Floodplain Management - Basics IAFSM 2023 - Tinley Park, IL March 14, 2023



Office of Water Resources Resource Management – Statewide Programs

Statewide Programs Staff

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Basic Terms

- Federal Emergency Management Agency (FEMA)
- National Flood Insurance Program (NFIP)
- Flood Insurance Rate Map (FIRM)
- Flood Insurance Study (FIS)
- Floodplain, Regulatory Floodplain, Zone A, AE, AO, AH, V, VE, and Special Flood Hazard Area (SFHA)
- Base Flood Elevation (BFE)
- Letter of Map Amendment (LOMA)
- Floodway portion of the floodplain



What we will cover

- NFIP Basics
- Duties of a Local Floodplain Administrator
- Ordinance Overview
- Building Protection Standards
- Substantial Improvement and Damage
- Mapping and FIS Basics
- What is the floodway?
- State Floodway Permits
- Flood Insurance



What is the NFIP?

Voluntary federal insurance program, administered by FEMA, that provides:

- Flood insurance for property owners and renters in participating communities
- Access to grants and disaster assistance for damages in the regulatory floodplain
- Maps and studies of flood hazards

To join a community must:

- Adopt the flood hazard maps and studies
- Adopt floodplain management regulations
- Enforce regulations to protect new buildings and prevent increased damages



NFIP in Illinois

- FEMA Community Status Book https://www.fema.gov/cis/IL.pdf)
- 895 Participating counties, cities, towns, and villages
- 112 Communities with mapped floodplain do not participate
- 11 suspended communities, 3 withdrawn
- 1 community on probation due to building homes with basements in the floodplain, including grading the floodway (\$50 surcharge to all NFIP policies)
- 400 +/- Communities have no mapped floodplain



Roles in the NFIP

Federal

- Provides map and studies
- Provides federal flood insurance
- One staff member directly assigned in Region V to assist IL communities and residents and manage the grant for the state program

State

- Maintains the conveyance and storage in the floodway through state floodway permitting
- Maintain compliance on state owned properties
- 2 staff members assigned to assist communities and residents statewide and to audit communities



Local Community Role in the NFIP

Floodplain Manager Duties

- Permit all <u>Development</u> in the regulatory floodplain (1% A or V Zones)
- Check all permits to see if the site is in the floodplain (interior work too)
- Issue permits that meet the code and inspect work for compliance
- If in the <u>floodway</u> refer to a PE for review State permit, state issued "No Permit Required" letter, or state delegation letter required if site under state jurisdiction
- Inspect the floodplain looking for violations



Local Community Role in the NFIP (cont.)

More Floodplain Manager Duties

- Issue violation notices and ENFORCE your code
- Maintain any floodplain building permit records PERMANANTLY, including site grading plans, subdivision grading plans, and elevation certificates
- Enforce substantial improvement requirements
- Inspect and document post–flood (or other source) damages
- Make substantial damage estimates and enforce compliance

Ordinance Sections

- Purpose Statement
- Definitions
- Base Flood Elevation
- Assignment of Duties
- Development Permit
- Preventing Flood height Increases (Floodway)
- Building Protection
- Other Protection Standards
- Variances
- Penalties



Community's Purpose in Floodplain Management

- Ensure new buildings and substantially improved buildings are protected from flood risk
- Ensure new development does not increase flood risk to themselves and others
- Comply with the rules and regulations of the National Flood Insurance Program codified as 44 CFR 59-79,



How is Development Defined?

Any man-made change to real estate including, but not necessarily limited to:

- Demolition, construction, reconstruction, repair, placement of a building, or any structural alteration to a building;
- substantial improvement of an existing building;
- installation of a manufactured home on a site, preparing a site for a manufactured home, or installing a travel trailer on a site for more than one hundred eighty (180) days per year;
- installation of utilities, construction of roads, bridges, culverts or similar projects;



How is Development Defined? (cont.)

- redevelopment of a site, clearing of land as an adjunct of construction
- construction or erection of levees, dams, walls, or fences;
- drilling, mining, filling, dredging, grading, excavating, paving, or other alterations of the ground surface;
- storage of materials including the placement of gas and liquid storage tanks, and channel modifications or any other activity that might change the direction, height, or velocity of flood or surface waters.

"Development" does not include resurfacing roads, or gardening, plowing, and similar practices that do not involve filing, grading, or construction of levees.



What needs a Permit?

- Any development as just defined in the mapped 1% floodplain Zone A, Zone AE, Zone AO, Zone AH, and Zone V/VE
- Most ordinances Development of a critical facility in the 1% and 0.2% chance floodplain
- Development includes repair or damages and interior improvements that meet the requirements of this ordinance – i.e. no substantial damage repairs/substantial improvements unless the mitigation plan to elevate or floodproof (nonresidential) is included



When is a Base Flood Elevation needed in a Zone A?

