ASSOCIATION OF STATE FLOODPLAIN MANAGERS

NEMA®
National Emergency Management Association

Argh!

WE JUST FLOODED! NOW WHAT?

An Emergency Manager's Quick Guide To Floodplain Management

This Quick Guide was produced by the Association of State Floodplain Managers (ASFPM) in partnership with the National Emergency Management Association (NEMA).

The guide is intended to introduce state, local and tribal emergency managers to the basic concepts of floodplain management and flood mitigation.

For further information on floodplain management and flood mitigation, emergency managers are encouraged to contact their State Floodplain Management Office. Both ASFPM and NEMA can help (see appendix 51).

Questions, comments, and requests for additional copies of this guide can be directed to the ASFPM at (608) 828-3000 or **Info@floods.org**.

Why this Guide

What a mess!

Flood victims are often shocked when they return home. Flood muck is on everything. The smell is horrible. The cleanup and repairs appear overwhelming. Residents need your help!

As an Emergency Manager, you know that taking the right steps and knowing the right people will make the recovery process much easier. Before repairs are made is the perfect time to help protect against future flood damage. **Be smart!**

There are plenty of **experts to help residents recover** smartly. There are also programs and funding available to protect buildings from future flooding. Residents need to take advantage of these programs. **Emergency Managers play an important role** in this process.

Smart recovery won't be easy. It won't happen quickly. But it's something residents must do. As an Emergency Manager, **your job is to guide residents to make sure this process is as easy as possible and help them identify resources to mitigate future risk. Residents don't want to go through this again.**

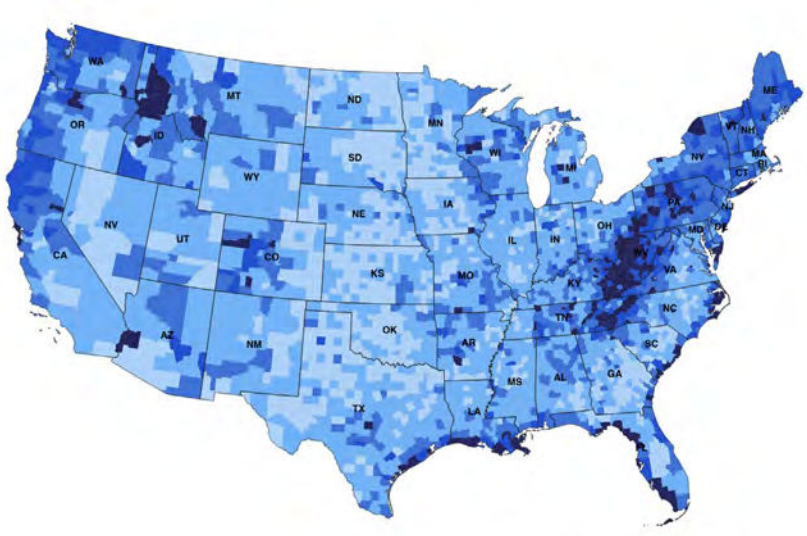
Use this Guide. Follow the Steps. Help Residents Recover Smartly!

Prepared by: P. Oz Consulting, LLC | Karen Birky Graphic Design

US Floodplain Facts

29.5 M
Properties at risk today

30.5 M
Properties at risk in 30 years



Minor – 0.5M Moderate – 9.1M Major – 9.0M
Extreme – 5.9M Severe – 6.2M

Source: Risk Factor is a free tool created by the nonprofit First Street Foundation to make it easy to understand risks from a changing environment. riskfactor.com/

1 Floods are (by far) the **most common natural hazard in the Unites States** and over the past century, we have experienced more intense and more frequent storms.

2 Recent studies estimate that **more than 41 million Americans** live in flood risk zones and flood risk areas are expanding.

3 Most high-risk floodplains are shown on FEMA floodplain maps. But floods often **extend beyond** the mapped flood risk area. Some flood risks are not shown on the flood maps.

4 More than **150,000 properties in the US flood repeatedly.** These properties account for 1% of floodplain insurance policies but 30% of the claims.

5 Over **22,700 communities** in the US have adopted flood protection regulations and joined the National Flood Insurance Program.

6 Nearly **100,000 property owners** have taken steps to reduce the chances of future flooding using FEMA mitigation funds. State, local, and tribal flood reduction programs have almost doubled that number!

Did You Know?

- **Dangerous floods occur every year in the US.**
- **Floods can impact coastal areas, small streams, large rivers and urban areas.**
- **Programs and funding are available to help reduce the chance of future flooding.**

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Step One - Introduction to Floodplain Management

Emergency Managers and Floodplain Management

Floods are **by far**, the most common disaster in the US.

During their careers, nearly all emergency managers will, at some point, respond to a flood. With the correct training and tools, flood losses can be minimized or prevented. Local and Tribal emergency managers need to understand flooding as well as the tools and resources that are available to prevent flood losses.

Emergency Managers are key players **BEFORE, DURING** and **AFTER** flood events.

Before a flood event, Emergency Managers should build a strong partnership with their floodplain manager. They should be keenly aware of the identified flood risk areas in their community. They should understand how to read floodplain maps. They should understand the flood probabilities, flood forecasting, and the flood risk. **Emergency Managers should understand the basic floodplain regulations.**

During the flood event, Emergency Mangers are busy with response activities. First responders are taking steps to ensure people are safe. Understanding the flood maps and flood risk will help prioritize actions. Knowing floodplain management regulations will help guide recovery.

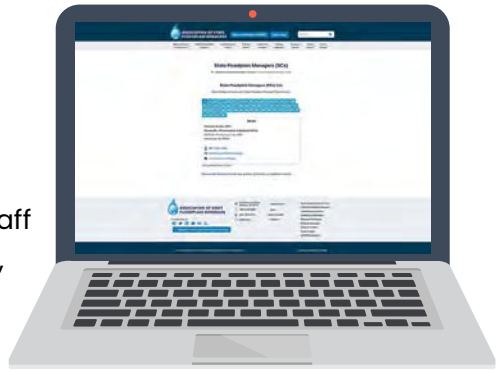
After the flood event and before reconstruction begins, Emergency Managers play an equally important role. This period is often when **"second responders"** are doing damage assessments and making sure reconstruction is done smartly. Now is the perfect time to work with your local and tribal floodplain managers to identify areas where mitigation can occur and seek funding to prevent future losses. Making sure the same flood disaster is not repeated is the Emergency Manager's goal.

Step One - Introduction to Floodplain Management

Know Your State, Local, and Tribal Floodplain Administrators

Recovery Superheroes!

STATE FLOODPLAIN MANAGERS



Every state has a floodplain management section. In some states, it is in the Emergency Management Agency, but in most states it is in the Department of Natural Resources or other state agency. State floodplain management staff are experts in flood regulations, flood mapping, flood insurance, and flood recovery programs. They have seen it all. Nobody knows the flood recovery process better than them! **Make use of their skills!**

A listing of State Floodplain Managers and contact information can be found at: no.floods.org/StateContactsNFIP.

LOCAL AND TRIBAL FLOODPLAIN ADMINISTRATOR

Nearly every community or tribal nation has an appointed floodplain manager. These floodplain administrators are the best source of information on flood conditions, regulations, and mitigation programs. They can also help locate assistance that may be available after a flood. During the recovery process, the floodplain manager and the Emergency Manager need to work as a team. **Get to know your floodplain administrator.**

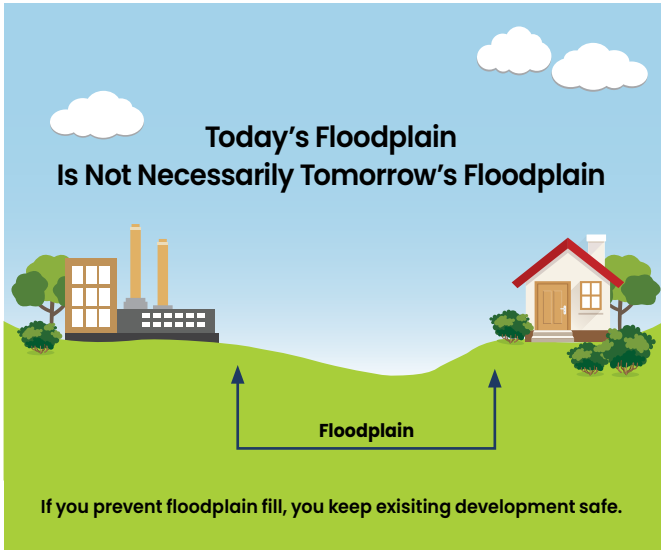
Step One – Introduction to Floodplain Management

Why Do We Regulate the Floodplain?

Floods are one of the few natural disasters that can often be predicted and prevented. Strong regulations can prevent new at-risk development while proactive mitigation can reduce existing risk! Floodplain regulations are the primary way to enhance a community's resilience to flooding. Floodplain regulations:

- **PROTECT PEOPLE AND PROPERTY.** Floodplain management is about building smart and reducing the vulnerability to flooding. If we know the land will flood from time to time, we should make reasonable decisions to help protect families, homes, and businesses.
- **REDUCE FUTURE FLOOD LOSSES.** Floodplain development regulations are designed to protect citizens from future flood losses. Regulating floodplain development helps keep flooding conditions from worsening as development continues.
- **ENSURE FEDERAL FLOOD INSURANCE AND DISASTER ASSISTANCE IS AVAILABLE.** Most communities in the nation have joined the National Flood Insurance Program (NFIP) and adopted floodplain regulations. The adoption and proper enforcement of these regulations is the only way to ensure the availability of federal flood insurance and disaster assistance. See the next page for more on the NFIP.
- **SAVE TAX DOLLARS.** Every flood disaster affects your community's budget. If we build smart, we will have fewer problems the next time the water rises. Remember, federal disaster assistance is not available for all floods. Even when the President declares a disaster, your community still has to pay a portion to cover the costs of evacuation, temporary housing, repair, and cleanup.
- **AVOID LIABILITY AND LAWSUITS.** If we know an area is mapped as floodplain and likely to flood, people and property could be in danger. Allowing unwise development in an area identified as a flood hazard area could create liabilities for the community.

Where will the water go?



Step One - Introduction to Floodplain Management

Community Floodplain Management Responsibilities and the National Flood Insurance Program (NFIP)

The National Flood Insurance Program (NFIP) is a voluntary program that communities may elect to join. By joining the NFIP the community adopts a floodplain management ordinance and agrees to take basic responsibility for regulating flood risk areas. In return, residents may purchase federally backed flood insurance and the community may be eligible for several types of federal assistance. Conversely, not participating in the NFIP means communities will be ineligible for federal flood insurance and some types of federal assistance. Residents would be unable to secure most types of federally backed loans to purchase real estate located in a floodplain.

Over 22,600 communities in the nation have joined the NFIP and adopted basic floodplain regulations (see page 14). Several states and thousands of communities have adopted regulations which go above-and-beyond the basic federal floodplain standards. As flood risks are increasing, these higher standards are highly encouraged by flood experts. Emergency Mangers should speak with state floodplain experts about the higher standards encouraged in your area.

NATIONAL FLOOD INSURANCE PROGRAM

As an emergency manager, it is important for you to ensure your communities have joined the NFIP. Your state floodplain manager can provide the assistance and material needed for communities to join the NFIP. Emergency Managers should also understand the basic floodplain management regulations to ensure future flood damage is minimized.

Step One - Introduction to Floodplain Management

The Primary Types of Flood Risk

Across the nation, there are many types of flood risk. However, three types of flooding occur most often:

RIVERS AND STREAMS

The most common type of flooding in the US happens along rivers and streams. All streams have a flood risk area. Many of these flood risk areas are identified on the FEMA Flood Insurance Rate Maps (see page 7). It is important to understand the flood risk on any rivers or streams in your community.

COASTAL

Coastal communities can face a range of flood hazards. Flooding can occur along the coast as a result of high tides, storm surge, waves, or erosion — all of which can cause extensive damage to homes, businesses, and infrastructure (see page 9).

URBAN

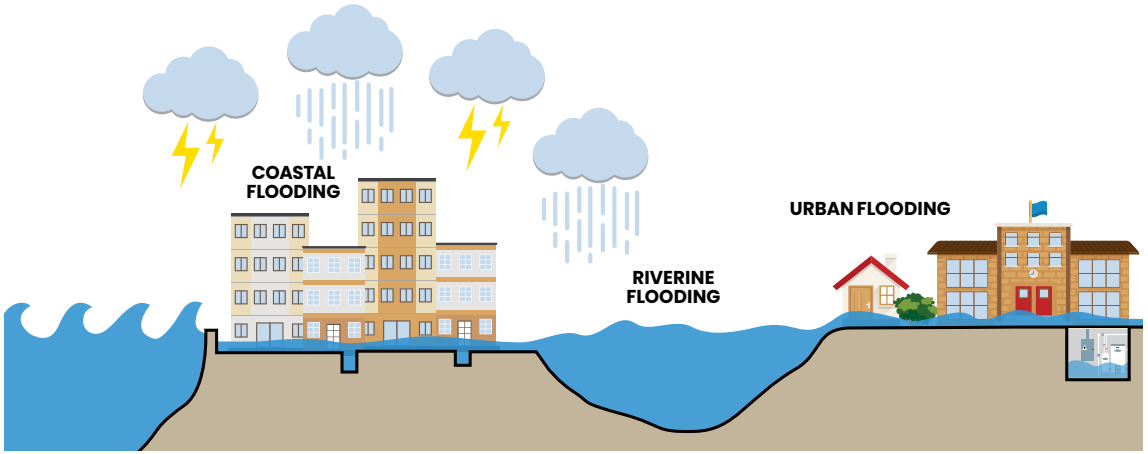
Damage caused by urban flooding is quickly becoming one of the nation's biggest problems. Urban flooding is caused by excessive rainfall and runoff in developed areas where the existing drainage system is overwhelmed (see page 10). In city landscapes, too much water simply doesn't have anywhere to go. The result is flood damage!

Be smart and know your flood risk

Flooding can also occur due to levee or dam failure sometimes in areas miles away from a stream.

Future development and weather extremes will cause more runoff which will increase flood frequency and flood levels.

Your floodplain administrator can help you identify potential flood risk.



