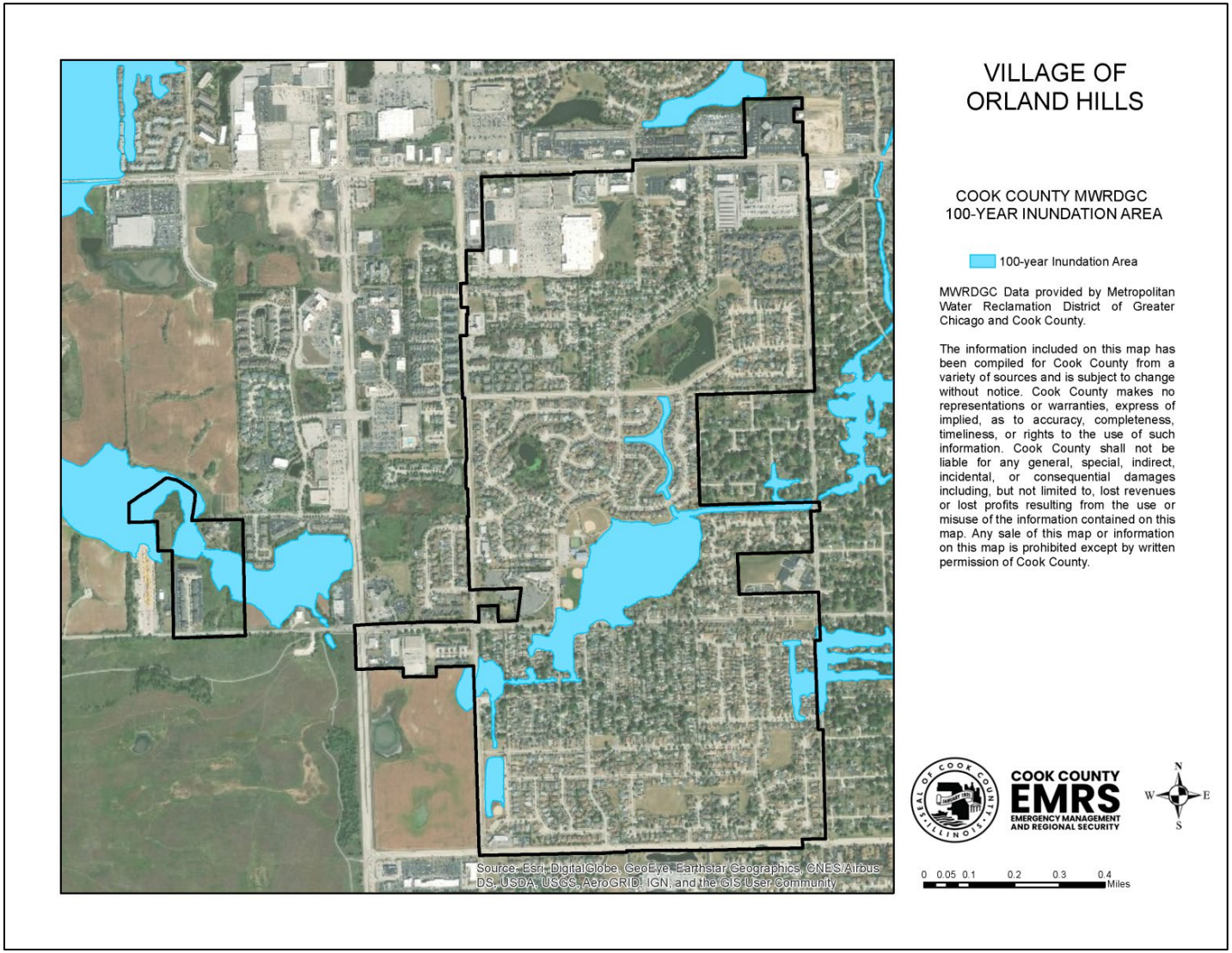
The information included on this map has been compiled for Cook County from a variety of sources and is subject to change without notice. Cook County makes no representations or warranties, express of implied, as to accuracy, completeness, timeliness, or rights to the use of such information. Cook County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of Cook County.