- Most ordinances in IL require when permitting in a Zone A that an engineering study must be completed to calculate the BFE.
- New buildings will be subject to very high flood insurance premiums if an estimated BFE is used and a LOMA is not approved
- Do not simply interpolate contours
- The engineering analysis should look at downstream roads or downstream receiving streams for impacts
- Road bridge/culvert plans may provide source of BFEs
- Minimum NFIP requires a calculated BFE for developments greater than 50 lots or 5 acres, whichever is less



Floodways: What does Your Ordinance Say?

Within any floodway identified on the countywide FIRM, and within all other floodplains where a floodway has not been delineated

... no development shall be allowed which, acting in combination with existing and anticipated development will cause any increase in flood heights or velocities or threat to public health and safety.

This means any mapped floodways or in a Zone A or AE where no floodway is shown the local community must ensure the base flood elevation will not increase due to the development.

The state floodway rules limit state jurisdiction but not yours



State Floodway Rules

The State Floodway rules for downstate are the Part 3700 Rules and for NE IL are Part 3708. The rules and permit information can be found at:

https://www2.illinois.gov/dnr/WaterResources/Pages/PermitProg rams.aspx

IDNR /OWR Jurisdictional Stream IDNR/OWR has jurisdiction over any stream serving a tributary area of:

- 1 sq. mi. (640 acres) or more in an urban/urbanizing area
- 10 sq. mi. (6,400 acres) or more in a rural area



Repeat - If drainage area requirements are met, a State Permit is required for development of a building/addition or any grading in a:

Mapped Floodway



Anywhere in a Zone A or AE floodplain with no identified Floodway





Protecting Buildings: Elevation

- Elevation on Fill (no basement)
- Elevation on crawlspace w/ openings
- Elevation on walls w/ openings
- Elevation by posts, piers, or columns







Elevation – Enclosure Foundation/Lower level



- Flood Openings Required
- Storage only for area below the BFE





Elevation – Flood Vent Calculation

A standard crawlspace vent for block walls is 8" x 16" or 128 sq. in.. Assume screening loss of 20 sq. in.

<u>2,000 sq. foot house</u> = 18.51 19 vents needed 108 sq inches/vent

A standard engineered vent if flooded to full depth is rated for 200 square inches*

<u>2,000 sq. foot house</u> = 10 10 vents needed 200 sq. inches/vent

* Model number of vent used must be provided on the Elevation Certificate along with a stapled copy of the ICC-ES report



Elevation – Crawlspace Enclosure w/ flood openings





Openings in Foundation Walls and Walls of Enclosures

Below Elevated Buildings in Special Flood Hazard Areas in accordance with the National Flood Insurance Program

Technical Bulletin 1 / August 2008



Accessory and Agricultural Structures



Openings in Foundation Walls and Walls of Enclosures

Below Elevated Buildings in Special Flood Hazard Areas in accordance with the National Flood Insurance Program

Technical Bulletin 1 / August 2008









RVs – If Onsite for 180 Days or more



Elevation – Building on Fill



Reasonably Safe from Flooding Requirement for Building on Filled Land

Removed From the Special Flood Hazard Area in Accordance with the National Flood Insurance Program NFIP Technical Bulletin 10 / March 2023



- New FEMA Technical Bulletin 10, dated March 2023
- No fill in Floodway unless a Conditional LOMR-F/LOMR-F and state floodway permit are issued
- Verify Reasonably Safe from Flooding (soil compaction, grading plans, sump pump sizing if required, and compensatory storage (if required))
- Keep all Records PERMANENTLY



Elevation – Building on Fill –LOMR-F Request

DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY COMMUNITY ACKNOWLEDGMENT FORM O.M.B. NO. 1660-0015 Expires February 28, 2014

A. REQUESTS INVOLVING THE PLACEMENT OF FILL

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision Based on Fill (LOMR-F) or Conditional LOMR-F request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the ill be obtained. regulatory Based on the community's review...project meets...all of For Condit ssuance of the Conditiona een achieved the community floodplain management independe ction might harm 10 of the ESA. an endang requirements...obtained all state and federal For action npliance with Section 7(es to be removed permits...structures to be removed from the (floodplain) from the by DHS-FEMA, all analyses a rwarded to DHSare reasonable safe from flooding... and we have all FEMA for Communit analysis and documentation to make this determination



LOMA Request - Floodway

DEPARTMENT OF HOMELAND SECURITY - FEDERAL EMERGENCY MANAGEMENT AGENCY COMMUNITY ACKNOWLEDGMENT FORM O.M.B. NO. 1660-0015 Expires February 28, 2014

B. PROPERTY LOCATED WITHIN THE REGULATORY FLOODWAY

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this request for a LOMA. We understand that this request is being forwarded to DHS-FEMA to determine if this property has been inadvertently included in the regulatory floodway. We acknowledge that no fill on this property has been or will be placed within the designated regulatory floodway. We find that the completed or proposed project meets or is designed to meet all of the community floodplain management requirements. Community Comments:

DO NOT SIGN IF FILL PLACED IN THE FLOODWAY – Look at Google Earth. The state must concur when a it's a mapped floodway. Tell the property owner this is standard procedure. FEMA will send the request to IDNR/OWR.