Step One - Introduction to Floodplain Management

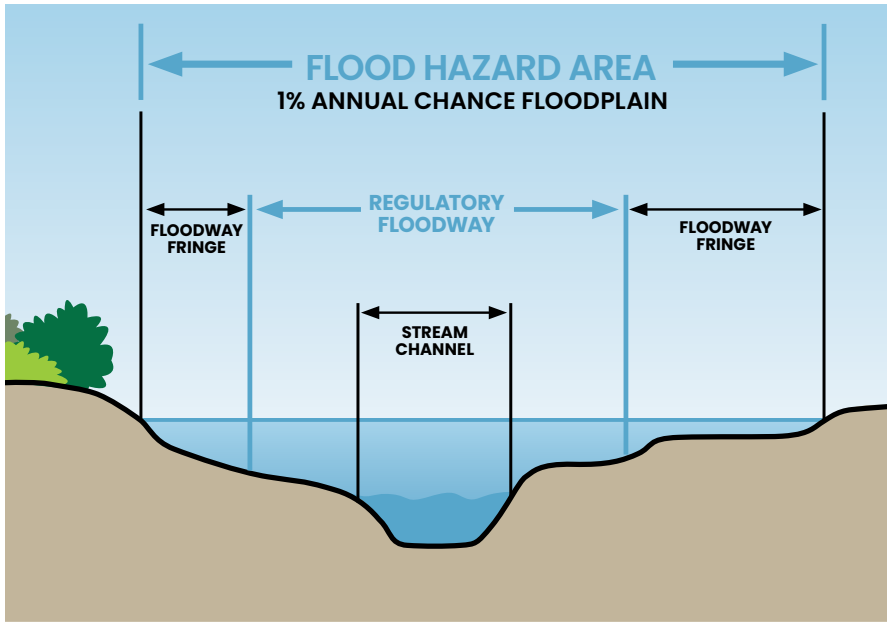
Understanding Flood Risk Areas in Rivers and Streams

All streams have floodplains. Some floodplain areas are more dangerous than others. In some areas, floods may be deep or fast moving, while in other areas they may be shallow or slow moving. For Emergency Managers, it is very important to understand the specific flood conditions and the flood risk of any stream near you.

The flood risk area for most rivers and streams are shown on the FEMA floodplain maps (see page 11).

These maps often show the flood risk area, how high the water could get, and even the high-risk area closer to the stream called the floodway (see next page).

Along many rivers and streams, real-time flood conditions can be monitored, and damage forecasts accurately predicted. The National Weather Service website is a good resource: water.weather.gov/ahps/



It is important that Emergency Mangers understand the flood risk and stay aware of the flood conditions in their community.

What is a 100-Year Flood?

Floodplain areas are typically defined and mapped based on the 100-year flood. The flood height of a 100-year flood is called the Base Flood Elevation or "BFE". On average, there is a 1% chance of a flood this large happening any year. However, don't let the term 100-year flood fool you. Floods can and do occur any time. The 100-year flood can even occur more than once in a single year. Regardless of what it is called, it is a high-risk area.

Step One - Introduction to Floodplain Management

Understanding the Floodway

Every floodplain has two parts: the floodway and the floodway fringe.

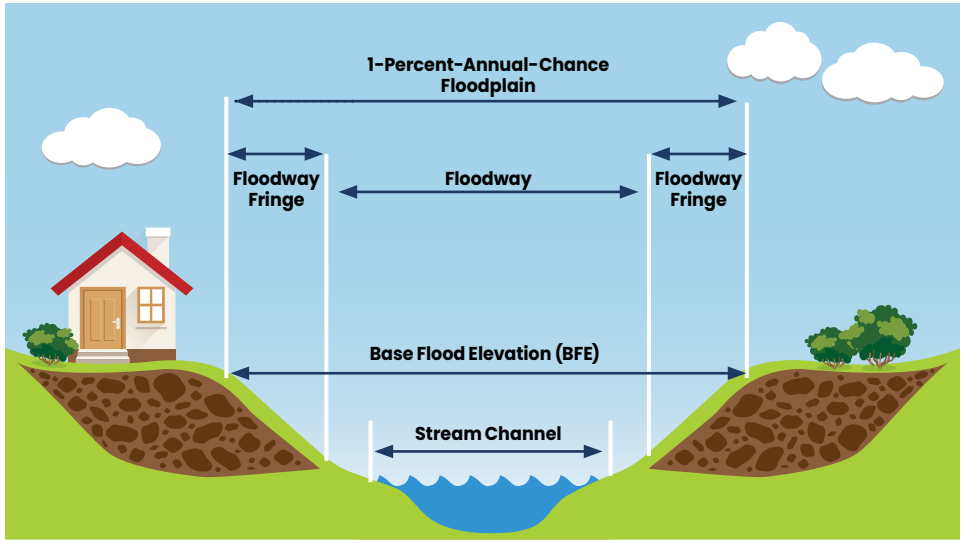
The floodway includes the channel and adjacent overbank areas necessary to effectively convey floodwater. As a rule, this is the area where fast-moving water can be seen during a flood.

The flood fringe are lands outside the floodway that store but do not effectively convey floodwaters.

"NO RISE" IN THE FLOODWAY

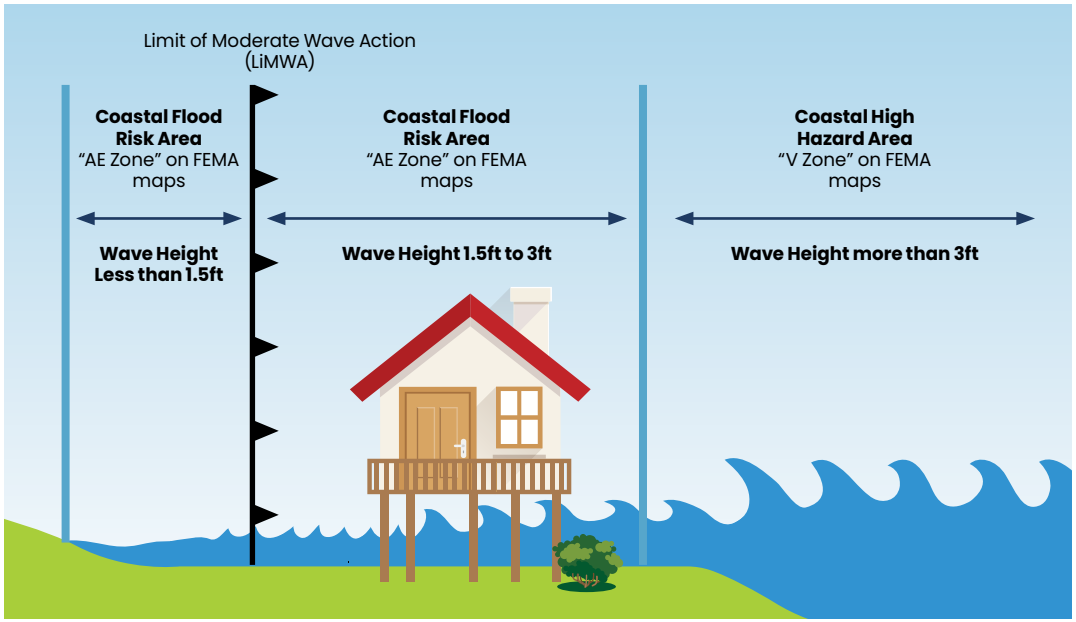
- The floodway is the most dangerous part of the floodplain.
- Development is not allowed unless "no rise" in flood levels is certified. "No rise" means no increase in flood elevations greater than 0.00 feet. Essentially, when it comes to flood level rise, zero means zero.
- A registered professional engineer must evaluate the hydraulic impact of any proposed development in the floodway.
- Some states and communities simply prohibit all development in the floodway.

Always check with the State, Local or Tribal Floodplain Manager prior to any work in a floodway.



As a general rule, the floodway must remain open in order to allow flood waters to pass. When the floodway is obstructed by buildings, structures, or debris, flood waters will back up, resulting in greater flooding potential upstream. The distinction between the two is important when considering development and mitigating risk in a community.

Step One - Introduction to Floodplain Management



Understanding Flood Risk in Coastal Areas

Within coastal communities, two specific coastal flood risk areas exist:

COASTAL HIGH HAZARD AREAS (V Zones on the FEMA maps)
Coastal flood risk areas extend from offshore to the inland limit of a primary frontal dune or any other area which could be damaged by high velocity wave action.

COASTAL FLOOD RISK AREAS (A Zones on the FEMA maps)
This area is located landward of the high hazard area but can still flood with high tides and storm surges. In large storms, these areas may still be subject to wave actions, velocity flows, erosion, or scour.

Within Coastal High Hazard areas, new construction (and substantially damaged or substantially improved structures) must be elevated on pilings, columns or sheer walls so that the bottom of the lowest horizontal structural member supporting the lowest floor is elevated to or above the flood protection elevation.

For details on how to elevate structures, see pages 54-57. **Before starting any work, talk to your local or tribal permit official.**

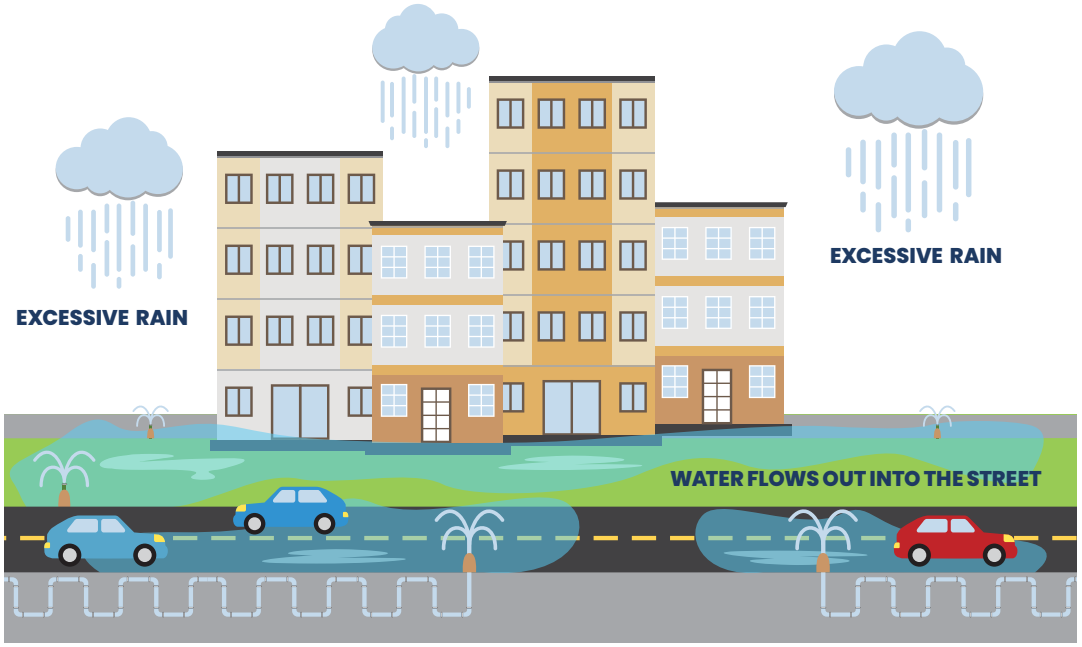
Understanding Flood Risk in Urban Areas: A Growing Problem in Many Cities

Heavier rains, higher tides, older sewer systems, impervious surfaces, and growing populations are all leading to chronic flooding in some urban areas.

With more extreme urban flooding, streets and parking lots turn into rivers, filthy sewer water fills basements, and neighborhoods become unlivable.

Federal and state studies have shown that urban flooding is becoming more frequent. In some states, flooding outside of the mapped floodplain now accounts for over 90% of damages. Urban floods are now a leading cause of damage in the US and are causing increasingly serious economic and social impacts.

Urban flooding is often a localized problem. The flooding can be caused by a variety of problems. It is usually not mapped and often difficult to predict. Therefore, Emergency Mangers have an important role to play. Their knowledge and expertise can be used to alert citizens of the flood risk when heavy rains are anticipated.



THE DRAINAGE SYSTEM IN A CITY CANNOT ABSORB THE WATER

The Association of State Floodplain Manager's report on urban flooding is an excellent source of information:
no.floods.org/UrbanFlood /

Step One - Introduction to Floodplain Management

Floodplain Maps and How to Read Them

AM I "IN" OR "OUT" OF THE FLOODPLAIN? CHECK THE FLOODPLAIN MAPS!

If areas have just flooded, there is a good chance they are in a mapped floodplain. However, it is a good idea to check the FEMA floodplain maps just to make sure.

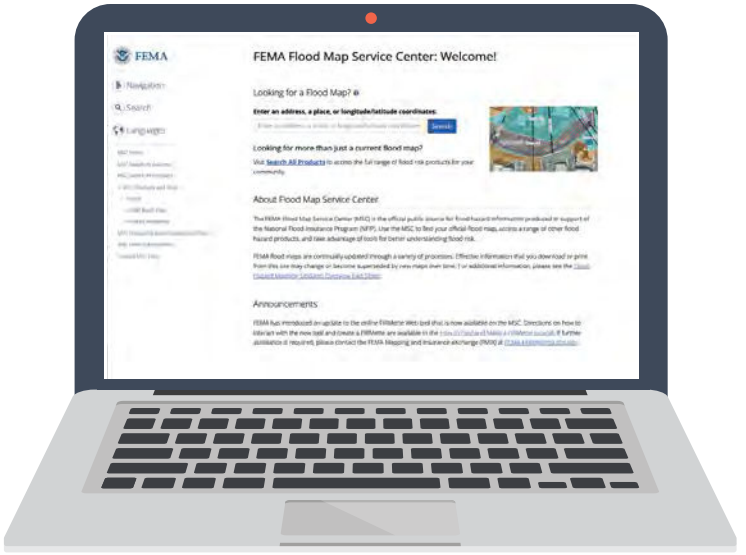
The floodplain maps are called Flood Insurance Rate Maps (FIRMs), and they are the official floodplain maps for your community. They show the areas which are subject to inundation by the 1-percent-annual-chance flood event (also called the base or 100- year flood). Certain locally adopted regulations apply within these mapped floodplain areas.

On average, structures located within the mapped floodplain have nearly a 30% chance of flooding during the life of a standard 30-year mortgage.