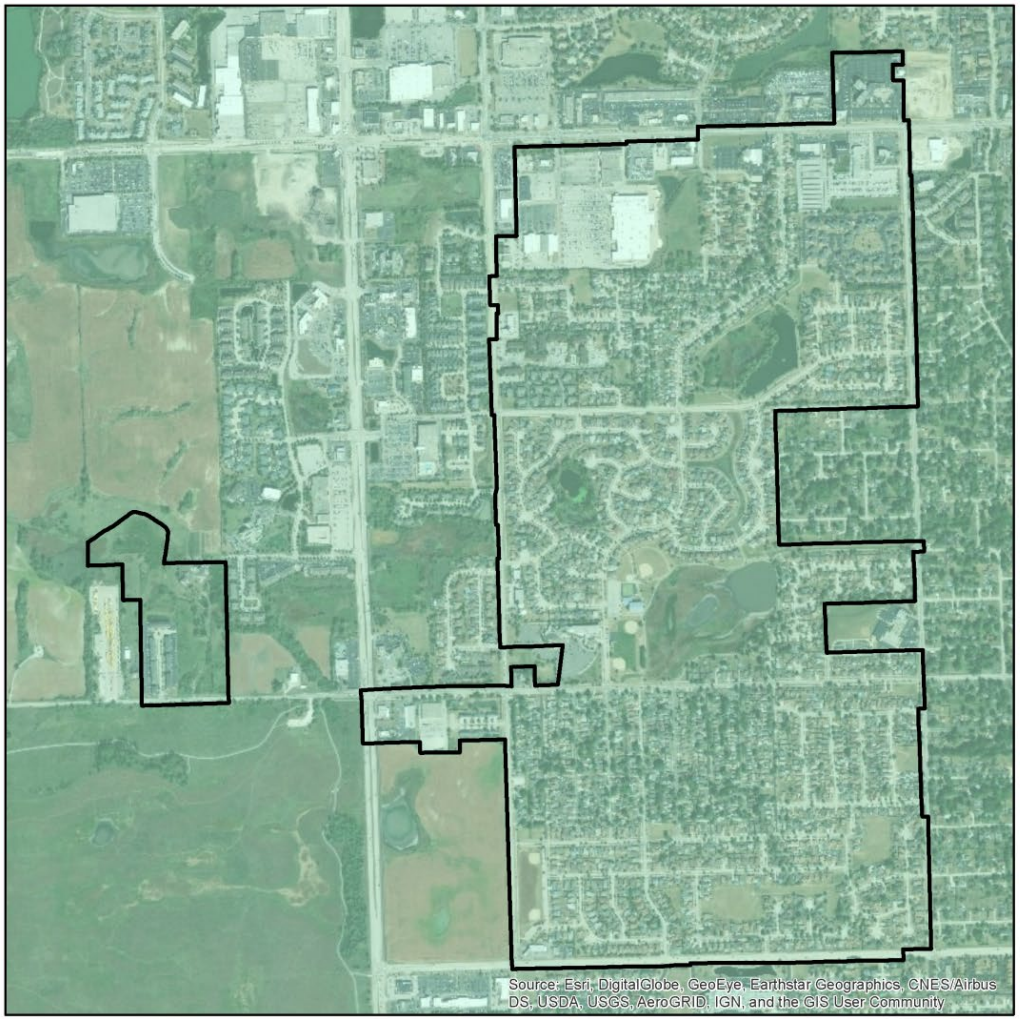
COOK COUNTY EMRS
EMERGENCY MANAGEMENT AND REGIONAL SECURITY

N
W E
S

0 0.05 0.1 0.2 0.3 0.4 Miles

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 ORLAND HILLS

LIQUEFACTION SUSCEPTIBILITY

LIQUEFACTION SUSCEPTIBILITY

- high
- low
- very low

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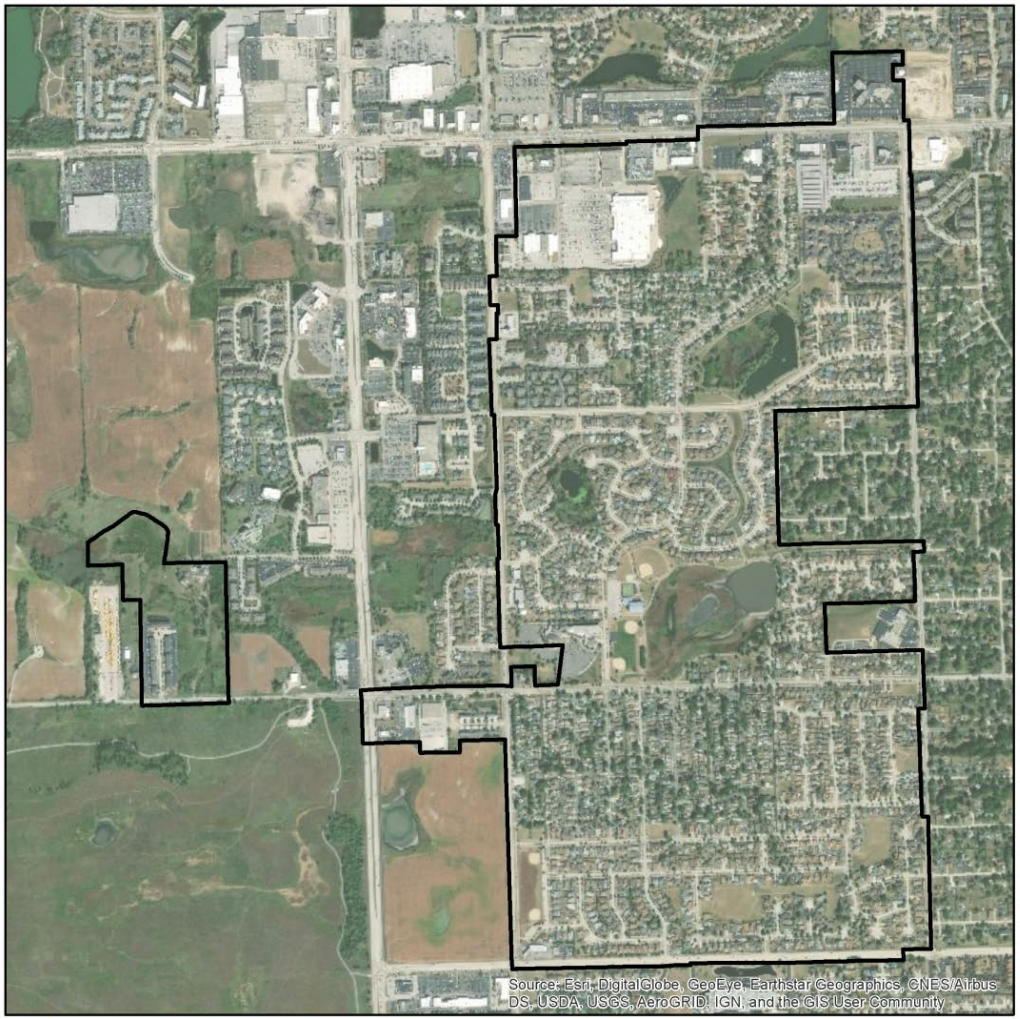

VILLAGE OF ORLAND HILLS

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

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0 0.05 0.1 0.2 0.3 0.4 Miles