Plan Review and Inspections

- Foundation location (not in the floodway)
- Foundation elevation is met (use a during construction Elevation Certificate or "top of foundation" survey)
- Flood Openings provided size and elevation
- Site grading –no floodway fill and compensatory storage, if required
- Compaction inspection reports
- Improvements/Repairs inspect for change orders that increase the value of the work being performed
- Final Elevation Certificate



Record Keeping

- Permit Records including grading plans
- Inspection Records
- Damage Estimates
- Improvement Estimate and review
- Certified as-built conditions through grading plan or EC
- Copies of state or federal permits
- Variance action with staff reports
- Letters of Map Change files including and Community Acknowledgement form and supporting documentation



Elevation Certificates – Why and When are they Needed?

- Flood insurance rating to get the most accurate quote (No longer required for a building to get a quote regardless of construction date
- New construction of a **BUILDING** in or near floodplain to confirm compliance with floodplain regulations (at discretion of the community)
- Elevation of an existing substantially damaged building using Increased Cost of Compliance from a flood insurance claim (3 needed – existing foundation, new foundation before house lowered and as-built)
- Support for a Letter of Map Amendment or Letter of Map Revision Based on Fill



Violations

- Issue clear violation notice with code sections violated
- New model ordinance has stop work provision
- Advise state NFIP of any violations with new construction
- Advise state NFIP office and Floodway Section for floodway violations
- Local ordinance provides the highest penalties state floodway rules have no teeth



Variances

- Rare and unique
- Related to property not owner, i.e. can't elevate due to elderly owner
- Only issued for the minimum provisions necessary
- Cannot give a variance for minimum standards of the NFIP
- Cannot give a variance to state floodway rules, i.e. fence in the floodway in NE IL
- New model ordinance expands on what paperwork is needed
- Advise state NFIP office



Substantial Improvement/Damage

Any repair, reconstruction, rehabilitation, addition, or other activity to a building in a floodplain in which the project cost equals or exceeds 50 percent of the market value of the building before the improvement or repair is started.

OR

Any repair, reconstruction, rehabilitation, addition, or other activity to a building in a floodplain <u>taking place during a 10-year period</u> in which the <u>cumulative</u> project cost equals or exceeds 50 percent of the market value of the building before the improvement or repair is started.

Substantial improvement is considered to begin 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.



Substantial Improvement/Damage

- Get a detailed cost estimate or quote from a contractor on their letterhead
- Review the estimate for completeness and true cost of materials/labor
- Look to assessor for market value and establish a policy on the multiplier you will use
- Determine percent improvement
- If close to 50% consider recording any letter to property owner with County Recorder

Costs must include:

- Materials and labor
- Demolition and construction debris removal
- Profit and overhead
- Exterior finishes; siding, windows, foundation, etc.
- Interior finishes; flooring, paint, doors, hardware, flooring, etc.
- Plumbing, Electric, and HVAC



Mapping Basics – Flood Zones

- <u>Zone A/AE/A1-30</u> Area inundated by the 1% chance annual flood
- <u>Zone AO</u> Area with 1% annual chance of shallow flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths are shown on FIRM, and state may take jurisdiction
- <u>Zone AH</u> Area with 1% annual chance of shallow flood depths, usually ponding with flood depths of 1 to 3 feet, BFEs are shown on the FIRM, and state may take jurisdiction
- <u>Zone B and X (shaded)</u> 0.2% annual chance (500-year) area; areas 1% chance annual flood with average depths of less than 1 foot or with contributing drainage area less than 1 square mile; and areas protected by levees from the base flood
- Zone C and X (unshaded) Areas determined to be outside the 500-year floodplain
- <u>Zone V/VE</u> Coastal Areas (including Great Lakes) with a 1% or greater chance of flooding, with the additional hazard associated with waves



Mapping Basics – Newest FIRM Format



BFE Tenth of a Foot shown at X-Sections Floodway Zone A/AE (High Risk -1% Annual Chance Flood) Shaded X (Medium Risk – 0.2% Annual Chance Unshaded X (Low Flood Risk) Community boundary line
Mapping Basics – Paper FIRM Format