Remember, properties located outside of the mapped floodplain are not guaranteed to be safe from flooding. Bigger floods can (and do) happen!

As an Emergency Manager, it is always a good idea to look at the FEMA floodplain maps, familiarize yourself with the high-risk areas, and talk to your state, local or tribal floodplain manager about these flood prone areas.

Remember, some flood risks are not shown on the FEMA maps (see the next page).



▶ **FEMA floodplain maps are available for free public viewing online at: msc.fema.gov/portal** or the National Flood Hazard Layer at **www.fema.gov/flood-maps/national-flood-hazard-layer**

If needed, contact your local or tribal floodplain administrator to help you understand the floodplain maps.

Step One - Introduction to Floodplain Management

Floods Don't Read Maps

While the floodplain maps are a good reference, don't be fooled. Floods can't read maps. Floods don't always stop at the line on the map! In fact, they frequently go past the line on the map!

Along rivers and streams, major storms and flash floods can cause flooding that rises higher than the 100-year flood level shown on the maps. In coastal areas, larger storm surges can extend beyond the mapped coastal floodplain. And, in urban areas, flood risks are often not mapped at all.

Across the US, large rainfall events are happening more often. These heavy rainfalls often happen in one small area and flash floods or urban flooding occurs.

Some residents unknowingly live in low lying areas or have no backup plan when heavy rainfall is predicted.

Emergency Managers need to help residents understand their risk and protect their homes or businesses by building higher, avoiding flood risk areas (see page 49), and encouraging the purchase of flood insurance.

What is the Flood Protection Elevation?

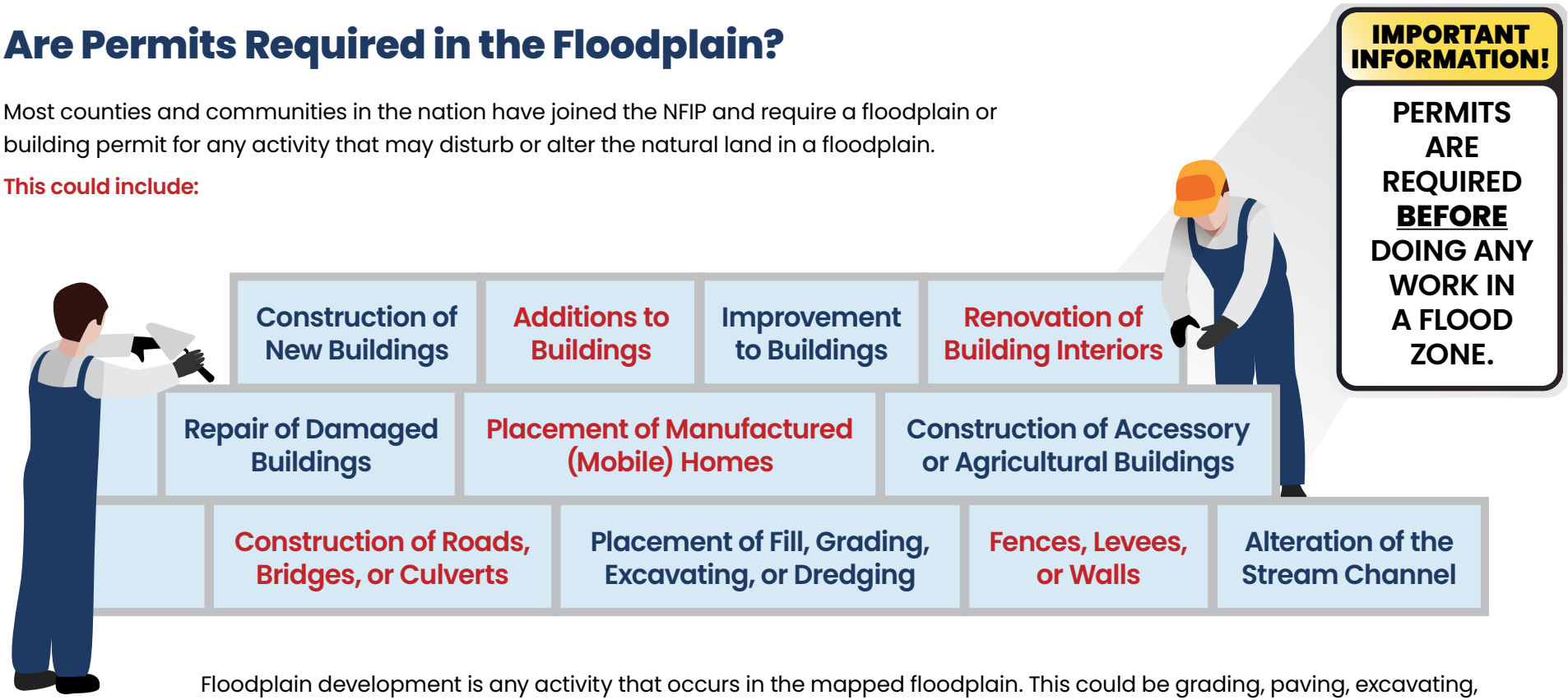
Many communities across the nation have a designated height to which buildings in the floodplain must be protected. This height is typically the 100-year flood elevation plus an additional 1 or 2 feet of protection. This level is called the Flood Protection Elevation or Design Flood Elevation.

Step One - Introduction to Floodplain Management

Are Permits Required in the Floodplain?

Most counties and communities in the nation have joined the NFIP and require a floodplain or building permit for any activity that may disturb or alter the natural land in a floodplain.

This could include:



Floodplain development is any activity that occurs in the mapped floodplain. This could be grading, paving, excavating, storage of materials, fences, fills, buildings, etc. All proposed development in the floodplain requires a permit.

Step One - Introduction to Floodplain Management

Understand the Basic Floodplain Rules

Any proposed work in the floodplain requires a permit review. Communities adopt floodplain regulations in a variety of ways (stand-alone ordinances, building codes, zoning codes, etc.). Emergency Managers can help by knowing the rules and monitoring floodplain areas.

Most communities in the nation have very similar floodplain rules. However, an increasing number of communities have adopted higher standards. It's always best to talk with the local or tribal floodplain manager about community requirements.

The Basic Rules Are:

1 **Any activity in the floodplain requires a permit.** This can be new construction, repairs, or improvements to existing buildings, fences, filling, storage of materials, levees, walls, etc.

2 Development in some parts of the floodplain **cannot block or obstruct flood flows.** Changes (for example fences, walls, or filling) should not divert flood waters onto neighboring property.

3 All new residential buildings in the floodplain must be constructed so that the **lowest floor (including basement) is at or above the flood protection elevation.**

4 Lower areas (below the flood protection elevation) must be constructed of **flood resistant materials; open to flood flows** (flow-through); have no HVAC, electric, or plumbing; and be used only for building access, minimal storage, or parking.

5 Non-residential buildings can be elevated or **floodproofed** (made watertight). However, the work must be **certified by an engineer.**

6 **Buildings that are damaged** (or improved) more than **50% of the market value**, must also be elevated or flood-proofed to the flood protection elevation. Do not make repairs until a local or tribal permit is issued for the work (See page 18).

Floods.org has many key floodplain management resources, especially in the ASFPM Library:

- **Floodplain Management Guidance**
- **FEMA Publication**
- **Training information**
- **A Guide for Elected Officials**

Also, check out your state's floodplain management website for state-specific permitting information.

no.floods.org/ ElectedOfficialsGuide

Step Two – Helping Residents After The Flood

Step Two – Helping Residents After The Flood

Are Permits Required for Repairs?

Permits ARE required for repairs.

Yes.

All local or tribal floodplain management ordinances require permits for the repair or reconstruction of flood damaged structures.

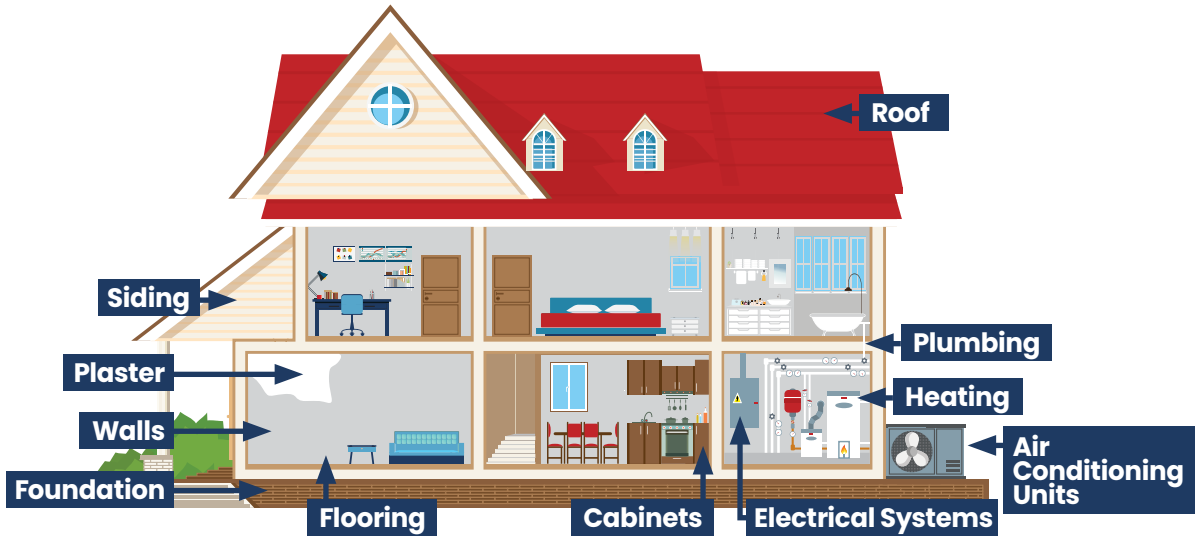
Communities that participate in the National Flood Insurance Program (NFIP) are expected to enforce floodplain management regulations within their mapped flood hazard areas. Some local or tribal ordinances have additional permit steps. Emergency Managers should help to remind residents of the need to obtain permits before repairs are made.

Part of Floodplain Development Permit Application
(only key parts shown)

Application No.: 01004 Date: March 24, 2011
David & Sally Jones — Owner or Agent; 03-24-11 — Date; ABC Builders, Inc. — Builder

SITE DATA
1. Street Address:
2. Type of Development: Filling ☒ Grading ☒ Excavation ☐ Minimum Improvement ☐ Routine Maintenance ☐ Substantial Improvement ☐ New Construction ☐ Other ☐
5. Value of Improvement (fair market): $ N/A — Pre-Improvement/Assessed Value of Structure: $
6. Is the Property Located in a Designated FLOODWAY? Yes ☐ No ☒
7. Is designated Floodplain FRINGE or SFHA without Designated FLOODWAY? Yes ☒ No ☐
8. Elevation of the 1% Base Flood Elevation (ID source) 154 (FIS)
9. Elevation of the Proposed Development Site 157.5
12. Other Permits Required? Corps of Engineers 404 Permit: Yes ☐ No ☒ Provided ☐ State Dept of Natural Resources: Yes ☐ No ☒ Provided ☐

PERMIT APPROVAL / DENIAL
Plans and Specifications Approved / Denied this 25th Day of June, 20 11
David M. Jones — Signature of Property Owner or Agent
Robert Reviewer — Authorizing Official



You often DON'T need a permit for cleanup and minor repairs to prevent further damage.

This includes:

A. Removing and disposing of damaged contents, carpeting, wallboard, and insulation.

B. Hosing and scrubbing, or cleaning floors, walls, and ductwork.

C. Covering holes in roofs or walls and covering windows to prevent the weather from inflicting further damage.

D. Removing sagging ceilings, shoring up broken foundations, and other actions to make the building safe to enter.

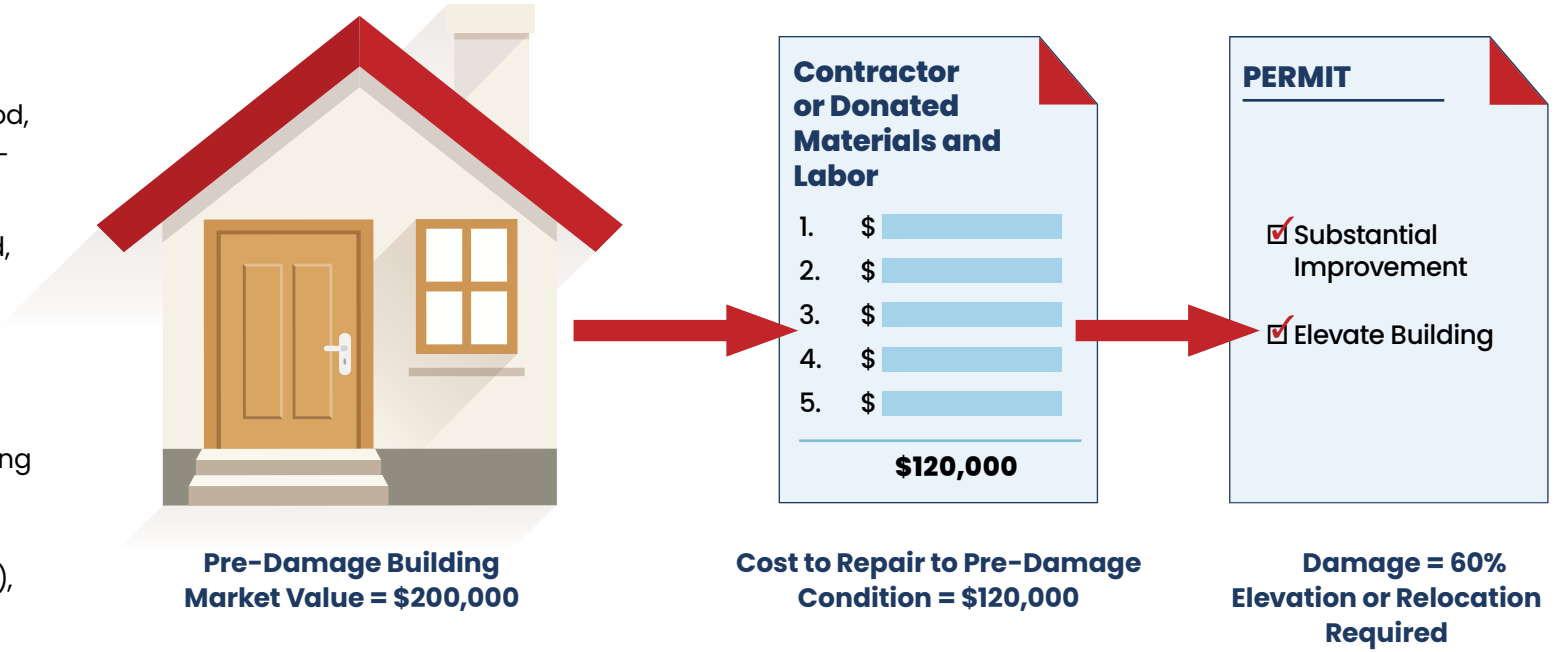
Step Two – Helping Residents After The Flood

Repair of Damaged Buildings

Permits are required to repair damaged buildings located within the mapped floodplain regardless of the cause — flood, fire, wind, earthquake or man-made.