Base Flood Elevation (BFE) – Height water will get during a base flood – Approximate elevation must use FIS flood profile

Zone A or AE – Base Flood or Floodplain No floodway determined – entire floodplain is floodway (Part 3700 Rules apply statewide)

Zone B (Shaded Zone X) - Lower risk floodplain

Zone C (X) – All other areas

State floodway permit for required for all floodway work if drainage area is \geq 1 sq. mi. urban or \geq 10 sq. mi. rural

Mapping Basics – Zone AH



Mapping Basics – Zone AO



- Typically shallow, sheet flow
- Flood Depth 1-3 feet at every point
- Example in Palos Heights Since has been corrected with a LOMR









Mapping Status in Illinois

- Illinois State Water Survey is the primary mapping contractor for Illinois (illinoisfloodmaps.org)
- 6 counties have Preliminary Digital FIRMs
- 4 counties have a portion of their maps changing (Physical Map Revision (PMR))
- 22 Counties still using paper maps
- 4 counties do not yet have funding for digital maps
- 13 counties have county-wide mapping inprogress
- 14 counties have watershed studies in-progress



FEMA Flood Map Service Center: Welcome!

Looking for a Flood Map? 📀

Enter an address, a place, or longitude/latitude coordinates:

Enter an address, a place, or longitude/latitude coordinates Search

Looking for more than just a current flood map?

Visit **Search All Products** to access the full range of flood risk products for your community.



FEMA Flood Map Service Center: Search All Products

Choose one of the three search options below and optionally enter a posting date range.

Jurisdiction	Jurisdiction Name	Product ID 😢
State	Jurisdiction Name or FEMA ID	Product ID
ILLINOIS [
County	(Ex. Fairfax County-wide or 51059C)	(Ex. Panel Number, LOMC Case Number)
GRUNDY COUNTY		
Community		
BRACEVILLE, VILLAGE OF	Y	
> Filter By Posting Date Ra	nge (Optional)	
Search Clear All Fields		

RESOURCE

FEMA Flood Map Service Center: Search By Address



DEPARTMENT OF

RESOURCES

FEMA Flood Map Service Center: Search By Address

Enter an address, place, or coordinates: 😢





Search Results for GRANITE CITY, CITY OF

Click <u>subscribe</u> to receive email notifications when products are updated. If you are a person with a disability, i vision, and need assistance, please contact a <u>map specialist</u>.

Please Note: Searching All Products by county displays all products for all communities within the col your search results by specifying your specific jurisdiction location using the drop-down menus above

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	•	FIS Reports (1)	DL ALL					
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		NFHL Data-State (1))					
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National Flood Hazard Layer Viewer





Pending Maps and Preliminary Maps



FIS Basics

- Floodplain maps (FIRMs) must be used in conjunction with the Flood Insurance Study (FIS)
- FIS contains the details, including:
 - Datum Conversion (Generally countywide but can be stream/river)
 - ☐ Flood Profiles for BFE determination
 - Floodway Data tables for BFEs a X-Section to a tenth of a foot
 - Stillwater Tables for lakes
 - Details on when studies were completed by waterway, such as the rainfall data used (TP40, Bulletin 70, regression analysis), age of the study, or if runoff modeling was calibrated to any gage data.



FIS Basics – Flood Profiles

Annual Probability of Flood Being Equaled or Exceeded

- 10% 10 Year
- 4% 25 Year Required for newer studies
- 2% 50 Year Often used for bridges/culverts
- 1% 100 Year
- 1%+ 100 Year Required for newer studies and reflects confidence in the 1% regulatory Base Flood Elevations (see December 2021 The Flood Record)
- 0.2% 500 Year Used for critical facilities



Establish the BFE

	FLOODING SOU	FLOODWAY			BASE F	BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)				
c	CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE	
East No. 3	Branch Tributary EBEB0047 EBEB0048 EBEB0049 EBEB0050 EBEB0051 EBEB0052 EBEB0053	684 ¹ 1,013 ¹ 1,426 ¹ 1,754 ¹ 1,890 ¹ 2,613 ¹ 3,263 ¹	164 ² 84 ² 110 57 57 125 119	239 97 273 126 62 264 198	1.4 3.4 1.2 2.6 5.2 1.2 1.1	670.2 674.9 686.0 686.1 686.5 699.1 713.7	670.2 674.9 686.0 686.1 686.5 699.1 713.7	670.2 674.9 686.1 686.2 686.5 699.2 713.7	0.0 0.1 0.1 0.0 0.1 0.0	
TABL				FLOODWAY DATA						
ін 11	AND INCORPORATED AREAS			EAST BRANCH TRIBUTARY NO. 3 (EBEB)						

BFE on Profile



Table 3 - Still	Stillwater		
Community	Old Name	New Name	Table for
North Barrington, Village of	Unnamed Ponding Area 2	Lake Sheree	
Lake County	Brandenberg Lake	Brandenburg Lake	Lake Bres in
(Unincorporated Areas)	Dialdeneerg Dake	Brandenburg Luite	FIS

Table 10 - Summary of Stillwater Elevations							
	Elevation (feet NAVD 88)						
Flooding Source and Location	10-Percent- <u>Annual-Chance</u>	2-Percent- <u>Annual-Chance</u>	1-Percent- <u>Annual-Chance</u>	0.2-Percent- <u>Annual-Chance</u>			
Antioch Lake	756.1	756.2	756.5	756.7			
Bluff Lake	739.2	740.6	741.4	742.4			
Brandenburg Lake	739.2	740.3	740.8	741.9			
Cedar Lake	790.0	790.3	790.5	790.7			
Channel Lake	739.6	740.9	741.5	742.8			
Cross Lake	812.3	812.5	812.8	813.0			

BFE on Profile - Measure distances on the NFHL



Measure distance from centerline of road to upstream corner and downstream corner



BFE on Profile





Flood Risk – Look Beyond the FIRM

- 1% Annual Risk means 26% chance of event occurring in 30 years (1-(0.99³⁰))
- FIS will explain when each stream/river was last studied and mapped. If a 1970 study, is it really representing the flood risk? Has development in the watershed changed? Should you be using a different freeboard (flood protection elevation)
- Date of map and FIS does not mean all floodplains have updated data read the FIS
- Look at the 10% or 2% Annual Risk flood elevations as well. Is property flooded by these more frequent events? New flood insurance rating is now address the difference in risk.
- Does your river experience ice jams? Has sediment, vegetation or debris altered the stream?



Flood Risk – Look Beyond the FIRM





2019 Photo

March 2022 Preliminary FIRM

What is the Floodway





Impact of Illegal Floodway Filling – BFE Increased

Permitted filling in the floodway ALWAYS REQUIRES A CONDITIONAL AND FINAL LETTER OF MAP REVISION



Who Can Buy NFIP Flood Insurance?

- <u>Anybody in a community participating in the NFIP</u>
- 895 participating communities in Illinois and growing
- A NFIP policy can be issued <u>anywhere</u> in that community!
- Renters can get contents only policies
- Lenders require building coverage only, sometimes for loan amount only
- Non-primary homes have faster increases in premiums (vacation homes or rentals)



Who Must Buy Flood Insurance?

- "Making, increasing, renewing, or extending" a loan secured by a building that is located or to be located in an area of special flood hazard"
 - Federally regulated lenders
 - Federally sponsored enterprises for housing (Fannie and Freddie)
 - Federal agency lenders or federal financial assistance for acquisition or construction purposes, including FEMA Public Assistance for flood damage to insurable public facilities
- For insurable public facilities, FEMA Stafford Act Public Assistance (for flood damage) will be reduced by the amount of insurance that was/would have been available to that type of property (usually \$500,000 for building and \$500,000 for contents) before Public Assistance can provide any funding to repair or replace.



What does NFIP Flood Insurance Cover in a Basement?

Basement - Building Policy

- Foundation walls, anchorage systems, and staircases attached to the building
- Furnaces, water heaters, heat pumps, and sump pumps
- Electrical outlets, switches, and circuit-breaker boxes
- Drywall for walls and ceilings
- Non-flammable insulation

Basement - Contents Policy includes

- Washers and dryers
- Food freezers and the food in them (but not refrigerators)

LIMITED BASEMENT COVERAGE



Risk Rating 2.0 How is Flood Insurance Changing?

- ELEVATION CERTIFICATES NOT REQUIRED
- Homeowner can complete Section E/F for all flood zones
- No more in or out of the mapped floodplain buildings on opposite sides of the line will pay similar rates unless elevation is different
- Flooding type, Coastal vs Riverine vs Great Lakes, now considered

Risk Rating 2.0: Equity in Action | FEMA.gov





Insurable Property

2 or more rigid walls - fully secured roof permanently fixed to site - at least 51% above ground Includes manufactured homes



Filing a claim?

• A flood insurance claim is paid when a structure has been flooded by SURFACE WATER.