Before a permit can be issued, detailed estimates of the cost to repair a building to pre-damage conditions are required.

If the costs to repair the building are 50% or more of the pre-damage market value (**only the building and not the land**), the building is "substantially damaged (see page 18).



Step Two – Helping Residents After The Flood

Substantial Damage Regulations

Substantial damage is when the cost to repair the building is 50% or more of the building's pre- damaged market value. Some communities define substantial damage using a lower threshold, such as 40%.

If the building is found to be substantially damaged, the structure must be brought into compliance with the floodplain management regulations. In other words, the structure must now be protected from future flooding. This typically requires elevating or relocating the structure. In the worst cases, the structure may need to be demolished.

Emergency Managers need to understand the substantial damage regulations. Residents will often feel panicked about this rule. Emergency Managers can help by explaining the programs available to help residents rebuild smartly (see page 39-40).

HOW IS SUBSTANTIAL DAMAGE DETERMINED?

The cost of repairs must be calculated for full repair to "pre-damaged" condition, even if the owner elects to do less. The total cost of repair includes structural and finish materials as well as labor. If local or tribal building codes require the structure to be repaired according to current codes, these additional costs must also be included in the full repair cost of the structure.

The market value is for the building only. The value of the land and exterior improvements (pool, landscaping, walkways, etc.) are excluded.

HOW MUCH WATER = 50% DAMAGE?

Frame buildings typically take two or more feet of first floor flooding to be substantially damaged.

Manufactured homes can be substantially damaged with as little as a few inches of flooding.

Because these guidelines are not always true, it is best to always check with your local or tribal permit official.

Many communities track cumulative damages and improvements. Cumulative substantial damage or improvements occur at the point where the sum of the costs for multiple repairs or improvements equal 50% or more than the original market value of the building. Cumulative substantial damage is common after a building has been flooded several times.

Step Two – Helping Residents After The Flood

A Resident Got a Substantial Damage Letter. How Can Emergency Managers Help?

Residents who receive a letter from the local or tribal floodplain manager notifying them that their building is substantially damaged probably have a lot of questions. Emergency Managers can both support the local or tribal floodplain manager and help residents.

WHAT DOES THE SUBSTANTIAL DAMAGE LETTER MEAN?

- A substantial damage letter means the home or business was determined by the community to have a heavy amount of damage. This damage could be from any source (water, wind, fire, debris impact, and more). The structure is also likely below the required level of flood protection required by the community and must now meet current floodplain regulations.
- The letter will **outline the actions the resident must take** to meet local or tribal regulations — which may require elevating, demolishing, or relocating the home outside the high-risk flood area.

CAN I APPEAL THE SUBSTANTIAL DAMAGE DETERMINATION?

- If a resident disagrees with the substantial damage determination, the community has an appeals process. However, residents must provide more detailed repair-cost estimates made by a contractor and a market value done by a professional property appraiser.
- The floodplain manager or other official responsible for the determinations and appeals will review only information that is more detailed than that used to make the substantial damage determination. To appeal, there must be accurate documentation.

More questions? Get answers in FEMA's publication "Answers to Questions About Substantially Damaged Buildings": www.fema.gov/sites/default/files/2020-07/fema_p213_08232018.pdf

⇨ NOTICE ⇦

Because this building is located in a floodplain and was damaged by flooding, a damage assessment must be conducted by the (village or county).

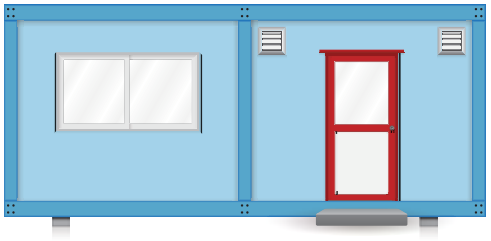
Before occupying this building or doing any repair work you must call the (village or county) Department of Zoning and Building Safety at (___) _____ to schedule an inspection.

Failure to obtain reconstruction approval may result in a penalty.

Step Two – Helping Residents After The Flood

Temporary Occupancy – Can Residents Stay in a Substantially Damaged Home?

The answer is "perhaps". Residents might be able to stay in a substantially damaged home while making repairs. However, the rules can differ from community-to-community. Check first with the local or tribal floodplain manager.



When a community allows temporary occupancy, the permit conditions will stipulate the specific types of repairs that can be made and a deadline when the work must be completed. No additional repairs or improvements are allowed.

Remember, temporary occupancy may buy some time and give the homeowner a place to stay, but a substantially damaged home MUST eventually be brought into compliance with the community's floodplain regulations. In most cases, this means elevation, relocation, or demolition. In some cases, non-residential buildings can be floodproofed (made watertight).

IS THERE FINANCIAL ASSISTANCE TO HELP BRING A STRUCTURE INTO COMPLIANCE?

There may be. The local or tribal community and Emergency Manager may be considering mitigation funding. If the resident has a National Flood Insurance Program policy, there may be additional funding to help. See the next chapter of this guide for a description of mitigation alternatives.

Temporary FEMA Housing

Temporary housing is occasionally provided by FEMA but:

- **Only available after a federally declared disaster, and**
- **When no other housing options are available to qualifying survivors.**

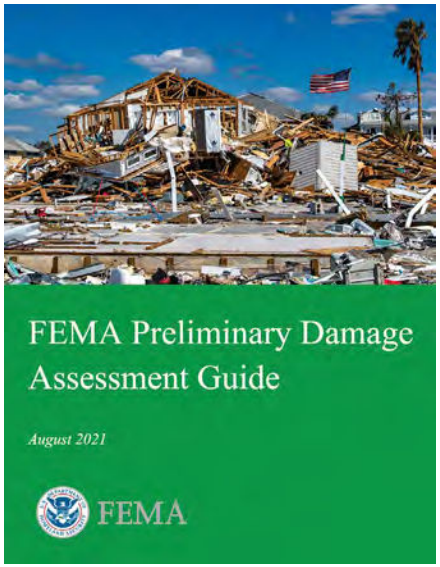
FEMA housing can include short-term rental assistance or longer term manufactured housing or RVs. These are NOT intended to be permanent housing.

Applicants must qualify, sign a FEMA agreement, and show progress towards trying to find permanent housing. Occupants will be asked to vacate the FEMA units if no progress is made finding permanent housing.

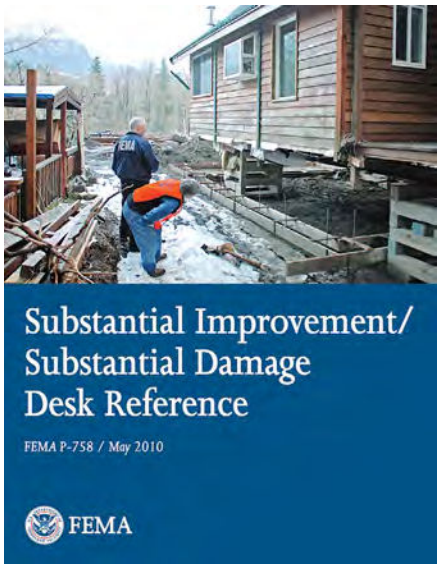
Step Two – Helping Residents After The Flood

A Substantial Damage Estimate
Is Not
A Preliminary Damage Assessment

Both are damage assessments, but for very different purposes.



A Preliminary Damage Assessment is a windshield survey to determine if a federal declaration is warranted. Very simple damage assessments are made based on broad categories (destroyed, major, minor, etc.).



A Substantial Damage Estimate is a floodplain management requirement. Substantial damage estimates are detailed damage estimates made structure-by-structure on each impacted building located in the floodplain. All NFIP communities must conduct substantial damage determinations (see page 18).

Step Two – Helping Residents After The Flood

Mutual Aid Assistance for Floodplain Management

Across the nation, there are thousands of trained and certified floodplain managers, code enforcement, and design professionals. Mutual aid can take advantage of this skilled group of professionals in times of need.

As "second responders" post disaster code enforcement staff are crucial to ensure rapid response, coordinated recovery, and meaningful mitigation. Organizations with specialized second responder teams are on the rise. Specifically:

- **BUILDING SAFETY ASSESSMENTS** (wind and seismic)
- **SUBSTANTIAL DAMAGE ASSESSMENTS** (floodplain)

State mutual aid legislation establishes liability protections and the reimbursement process for responders. But mutual aid rules can vary widely from state to state.

- **Example:** Many EMAC members can only deploy state assets (municipal workers) but not private sector personnel.

Enabling mechanisms to deploy through EMAC should be verified prior to making requests for second responder teams.

FEMA Mutual Aid Portal

The FEMA BCAT Portal includes information on two separate mutual aid layers:

- **IMAC identifies the type of intrastate (in state) mutual aid system for each state or territory.**
- **EMAC identifies whether a state, territory, or district participates in EMAC, and if an EMAC member has enabling mechanisms to deploy non-state assets; and if so, what type.**

View the FEMA Mutual Aid Portal at:
stantec.maps.arcgis.com/apps/MapSeries/indexhtml?appid=a053ac48343c4217ab4184bc8759c350

FEMA's Mutual Aid Fact Sheets provide a detailed summary of each state's mutual aid programs.
www.fema.gov/emergency-managers/risk-management/building-science/bcat/fact-sheets

Step Two – Helping Residents After The Flood

Emergency Management Assistance Compact (EMAC)

EMAC is the nation's all-hazards mutual aid system. EMAC has been ratified by Congress and it is law in all 50 states, District of Columbia, Puerto Rico, Guam, the US Virgin Island, and the Northern Mariana Islands. EMAC members can share resources from all disciplines, protect personnel who deploy, and be reimbursed for mission-related documented costs. EMAC has been used to provide state-to-state assistance with floodplain management and flood recovery.

EMAC LAW
Worker's compensation, tort liability, license reciprocity, and reimbursement are among its many provisions.

EMAC OPERATIONS
Every year, one state is nominated and voted in by the EMAC Committee as Chair of the EMAC Executive Task Force.

EMAC COORDINATION
By law, the state, territory, or district emergency management agency is responsible for implementing EMAC on behalf of the Governor.

The EMAC website includes a variety of resources and free online courses to help you learn more about EMAC, such as the following:

- Overview on Mission Ready Packages and EMAC Reimbursement
- EMAC Pre-Event Preparation for Resource Providers
- Just in Time Training for Deploying Personnel

Learn more about EMAC at www.emacweb.org or view the list of available training courses at www.emacweb.org/index.php/online-training/available-emac-elearning-courses

Step Two – Helping Residents After The Flood

Disaster Assistance Response Teams (DARTs)

Several states have formed in-state **Disaster Assistance Response Teams (DARTs)** to assist communities with floodplain management responsibilities after a natural disaster. These teams have responded quickly and have performed exceedingly well. For that reason, the Association of State Floodplain Managers is encouraging states to form their own DARTs.

DART members are all **skilled floodplain managers** representing many sectors. DART members have disaster response experience and are fully trained. The DART can assist the local or tribal floodplain manager by conducting flood damage reconnaissance, high-water mark data collection, substantial damage estimates, training, and guidance on mitigation actions. The intent of the DART is to **help communities expedite response** and **recovery tasks** immediately after the disaster.

However, each state has different mutual aid laws (see page 22). For that reason, in-state DART's must coordinate with the Emergency Manager.

Guidance on forming a DART and a wide variety of DART resources can be found on the ASFPM DARTboard: no.floods.org/DART

Step Two – Helping Residents After The Flood

Disaster Recovery Reform Act/Section 1206 Building Code and Floodplain Management Assistance

The Disaster Recovery Reform Act of 2018 (DRRA) authorized FEMA to provide assistance to state, local, or tribal governments for building code and floodplain administration and enforcement.

DRRA made additional activities eligible for reimbursement through FEMA's Public Assistance (PA) Program. Reimbursement is only available after a major disaster declaration that include PA permanent work. Eligible work must occur within 180 days of the disaster declaration.

Information on FEMA's 1206 funding can be found at:
www.fema.gov/sites/default/files/documents/fema_drra-1206-companion-document.pdf

PA Eligible Activities Include:

- Administration and enforcement of state, local, and tribal building code and floodplain management ordinances;
- Building Inspections, including substantial damage estimates, and code inspections;
- Permit review, processing, and plan review;
- Costs associated with staff overtime, temporary hires, or contracted support to administer and enforce adopted building codes and floodplain ordinances.

Step Three – Mitigation

Step Three – Mitigation

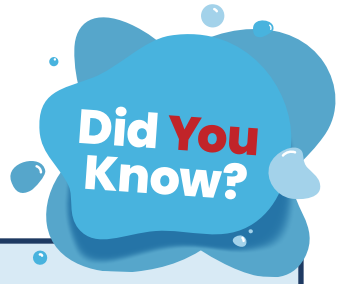
Know your SHMO (State Hazard Mitigation Officer)

Every state has a SHMO and the SHMO knows more about mitigation funding and mitigation activities than anyone.

The SHMO is the primary point of contact in each state to conduct mitigation planning, encourage mitigation projects, and fund mitigation. The SHMO works closely with local or tribal officials to prepare Hazard Mitigation Plans (HMP) so residents can be eligible for FEMA grants.

Once the plans are completed and the funding is approved, the projects can begin.

FEMA mitigation grants can be used for a wide variety of projects aimed at making sure residents don't flood again. This may include elevation, floodproofing, relocation, levees, floodwalls, or buyouts.



According to a National Institute of Building Sciences report on mitigation, for every one dollar spent on mitigation, the homeowner will save six dollars in damages avoided.

GET STARTED:

1 Residents should contact the community or Emergency Manager and ask about mitigation funds.

2 If the community has a Hazard Mitigation Plan, encourage your community to apply for mitigation funding. The application process is not difficult. The SHMO (and many other people) can help your community along the way.

3 Call the SHMO and voice your interest in a mitigation project. The SHMO can give you advice and tips.

4 Don't give up. The process is not quick. It can take years but keep pushing! The rewards will be worth the effort.

A listing of SHMOs can be found at:
no.floods.org/SHMOs

Step Three – Mitigation

What is Mitigation and Why Mitigate?

"Mitigation" simply means doing something to reduce or eliminate the risk of future damage.

The aim of mitigation is to break the cycle of disaster damage, reconstruction, and repeated damage.

The perfect time to mitigate a building is now...before repairs are made. Often money is available to help residents do this.

Mitigation Activities:

BUYOUT AND DEMOLITION
Sell the structure to FEMA or the state for the pre-damaged value.

RELOCATION
Move the structure to higher ground.

ELEVATION
Jack up the building to above the flood protection elevation.

FLOODPROOFING
Make the building watertight.

LOCAL OR TRIBAL FLOOD REDUCTION PROJECTS
Levees, floodwalls, detention basins, etc.

Many good publications and guides have been written on mitigation programs and funding sources. The best collection of these resources can be found in the ASFPM Library **(no.floods.org/MitigationCollection)** and at **ReduceFloodRisk.org,** where residents can learn about mitigation strategies.

Step Three – Mitigation

Mitigation Program Requirements

All federally funded mitigation programs (see page 39-40) have the same basic requirements for participation.

1. The community must:

- Participate in the National Flood Insurance Program,
- Support the project, and
- Provide a cost share on the funding (usually 75% federal and 25% local). However, in some situations, the cost share can be as much as 90% federal and 10% local, or even 100% federal (see page 42).

2. The project itself must be:

- Cost effective,
- Technically feasible,
- Meet federal, state, and local or tribal permit requirements,
- Environmentally sound,
- Compatible with the Local or Tribal Mitigation Plan,
- Supported by the community, and
- Selected from a competitive process.

Many states and communities are proactively reducing flood losses through mitigation projects. Among those:

- The Governors of South Carolina, Tennessee, and Texas have all tasked staff to reduce flood losses.
- Legislators in Illinois, Virginia, Washington, and Wisconsin have all provided mitigation grant funding.
- Arkansas gives tax credits for restoring wetlands.
- Vermont rewards communities for taking mitigation actions.
- South Holland, Illinois provides flood reduction rebates to residents who prevent flooding.
- Minnesota, Iowa, Indiana, and Maryland all have established bonds or revolving loan funds to reduce flooding.
- Norfolk, Virginia; Milwaukee, Wisconsin; and Ft. Collins, Colorado have updated floodplain regulations to address weather extremes and prevent future flood losses.

Mitigation Grants

Emergency Managers interested in promoting and encouraging mitigation grants have many resources available to help them. First is the SHMO (see page 27).

Also see **ReduceFloodRisk.org/Financial-Assistance.**

Step Three – Mitigation

Flood Resistant Construction

Emergency Managers should have a single goal in mind when working with residents after a flood. Reducing flood damage to existing structures and guiding new development to areas that are less hazardous.

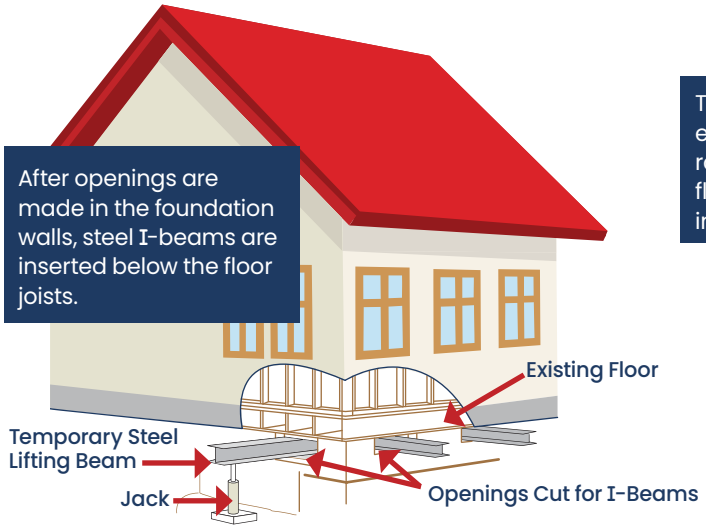
When buildings have previously been constructed in the floodplain, actions can be taken to reduce the flood risk. This includes using mitigation funds to make structural alterations that make the building less susceptible to flood damage.

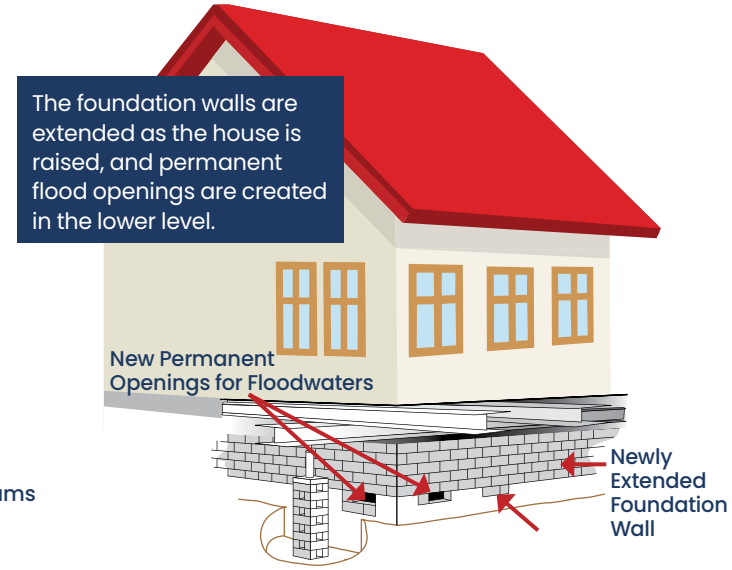
New structures proposed in flood risk areas must meet all the building permit and flood protection requirements of the local or tribal community (see page 14).

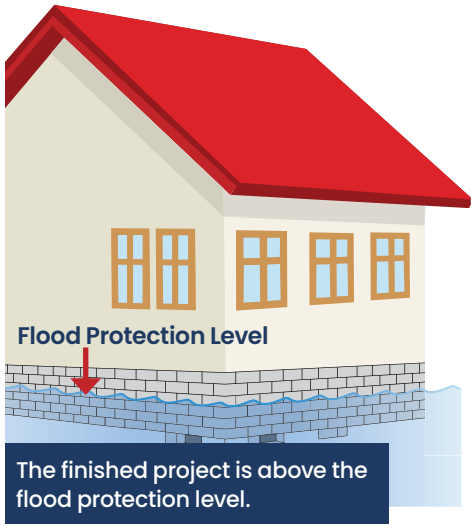
Step Three – Mitigation

Elevating an Existing Building

Most buildings, regardless of whether constructed on slab, crawl, or basement foundations, can be elevated. It is only in rare circumstances when an existing building cannot be elevated. The basic procedure for elevating a building happens the same way regardless of foundation type.

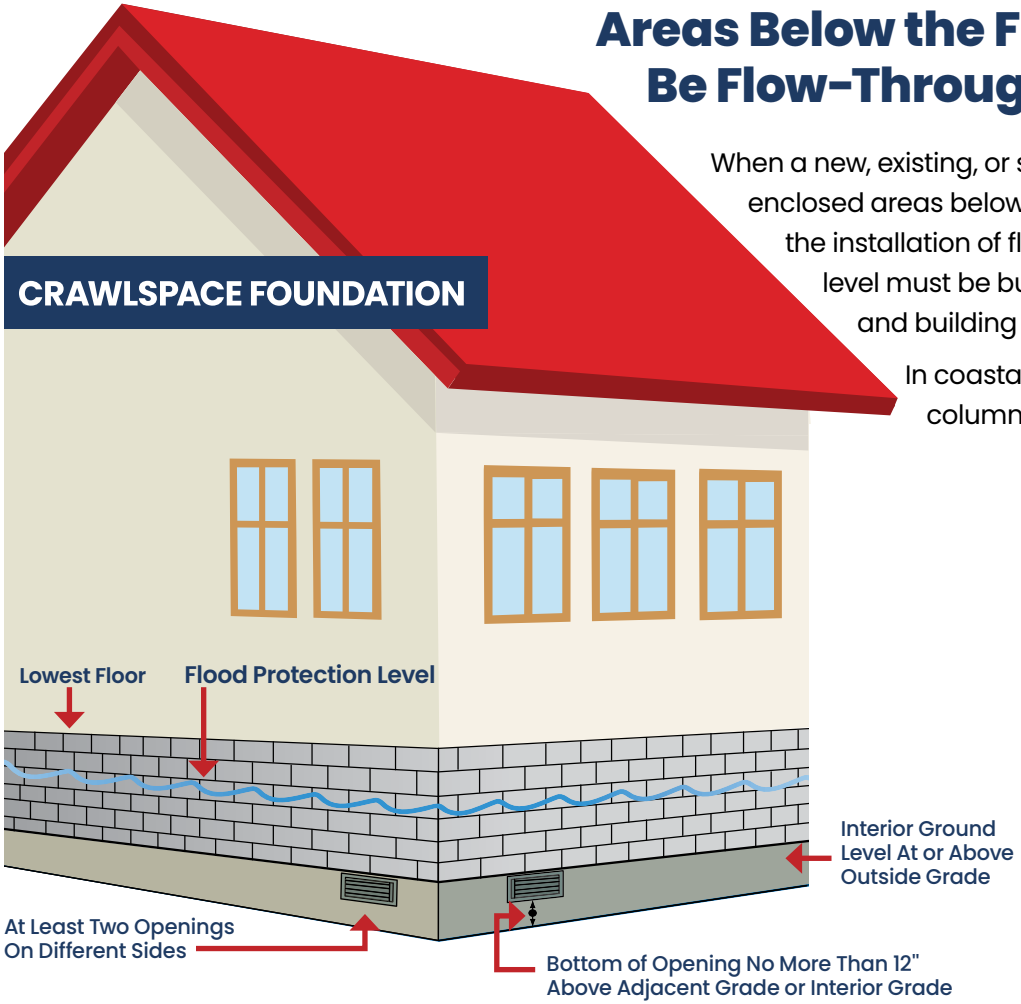






NOTE: Programs may be available to help offset the cost of elevating your structure (see page 39-40).
Individuals with a National Flood Insurance Program policy may be eligible for Increased Cost of Compliance payments (see page 47-48).

Step Three – Mitigation



Areas Below the Flood Protection Level Must Be Flow-Through

When a new, existing, or substantially damaged home in the floodplain is elevated, any enclosed areas below the flood protection level must be open to flood flows. This requires the installation of flow-through openings. In addition, any area below the flood protection level must be built of flood resistant material and used only for parking, limited storage, and building access. Utilities must also be elevated above the flood protection level.

In coastal velocity zones, the lower level must be constructed with piers, columns, or breakaway walls.

Flow Through Openings

- Total net area of all openings is 1 sq. inch per sq. foot of enclosed area (measured on the outside).
- For example a 30' x 40' enclosure needs a total of 1,200 sq. inches of openings.
- If inserted as flood openings, typical air ventilation units must be permanently disabled in the open position to allow water to flow in and out.
- A typical air ventilation unit, with screen, provides 42 to 65 sq. inches of opening. (Look for "net free area" stamp on unit.)

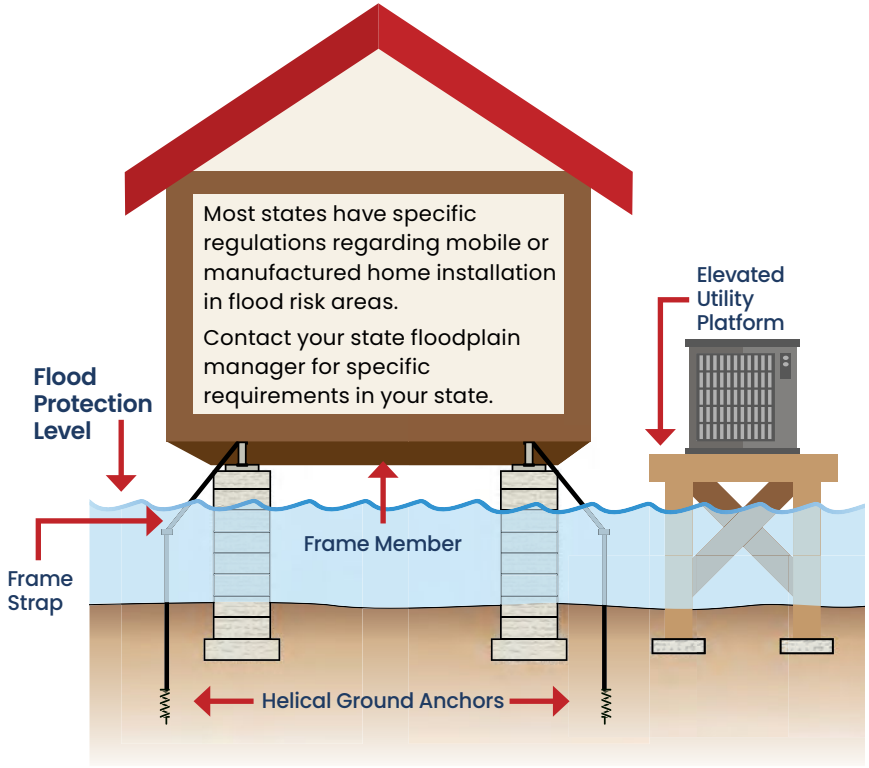
ALTERNATIVE: Engineered openings are acceptable **if certified** to allow adequate automatic inflow and outflow of floodwater.