• Flood waters need to be touching the home and enter through:

- ✤ a window well
- $\boldsymbol{\diamondsuit}$ over the foundation
- through a doorway or window
- Flood Insurance does not pay if only flooded by:
 - Sanitary backup
 - Sump pump failure/overflow
 - Seepage through foundation cracks



How Much Flood Insurance Coverage is required Amount of Flood Insurance = <u>lesser</u> of:

- Outstanding principal balance of loan(s)
- Maximum amount of insurance
 available under the NFIP

Residential max. \$250,000 Non-Res max. \$500,000 Condo is based on number of units



RR 2.0: New NFIP Rating Engine

- Changes everything about flood insurance premiums
- No rating tables more of a black box
- No pre-FIRM discounts
- Each house individually assessed
- No more in or out of mapped floodplain, now based numerous rating variables
- TRANFERRING POLICY CRITICAL TO MAINTAIN
 DISCOUNTS FROM SELLER TO BUYER
- CONTINUOUS COVERAGE MAY KEEP COSTS LOWER



RR 2.0: Geographic Location

- Distance to Flooding Source(s) -River, Coast, Ocean, Great Lakes
- Local Relative Elevation
- Elevation Relative to Flooding Source(s)
- Territory (MSA)
- HUC-12 Watershed
- Drainage Area
- River Class



RR 2.0: Structural variables

- Type of occupancy
- Construction Type (Frame, Masonry, Other)
- Foundation type
- Building Replacement Cost Value
- First Floor Height
- Number of Floors above ground
- Date of Construction
- Condo Floor of Unit and # of Units
- Primary Residence vs Second Home/Rental
- Levee protection



FOUNDATION TYPE

Select one of the six different foundation types that best describes the building.

*Asterisks indicate foundation types that may be eligible to receive the proper flood openings discounts.



Slab on Grade (Non-Elevated) A building whose foundation is slab-on-grade or slab-on-stem wall with fill.



Elevated without Enclosure on Posts, Piles, or Piers

A building that has its lowest floor raised above the ground by posts, piles, piers, columns, or parallel shear walls with no enclosure below the lowest elevated floor.



Basement (Non-Elevated)

A non-elevated building that has a floor or any area of the building, including any sunken room or portion of a room, below the ground level (subgrade) on all sides.



*Elevated with Enclosure on Posts, Piles, or Piers

A building that has its lowest floor raised above the ground by posts, piles, piers, columns, or parallel shear walls with an enclosure below the elevated floor.



*Crawlspace (Elevated or Non-Elevated Subgrade Crawlspace)

A building that has its lowest floor raised above the ground by a crawlspace.



*Elevated with Enclosure Not on Posts, Piles, or Piers (Solid Foundation Walls)

A building that has its lowest floor raised above the ground by foundation walls (solid perimeter walls) with a full floor enclosure.

RR 2.0: Other variables

- Previous claims History
- Flood Openings
- Elevation of Machinery and Equipment
- Levee protection
- Community Rating System



FIRST FLOOR HEIGHT DETERMINATION

The First Floor Height (FFH), or the height of the building's first lowest floor above the adjacent grade, is another rating variable critical to understanding flood risk. FEMA will determine a FFH value using application information and various datasets. Elevation Certificates (EC) are no longer required but can be an optional tool for establishing FFH. A policyholder may submit an EC to provide another FFH value. FEMA's system will review the two values and apply the FFH value that is most beneficial to the policyholder. If using an EC to provide a FFH value, the following fields must be entered:

- EC date
- Building Diagram Number
- Information from section C or E of the EC as shown to the right

Using Optional Elevation Certificate (EC) Information from Section C to Complete the Application Form

- 1. Enter the Lowest Adjacent Grade (LAG) (section C2f. of the EC)
- Enter the Lowest Floor Elevation (LFE)*
- 3. Enter the First Floor Height (the First Floor Height is the difference between the LAG and LFE)

Using Optional Elevation Certificate (EC) Information from Section E to Complete the Application Form

- 1. Enter the First Floor Height*
- * To determine the LFE when using Section C of the EC or First Floor Height when using Section E of the EC, see FIM Section 3. II. C. 4. c. Table 15 or 16.

All ECs and land surveys must be signed, acccompanied by photographs and submitted to the NFIP insurers. See FIM Section 3. II. C. 4. d.
Letter of Map Amendment

Page 1	of 2			D	ate: July 14, 201	1 Ca	se No.: 11-05-48	371A	LOMA	
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			DE	LETTER O	F MAP AM N DOCUM	ENDME ENT (R	E <mark>NT</mark> EMOVAL)			
С	:OMMUI	NITY /	AND MAP PANEL	INFORMATION		LEGAL I	PROPERTY DESC	RIPTION		
COMMUNITY		CITY OF JOLIET, KENDALL COUNTY, ILLINOIS			A portion of lot 8, County Clerk's Subdivision of part of Olin's Subdivision of Block 5 in Young and Cagwin's Subdivision, as described in the Quit Claim Deed, recorded as Document No. R93-118161, in the Office of the Recorder, Will County, Illinois					
	1	сом	MUNITY NO.: 170	0702						
AFFE	CTED	NUMBER: 17197C0164E								
MAP	ANEL	DATE: 9/6/1995								
FLOOD	ING SO	URCE	: SPRING CREE	(APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY: 41.529, -88.068 SOURCE OF LAT & LONG: STREETS & TRIPS 2009 DATUM: WGS 84					
					DETERMINATIO	N				
LOT	BLOC SECT	CK/ ION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)	
8				558-560 Dover Street	Property	X (shaded)	545.9 feet	546.1 feet	546.1 feet	
Specia equale	I Flood	Haza	ard Area (SFHA)) - The SFHA is an a	rea that would be	inundated b	y the flood havin	g a 1-percent c	hance of being	

Letter of Map Amendment

Page 1 of 5			Date: Mai	rch 08, 2017	Case No.: 1	7-05-2819A		LOMA			
			Federal Eme	rgency Ma Washington, D.C	nageme	ent Ager	ncy				
			LETTER OF			-					
	COMMU	NITY AND MAP PANEL I	NFORMATION		LEGAL PR	OPERTY DESC	RIPTION				
COMMUNITY		CITY OF JOLIET, 1 ILLING	WILL COUNTY, L DIS r	Lot 12, Munroe's Subdivision of Lot 5, as described in the Trustee's Deed recorded as Document No. R72-36464, in the Office of the Recorder, Will County, Illinois							
		COMMUNITY NO: 1707	02								
AFF	ECTED	NUMBER: 17197C016	4E								
MAP	PANEL	DATE: 9/6/1995									
FLOO	DING SOL	JRCE: SPRING CREEK	AI S(PPROXIMATE LATITUD	e & Longitud G: Google Eai	e of property: RTH_DATUM: NA	: 41.528262, -88.00 D 83	53042			
				DETERMINATION							
LOT BLOCK/ SECTION		SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)			
12		Munroe's Subdivision of Lot 5	717 East Cass Street	Structure (South Bldg.)	X (shaded)	-	546.4 feet				

FEMA Flood	M Searc Click <u>subscri</u> ear vision, and r	h Results fo ibe to receive email notifice need assistance, please cor	r JOLIET, CITY OF ations when products are updated. If you are a person with a disab ntact a <u>map specialist</u> .	ility, are blind, or have low						
Jurisdiction	Please N	Please Note: Searching All Products by county displays all products for all communities within the county. You can refine								
State	your sear	ch results by specifying y	our specific Junsaiction location using the drop-down menus a	bove.						
ILLINOIS	Effectiv	ve Products (51) 😢 RM Panels (30) 🛛 🚱	DL ALL							
County	► FI ▼ LC	S Reports (6) ��LA OMC (12)	ш							
WILL COUNTY		 ► LOMR (0) ► LOMA (10) 	ul.							
Community	\rightarrow	 Revalidations (2) Show 100 × entries 	♦ DL ALL							
JOLIET, CITY OF										
> Filter By Posti	Case N	Case No: 13-05-4873V Community No.: 170702 February 16, 2019								
	Case No.	Date Issued	Identifier	FIRM Panel Number						
Search Res Click <u>subscribe</u> to receive	11-05-1572A	1/25/2011	LOT 49, OAKVILLE SUBDIVISION 912 MAGNOLIA AVENUE	17197C0170G						
Please Note: Search	11-05-1221A	3/3/2011	A PORTION OF LOT 7, BLOCK 2, FISH'S SUB. OF LOT 2 602 EAST JACKSON STREET	17197C0162G						
your search results b	11-05-3098A	3/22/2011	LOT 39, THUNDER RIDGE SUBDIVISION UNIT ONE 513 NAVAJO COURT	17197C0170G						
 FIRM Panels (FIS Reports (6 LOMC (12) 	11-05-5738A	6/9/2011	LOT 61, TIMBER ESTATES, UNIT NO. 1 3605 TIMBERCREST DRIVE	17197C0141G						