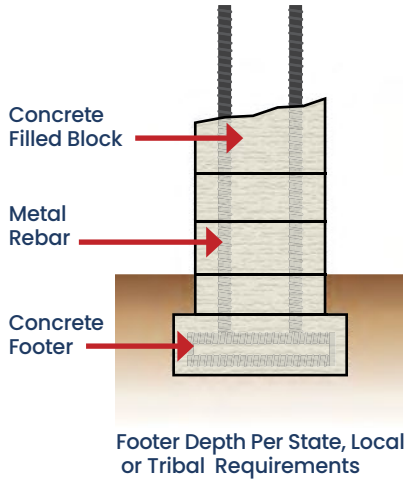
Step Three – Mitigation

What About Manufactured and Mobile Homes?

New or replacement manufactured homes located in the floodplain must also be elevated to the flood protection level. If the manufactured home is substantially damaged, it will need to be elevated or removed.

Many states have specific tie-down and anchoring requirements that apply to manufactured and mobile homes. These rules protect against flotation, collapse, or lateral movement. In many states, a licensed installer must be used.



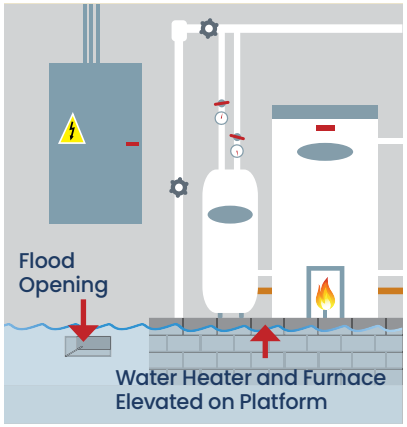


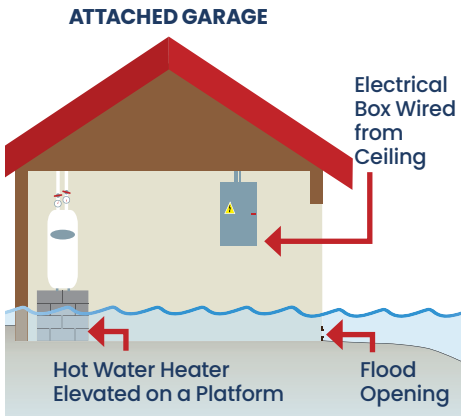
Step Three – Mitigation

Utilities Inside the Building

If a structure is substantially damaged, the utilities must also be protected from future flood damage. This means they must be elevated to the flood protection level.

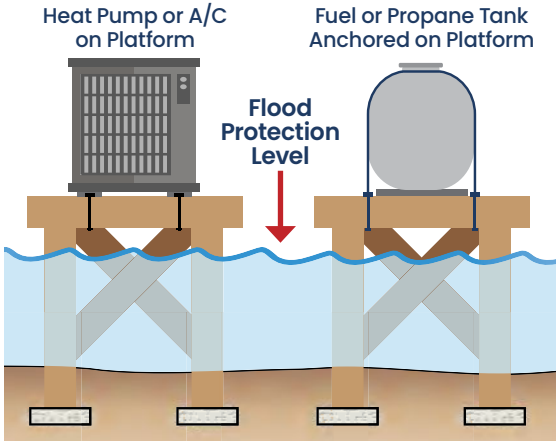
The furnace, water heater, and electrical box must all be elevated on a platform or higher floor.





Utilities Outside the Building

Outside of the building, the air conditioner, septic or sewer system, and any fuel or propane tanks must also be protected from future flooding. This means elevated on a platform. In certain cases, existing septic systems may need to be redesigned to avoid discharge during a flood.



Fuel and propane tanks are very dangerous during floods. Tanks may explode or release hazardous contents during flooding. Even shallow flood water can cause buried tanks to float or rupture. For that reason, an engineer must certify that underground tanks are anchored and floodproofed. Tanks which are elevated on platforms or columns must be above the flood protection level and anchored.

Protecting Utilities

Many state and federal agencies have produced excellent guides on protecting utilities both inside and outside of buildings. Search online for "Protecting Building Utilities from Flooding" or "Fuel Tank Flood Hazards". In addition, an excellent FEMA publication *Protecting Building Utilities from Flood Damage* (FEMA 348) is available at: www.fema.gov/sites/default/files/2020-07/fema_p-348_protecting_building_utility_systems_from_flood_damage_2017.pdf.

Step Three – Mitigation

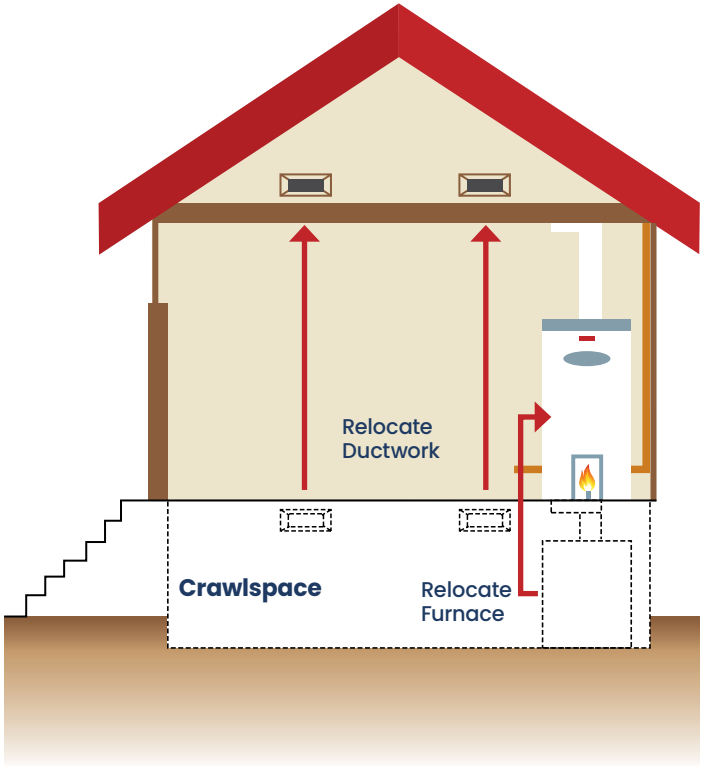
Some Flood Protections for Existing Homes are Easy and Low Cost

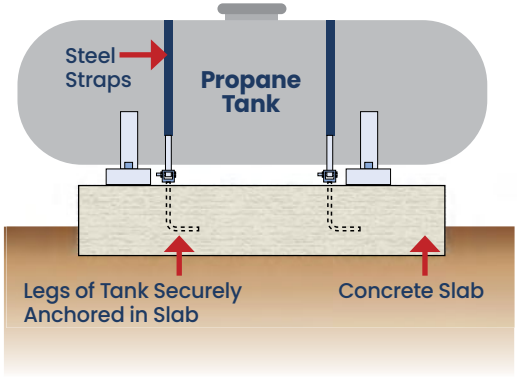
Low-cost steps can often be taken to add some flood protection to existing homes in the floodplain. This includes simple steps inside the building like moving fuse boxes, electrical panels, water heaters, furnaces, and ductwork out of the crawlspace or basement.

Outside of the home, anchoring heating oil or propane gas tanks will prevent flotation or lateral movement.

Most importantly…never store valuables or hazardous materials in a flood-prone basement or crawlspace.

Emergency Mangers should always encourage residents to check with the local or tribal floodplain permit official before starting any work.





Step Three – Mitigation

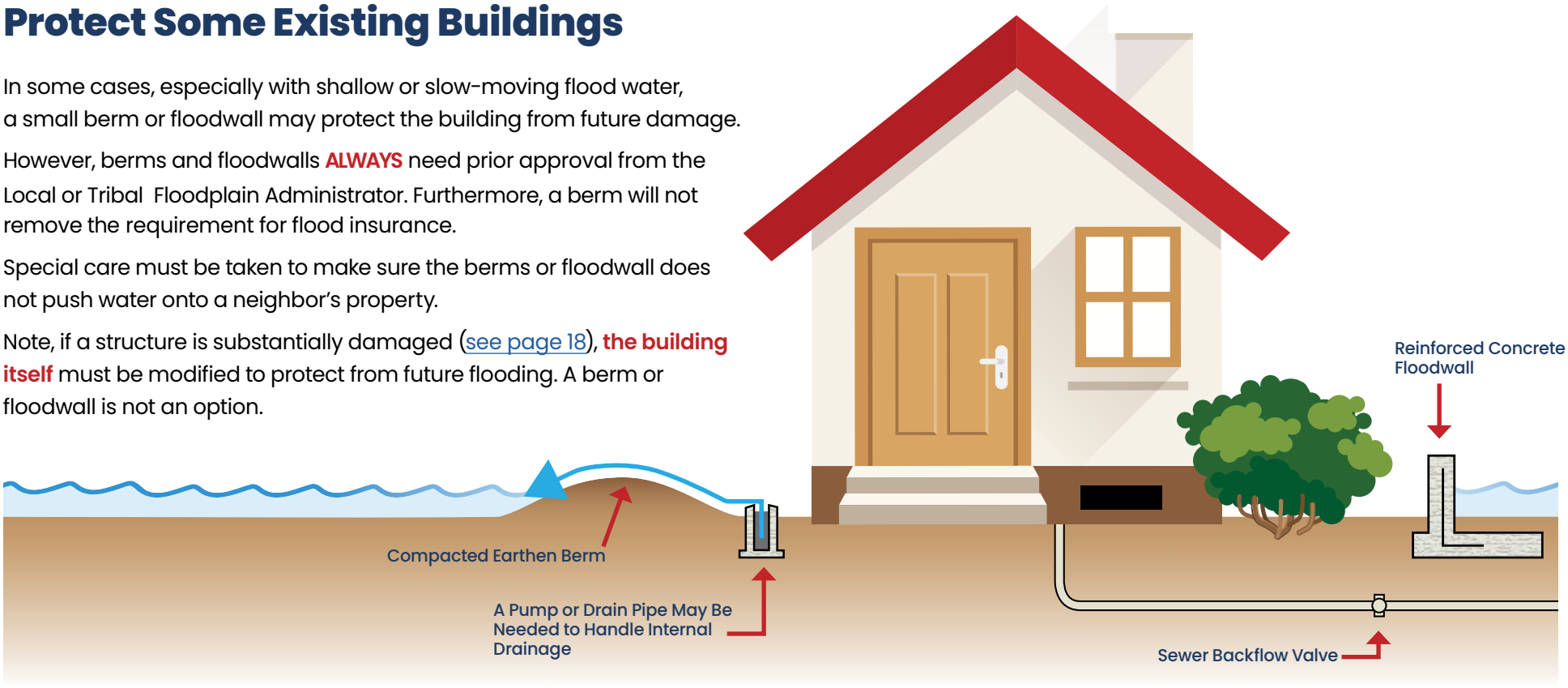
Small Berms or Floodwalls May Protect Some Existing Buildings

In some cases, especially with shallow or slow-moving flood water, a small berm or floodwall may protect the building from future damage.

However, berms and floodwalls **ALWAYS** need prior approval from the Local or Tribal Floodplain Administrator. Furthermore, a berm will not remove the requirement for flood insurance.

Special care must be taken to make sure the berms or floodwall does not push water onto a neighbor's property.

Note, if a structure is substantially damaged (see page 18), **the building itself** must be modified to protect from future flooding. A berm or floodwall is not an option.



Step Three – Mitigation

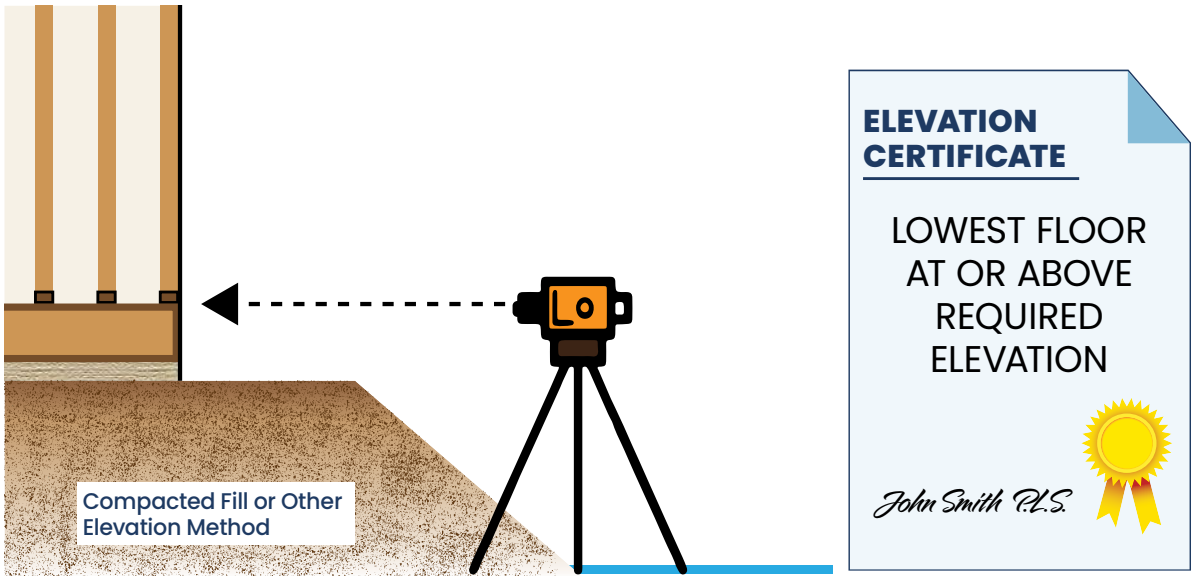
Get an Elevation

Surveyors can provide the elevation and site location information needed to keep a building safe from flooding. The surveyor will establish elevations to show you exactly how high the building needs to be elevated to be safe from flooding.

In some cases, a surveyor may be required to sign and certify the FEMA Elevation Certificate, which may be needed for a permit application or for certain types of mitigation funding.

In many cases, an Elevation Certificate may also save money on flood insurance premiums.

Elevating a building will almost always require a surveyor (see page 53).



Step Three – Mitigation

Big Flood Problems Need Bigger Solutions

When damage is extensive or if several structures are substantially damaged, the owners may not want to make repairs.

In these situations, property owners may simply decide to move out of the floodplain. In this case, a buyout or relocation project may be the best alternative. This type of mitigation gives much greater protection and, in most cases, a better return on investment. Emergency Managers should be aware of the various mitigation programs available and who residents can contact for assistance (see page 39-40).

Step Three – Mitigation

Federal Mitigation Programs and Funding

FEDERAL PROGRAMS

There are several FEMA programs available to protect buildings from future flooding. All of these programs are administered by states and the local or tribal community. An application must be submitted by an eligible city, county, special district, public school, university, community college, or tribal governments to be considered for funding. Applications from individuals cannot be accepted.

PROGRAM	PERCENT FEDERAL/ NON-FEDERAL COST SHARE
PDM	Up to 75/25 90/10 for tribal or small impoverished communities
FMA	75/25 90/10 or 100% on repetitively flooded buildings.
HMGP	Up to 75/25

PRE-DISASTER HAZARD MITIGATION (PDM))

Pre-Disaster Hazard Mitigation is authorized under Section 203 of the Stafford Act. BRIC is the latest version of that program. The goal of BRIC is to make communities safer and prevent disasters before they happen. BRIC is a competitive application process and funds are available every year. All projects must show that the flood reduction benefits outweigh the project cost. Funding can be used for flood mitigation projects such as buyouts, elevation, relocation, etc.

FLOOD MITIGATION ASSISTANCE (FMA)

Authorized under Section 1366 of the National Flood Insurance Act, the FMA program makes funds available on an annual basis to reduce or eliminate flood risk on buildings. FMA is only available for buildings that have a National Flood Insurance Program (NFIP) policy.

HAZARD MITIGATION GRANT PROGRAM (HMGP)

Authorized under Section 404 of the Stafford Act, funding from HMGP is only available after a federally declared disaster. HMGP can be used by communities to undertake long-term mitigation projects. Communities can also use the funding for traditional elevation or buyout projects. Projects must be done according to state and local or tribal priorities and be cost-beneficial.

▶ **Further guidance on FEMA mitigation programs can be found on the FEMA mitigation website: www.fema. gov/ grants/mitigation/floods**

Other Grant or Loan Programs

U.S. SMALL BUSINESS ADMINISTRATION (SBA) DISASTER LOAN PROGRAM

The SBA provides low-interest disaster loans to businesses of all sizes, private nonprofit organizations, homeowners, and renters. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.

Small Business Administration Contact
ph: (404) 331-0333 ext. 2177

www.sba.gov/funding-programs/disaster-assistance

U.S. DEPARTMENT OF AGRICULTURE (USDA), RURAL HOUSING SERVICE (RHS) HOUSING PRESERVATION GRANTS

The Housing Preservation Grant (HPG) program provides grants to sponsoring organizations for the repair or rehabilitation of low- and very low-income housing. The grants are competitive and are made available in areas where there is a concentration of need. Those assisted must own very low- or low-income housing, either as homeowners, landlords, or members of a cooperative. Very low income is defined as below 50% of the area median income (AMI); low income is between 50% and 80% of AMI.

www.rd.usda.gov/programs-services/single-family-housing-programs/housing-preservation-grants

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD) COMMUNITY DEVELOPMENT BLOCK GRANTS (CDBG)

The Community Development Block Grant Program supports community development activities to build stronger and more resilient communities. The program focuses on projects which improve the lives of residents, especially those with low and moderate income levels. These activities could include infrastructure improvement, economic development projects, public facilities, community centers, housing rehabilitation, public services, buyouts and acquisition, code enforcement, and homeowner assistance.

www.hudexchange.info/programs/cdbg/

State and Local or Tribal Flood Mitigation Programs

An increasing number of state, local, and tribal governments are making long-term commitments to support flood mitigation efforts by establishing programs that draw from their annual budgets, such as grant and rebate programs, or by offering tax credits to help fund projects. In many cases, these state, local, and tribal funds can be used as cost share to match federal mitigation funding. The impacts of these state, local, and tribal programs are often overlooked. Emergency Managers should coordinate with the SHMO to determine the availability of state, local, and tribal mitigation funding. A short summary of state mitigation programs can be found at: **no.floods.org/MitigationCmte**

Step Three – Mitigation

How Buyouts Work

Buyouts are the best way to reduce the risk of future disasters. Buyout projects are administered by the state, local, and tribal communities (often using FEMA or state funds). The state, local, and tribal communities, together with their Emergency Manager counterparts, work together to identify areas where buyouts make the most sense. For this reason, individuals do not apply directly to FEMA or the state. Rather, residents work with their community to apply.

Property owners who want to sell their property will be given a fair price. It is a terrific opportunity for people who live on or near hazard areas and are tired of flood damage. After a disaster, there is often the opportunity to obtain funding and move to safer ground.

A licensed appraiser hired by the community determines the pre-damage fair market value. In rare situations and when alternative housing is unavailable, residents can request additional funds to find comparable housing.

THE STEPS TO A BUYOUT:

1 An application for assistance is prepared by the community officials with input from those homeowners with destroyed or severely damaged properties.

2 The community sends the migration application to the state. After state review, those deemed appropriate are sent to FEMA for approval. FEMA then reviews the applications to ensure they follow the rules and make cost effective use of funds.

3 Once FEMA and the state give approval, the communities conduct the purchase and title transfer.

4 Buildings are then removed by the community, the land is cleared, and the vacant lot is preserved as open space.

Buyout projects can often require a great deal of education and community input. They do not happen overnight. The entire process can take months or years. However, once a homeowner accepts a buyout offer, the average closing takes about 45 days.

Step Three – Mitigation

Help for Low Capacity Communities

Smaller or low capacity communities often do not have the staff or resources to complete the mitigation planning and mitigation application process.

Help is available.

States can work with their communities to find assistance. Often, a skilled grant manager can be funded to help with the mitigation project administration and oversight.

In addition, cost share funding for these communities can be as much as 90% federally funded.

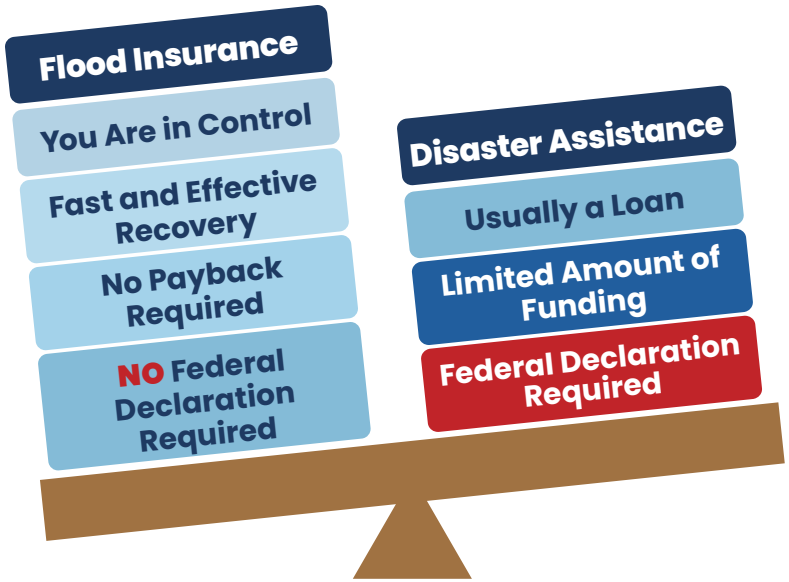
Did You Know?

Some **communities may be eligible for 90% / 10% cost share to complete mitigation projects! There are also sources to assist with the 10% local match. Talk to your SHMO** (see page 27).

Step Three – Mitigation

Disaster Assistance vs. Flood Insurance. Which is Better?

Spoiler Alert!
The Answer is Obvious.



FEDERAL FLOOD INSURANCE is not a disaster-assistance program. It is insurance to help property owners recover more quickly after a loss.

Flood insurance through the National Flood Insurance Program can be purchased by most residents as long as their community participates in the NFIP. Any licensed insurance agent can sell you a policy.

Private flood insurance is also available in some cases. A flood insurance claim can be made for any flood event, large or small. A federal flood declaration is not required.

It is always best to have a flood insurance policy (see page 44-45).

FEDERAL DISASTER ASSISTANCE is only available after a federally declared disaster (and most floods are not federally declared).

Most disaster assistance programs assist with immediate needs after an event (housing, clothing, and food). On average, disaster assistance payments are limited (often less than $5,000). The disaster assistance funding is not meant to make repairs or help with long-term recovery from a flood.

Many forms of disaster assistance require that you obtain flood insurance to qualify. Federal laws also require that property in high flood-risk areas maintain continuous flood insurance. This will affect future owners.

Step Three – Mitigation

Got Flood Insurance – The Fast Track to Recovery

It's a fact. **Property owners with flood insurance recover much quicker** than those without flood insurance. With flood insurance, the damage claim is often paid within days of the event. Those without flood insurance often wait weeks, months, or even years to recover after a flood.

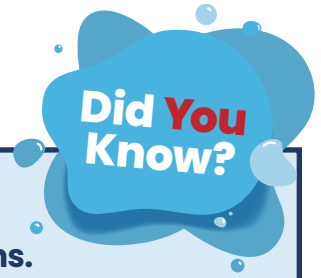
For anyone living in (or even near) a mapped floodplain, having a flood policy should be a priority!

Flood insurance is **available for property owners and renters** from National Flood Insurance Program (NFIP). With NFIP coverage, there is a 30-day waiting period before coverage goes into effect. **Now is the best time to buy flood insurance!** Residents should contact their local insurance agency for more information.

National Flood Insurance also includes additional coverage to help cover the cost of floodproofing, relocating, elevating, or demolishing a structure that is substantially damaged. This coverage is called Increased Cost of Compliance (see page 47-48).

Some private companies also sell flood insurance. However, coverage and costs can vary widely with private flood insurance policies. Be sure and read the small print.

Additional information can be found online at **www.floodsmart.gov** or by calling **1-888-379-9531**.



How Flood Insurance Has Helped Americans.

- **1968 – NFIP is launched with two goals: reduce future flooding and protect property owners.**
- **1993 - 1995 – Floods in the Midwest and south result in more than $855 million in NFIP claims.**
- **2005 – Hurricane Katrina becomes the most expensive hurricane in US history. NFIP claims exceed $1.7 billion.**
- **2011 - 2012 – Over 71,500 NFIP claims for $5 billion in damages were paid following Hurricane Sandy.**
- **2022 – Nearly 22,700 NFIP policy holders have used extra flood insurance funds (ICC) to protect their homes from future flooding (see page 47-48).**

Step Three – Mitigation

The Best Protection Is Flood Insurance

WHO SHOULD HAVE FLOOD INSURANCE? Flooding is usually not covered by a standard homeowner's insurance policy. If there is the slightest risk of flooding, a property owner should have flood insurance. Homeowners, businesses, and renters can purchase flood insurance on any building and its contents, even outside of the mapped floodplain.

WHO MUST HAVE FLOOD INSURANCE? Flood insurance is required for all building located in a mapped floodplain if they are financed by federally backed loans or mortgages.

WHO SELLS FLOOD INSURANCE? Any licensed insurance agent can sell you a policy. Private sector flood insurance may also be available.

NOT IN A MAPPED FLOOD ZONE? It makes no difference where your building is located in the mapped floodplain or shown on a floodplain map. Federal flood insurance is available to **anyone** who lives in a community participating in the National Flood Insurance Program (NFIP). In fact, 25% of all claims are paid outside of the mapped floodplain!

PROTECTED BY A LEVEE OR DAM? Flood control structures can and do fail. The failure can be by overtopping or collapse. For this reason, having flood insurance is a good idea. In many cases, flood insurance is cheaper on buildings behind a flood control structure.

WHAT ABOUT DISASTER ASSISTANCE? Federal disaster assistance is often only a small amount. In addition, disaster assistance is often a loan which can cost many times more than the cost of a flood policy (see page 43).

WANT TO KNOW MORE?

Visit www.floodsmart.gov

Step Three – Mitigation

How to File a Flood Insurance Claim

1 Start Your Claim. Residents should call their insurance agent or company immediately to report their losses. An insurance adjuster will be assigned to work with the resident. Make sure the agent and the adjuster have contact information.

2 Document the Loss. Once it is safe to enter the home, the resident should make a list of damaged items and take photos of structural and contents damage on the inside and outside of the home.

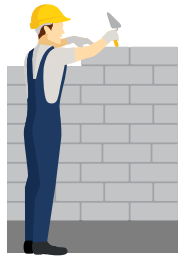
3 Start Clean Up. After taking photos, cleanup should start immediately to prevent the growth and spread of mold. Flooded items that pose a health risk should be thrown away immediately. When in doubt, pitch it out!

4 Work with the Claims Adjuster. The adjuster will set up a meeting with the resident to assess flood damage. Check the adjuster's ID and get their contact information. The adjuster is there to help the owner! Be sure and ask your adjuster any questions about the policy coverage and payment. An adjuster will never ask for money.

5 Receive Payment. Review the adjuster's written damage estimate for accuracy. The claim payment amount will be based on the documentation provided to the adjustor and what's covered by the policy. It's the owner's responsibility to submit information that supports the claim and to meet required deadlines. Residents should sign a proof-of-loss statement only after agreeing with the adjuster's estimate. If there is a loan on the structure, the mortgage company should be notified.

6 Contact Your Local Permit Official. Permit approval from the local official should be obtained before making any repairs to the home. This is very important! At the same time, grants or loans to protect the building from future flooding should be considered (see page 39-40). Remember, the flood insurance policy may also include additional funding to protect from future flooding (see page 47-48).

7 Start Repairs. Get estimates from legitimate contractors. Beware of fly-by-night companies which often show up after a disaster. Get help from the local permit official.



Step Three – Mitigation

Take Advantage of Increased Cost of Compliance (ICC)

Hint: It's on your NFIP Flood Policy!

Most National Flood Insurance Program (NFIP) policies include additional coverage for the Increased Cost of Compliance (ICC). This ICC coverage is available to protect your building from future flooding. ***ICC is the fastest form of mitigation***.

INCREASED COST OF COMPLIANCE (ICC):

- Provides up to $30,000 in addition to the flood insurance claim.
- Can be used to Floodproof, Relocate, Elevate, or Demolish (or any combination of these).
- Structure must be located in a floodplain.
- Structure must have a National Flood Insurance Policy in effect.
- Structure must be determined to be substantially damaged (or cumulatively damaged) by flooding beyond 50% of the value of when the damage occurred.