Building on Fill – Flood Fringe – LOMR-F

Page 1 o	of 2			۵	Date: October 13, 2020 Case No.: 20-05-4626A LOM							
				Federal E	mergency Washington	Manag 1, D.C. 2047:	ement Ag	gency				
			LETTE DE	R OF MAP	REVISIO	N BASI ENT (RI	ED ON F EMOVAL)	ILL				
С	OMMUN		AND MAP PANEL	INFORMATION		LEGAL P	ROPERTY DESC	RIPTION				
COMMUNITY			CITY OF CAR COUNTY, II	MI, WHITE LLINOIS	Lots 37, 38, and Subdivision, as d Volume 438, Pag White County, Illi	a portion of L escribed in tl es 265 and 2 nois	ot 39, Wilmar R he Corporate Qu 266, in the Office	estorium Secon uit Claim Deed re e of the County (d ecorded in Clerk,			
		CON	IMUNITY NO.: 17	0681	1							
		NUM	BER: 17193C023	30								
		DAT	E: 2/16/2012									
Floodi Wabas	ng Sou H River	RCE:	UNNAMED TRIBUT	ARY TO LITTLE	APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY:38.081192, -88.169298 SOURCE OF LAT & LONG: LOMA LOGIC DATUM: NAD 83							
					DETERMINATIO	N						
LOT	BLOC SECTI	CK/ ION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NAVD 88)	LOWEST ADJACENT GRADE ELEVATION (NAVD 88)	LOWEST LOT ELEVATION (NAVD 88)			
37 - 39			Wilmar Restorium Second	532 Abelson Drive	Structure	X (shaded)		379.4 feet				

Compaction of Fill Required

	PATRIOT 2720 B Bri Paducah,	FENGINEEF idge Street KY 42003	RING AND E	NVIRONMENTAL	., INC.						FIELD	DENSITY TEST R	RESULTS
							· · · · · · · · · · · · · · · · · · ·						
	Project:		/abash Christi	ian Retirement Cent	er	Date:	6/13/2000	6					
	Client:		Hory	ve Builders		Patriot Project N	0.:		10-06-0668				
	Grading C	ontractor:		O'Daniel Trucking		Patriot Rep.:	Bruce Gri	ise	som				
				¥		-							
Γ	Test	Moisture	Dry Density	Maximum Proctor	Compaction	Minimum						Location	
I	Number	Content (%)	{pcf}	Dry Density {pcf}	{%}	Compaction {%}	Pass/Fa	ail	Elevation		<u> P</u>	Building Pad	
	1	11.6	115.7	120.8	95.8	95.0	P		2'8" BSG	75'	N of S End 2	5' W of E Side	
	2	12.2	115.9	120.8	95.9	95.0	Р		2'8" BSG	150	'N of S End 2	25' E of E Side	
	3	12.9	116.0	120.8	96.0	95.0	Р		3' BSG	50'	S of N End 20	0' E of W Side	
	4	10.9	119.4	120.8	98.8	95.0	P		3' BSG	75'	N of S End 20	0'E of W Side	
	5	11.6	116.1	120.8	96.1	95.0	Р		3' BSG	175	' N of E End 2	25' E of W Side	
	6	11.9	117.9	120.8	97.6	95.0	P		2'6" BSG	35'	SE of NW Co	orner	
	7	11.0	118.2	120.8	97.8	95.0	P		2'6" BSG	25'	SW of NE Co	orner	
	8	10.4	119.1	120.8	98.6	95.0	P						
								-	Maria Dava		0		
ľ								<u>y</u>	Dry Density In	OF A	Compaction (%)	Minimum	Dace/Eail
									city bonony (pr		1/01	Compaction [76]	r dss/r dll
								-	120.8	_	95.8	95.0	P
								_	120.8		95.9	95.0	P

120.8

120.8

96.0

98.8

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95.0

95.0

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LOMA - DENIAL

Page 1 of 2	2	I	Date: January 06, 200	9 Case N	o.: 08-05-5179A	LOMA-	DEN		
		Federal E	mergency M Washington, D	anagem .C. 20472	ent Agenc	У			
	DET		OF MAP AME						
сом				LEGAL PROP	ERTY DESCRIPTION	J			
COMMUNIT	CITY OF COU	MORRIS, GRUNDY INTY, ILLINOIS	A portion of Lot 16, Rosemen's Subdivision, as described in the Warranty Deed Illinois Statutory Individual recorded as Document No. 487381, in the Office of the Recorder, Grundy County, Illinois						
	COMMUNITY NO	.: 170263							
	NUMBER: 17026	30005C							
			DETERMINATIO	N					
BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS NOT REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATIO (NGVD 29		
	Rosemen's	1203 Liberty Street	Structure	A	515.0 feet	514.6 feet			
LOMATE	3-05-0554A		LOMA 13:05-7664A		▶ Topographic Lo	w Confidence Areas	***		

Questions?

Erin Conley, CFM State Floodplain Manager (217) 782-4428 Erin.C.Conley@illinois.gov

Marilyn Sucoe, CFM, P.E. NE Illinois Floodplain Manager (847) 608-3181 Marilyn.sucoe@Illinois.gov

Ashley Reimann FEMA Regional Specialist (312) 408-5563 ashley.reimann@fema.dhs.gov