The two most common types of ICC mitigation used are:

RELOCATION:
Relocating structures to higher ground is the safest way to protect against flooding and reduce the liability and cost to the community.

Relocating initially can be expensive, but in the long run it can be less expensive than repetitive flood damages or high flood insurance premiums.

ELEVATE
above the flood level required by your community.

RELOCATE
to a new site, preferably out of the floodplain.

DEMOLISH
the building.

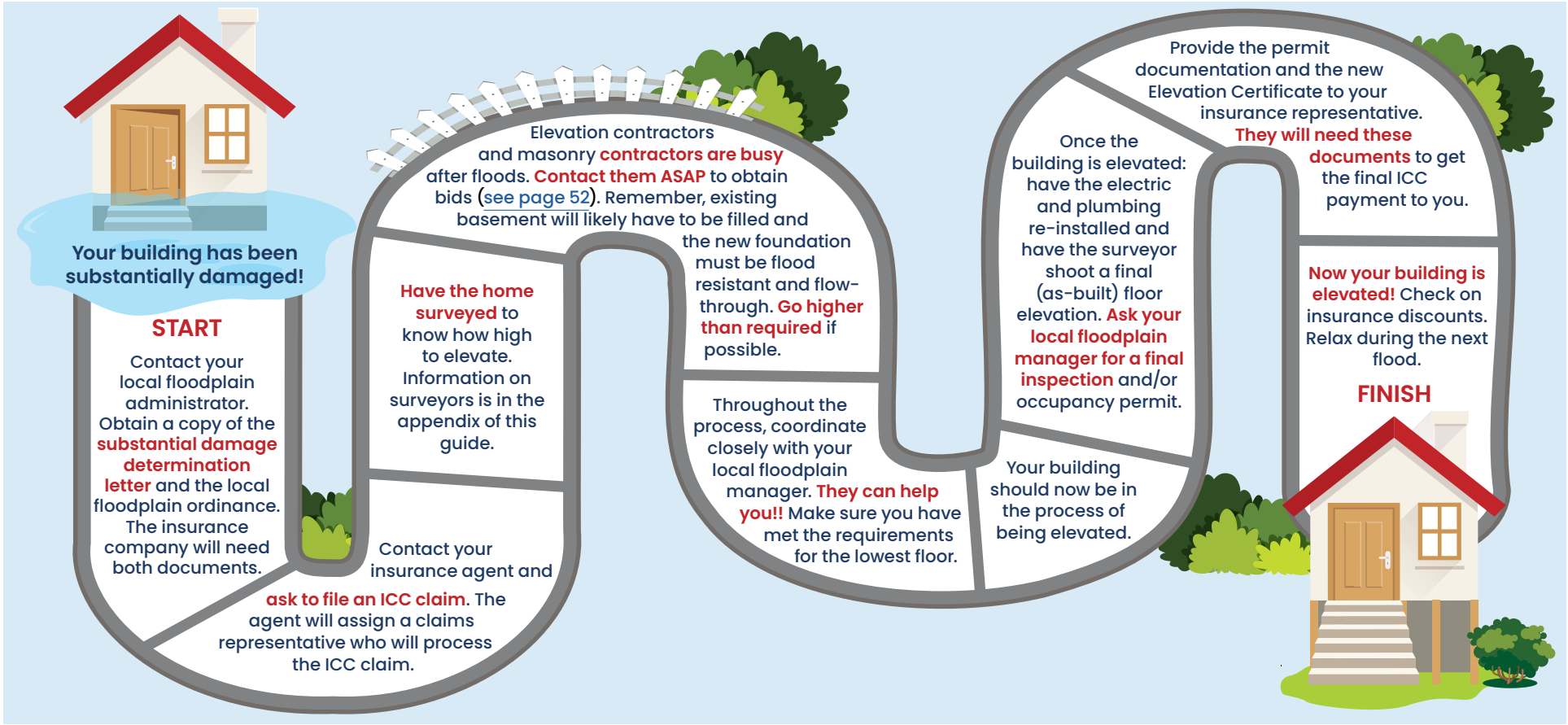
DRY FLOODPROOF
the building (primarily non-residential).

ELEVATION:
Elevation method is dependent on the structure's condition, flood hazard, local floodplain regulations, and owner's financial condition. When elevating, it is essential for the building's lowest floor and all utilities (air conditioner, water heater, furnace, etc.) to be elevated at or above the Flood Protection Elevation. See the elevation alternatives in the appendix of this guide for tips on the process and contractors.

ICC claims can be used as the local cost share for larger federal mitigation projects, such as a buyout. Talk to the SHMO.

Step Three – Mitigation

Filing an ICC Claim to Elevate a Building



Step Three – Mitigation

Go Higher! The Importance of Freeboard

In much of the country, heavy rainfall is happening more frequently. Flooding is getting worse. Floods are both higher and wider. Areas outside of the mapped floodplain now account for a large percentage of losses.

Building higher than required is just a smart decision and it can help make sure the building is better protected from:

- Old or outdated flood studies,
- Waves or debris which cause higher floods,
- Unpredictable flooding conditions caused by blocked bridges or culverts, and
- Increases in flood heights due to weather extremes or upstream development.

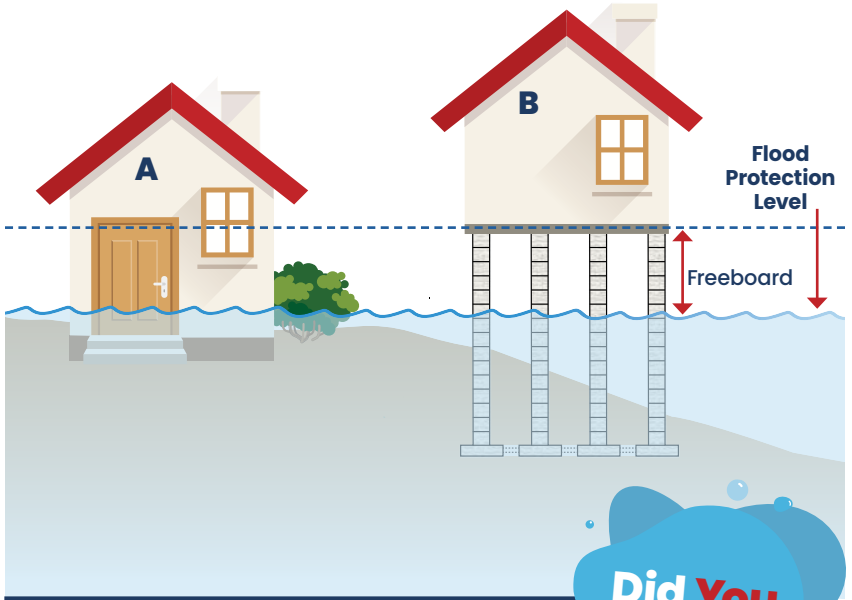
The cost of elevating a building a little higher outweighs the risk of increased flooding. On average, studies have shown that building a foundation just a foot higher will cost less than $2,000. Going higher will quickly result savings in two ways:

1. when floods happen, the building is not damaged and

2. reduced cost in flood insurance, which is required by most lenders.

Elevating a foot or two higher is a VERY smart decision!

House A floods at 100-year flood.
House B with freeboard does not flood.



Did You Know?

According to a 2023 national science assessment, more flooding is occurring in the Midwest and Northeast while coast flooding has doubled in the past decade.

Resources/ Appendix

Resources/Appendix

Association of State Floodplain Managers (ASFPM)

ASFPM's mission is:

ASFPM and its 38 state chapters represent more than 20,000 local and state officials, as well as professionals in the private sector and academia, engaged in all aspects of floodplain management and flood hazard mitigation, including management of local floodplain ordinances, flood risk mapping, engineering, planning, community development, hydrology, forecasting, emergency response, water resources development, flood insurance, and research.

ASFPM's mission is to promote education, policies, and activities that mitigate current and future losses, costs, and human suffering caused by flooding, and to protect the natural and beneficial functions of floodplains — all without causing adverse impacts.

The ASFPM website includes convenient links to state chapters, member directories, updated information on floodplain management programs, and a reference library of floodplain management guidance documents.

ph: (608) 828-3000
www.floods.org

National Emergency Management Association (NEMA)

NEMA is a nonpartisan, nonprofit association dedicated to enhancing public safety by improving the nation's ability to prepare for, respond to, and recover from all emergencies, disasters, and threats to our nation's security. NEMA is the professional association of and for emergency management directors from all 50 states, eight US territories, and the District of Columbia.

The NEMA website includes convenient links to state emergency management agencies, updated information on emergency management programs, training and education resources, and a resource library.

www.nemaweb.org

Resources/Appendix

Elevation and Relocation Contractors

Two of the most common mitigation methods after a flood are elevating a house to a required Flood Protection Elevation (FPE) or relocating the home outside of the flood risk area. When a house is properly elevated, the living area will be above most floods and the lower area remains open and flow-through. When a house is relocated, the risk of flooding is reduced even more!

Elevation contractors and home movers are professionals at their job. They have experience and do the job quickly and correctly. Successfully elevating or moving a large, cumbersome, heavy, or weirdly shaped structure requires a professional. It is not something to be tried by the average person or questionable contractors, which could result in the home settling, cracking, leaning, or falling down. Elevating or moving a building can be tricky. It is best to hire a professional who knows the process.

The International Association of Structural Movers (IASM) is the not-for-profit trade association for movers. The IASM website at www.iasm.org provides a listing of professional movers across the nation.

NOTE: The listing on IASM.org is not a complete listing, nor does it imply endorsement by ASFPM or NEMA.

The FEMA publication Homeowners Guide to Retrofitting provides more details on ways to protect a home from flooding.
www.fema.gov/sites/default/files/2020-08/FEMA_P-312.pdf

FEMA Homeowners Guide

Resources/Appendix

Licensed Engineers

A licensed engineer can provide a variety of services that can help residents during the flood recovery process. Among other things, an engineer can often determine the height that a home should be elevated to keep it safe from flooding. An engineer can also design and certify a floodproofed structure.

The National Society of Professional Engineers website (below) includes links to state chapters across the nation. To find a Licensed Engineer near you, contact the state chapter:

National Society of Professional Engineers
ph: (888) 285-6773
www.nspe.org/resources/partners-and-state-societies/nspe-state-societies

Professional Land Surveyors

Surveyors can provide the elevation and site location information needed to keep you safe from flooding. Knowing a building's floor elevation compared to the estimated flood protection elevation helps determine your flood risk and cost of your flood risk insurance. The surveyor will establish elevations to show you exactly how high you need to go to be safe from flooding.

A surveyor may also be required to sign the FEMA Elevation Certificate, which is needed for mitigation funding. An Elevation Certificate can often reduce flood insurance premiums as well.

The National Society of Professional Land Surveyor's website (below) includes a listing of state chapters across the nation. The state chapter websites often include a "Find a surveyor" link.

National Association of Professional Land Surveyors
ph: (240) 439-4615
www.nsps.us.com/page/state_affiliates

Architects

Architects are professionals trained in the art and science of building design. Their work involves more than just the appearance of a building. An architect can help develop the plans to make sure a structure is correctly designed to protect it against future flooding.

The American Institute of Architects website (below) includes a convenient "Find a Chapter" link. To find an architect near you, contact:

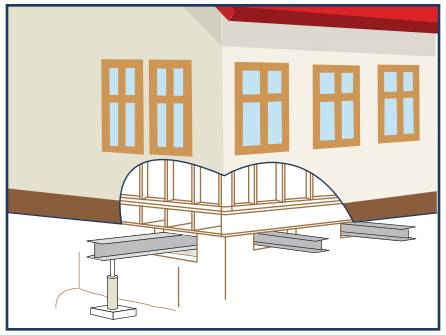
American Institute of Architects
ph: (800) 242-3837
www.aia.org/find-chapter

Elevating Existing Homes

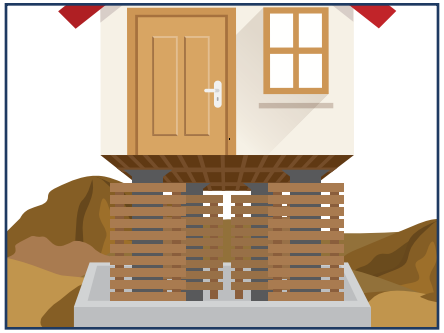
One of the most common ways to protect a building from future flooding is to raise the entire building above the flood protection elevation. Most houses can be elevated (slab, crawlspace, basement, etc.). Only in rare circumstances is elevation impossible.

Flooded home.

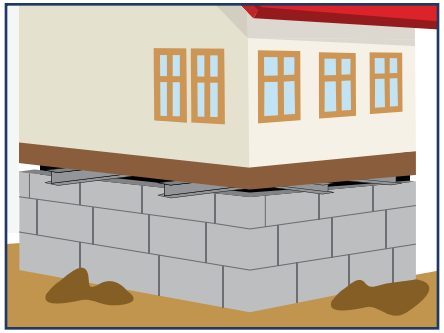
Ground around the foundation is excavated.



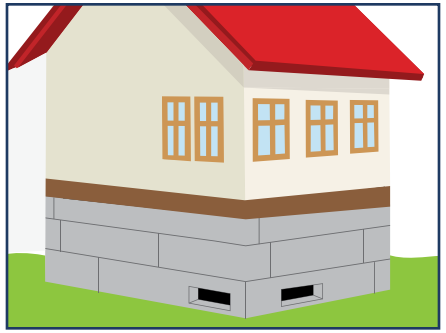
I-beams are inserted under the structure.



Home is slowly raised by hydraulic jacks and temporary cribbing installed underneath.



House is elevated to the flood protection elevation and new foundation walls are poured.

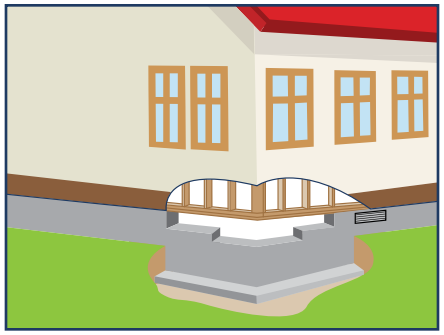


Finished foundation walls with flow-through openings. House is lowered down on to the new walls.

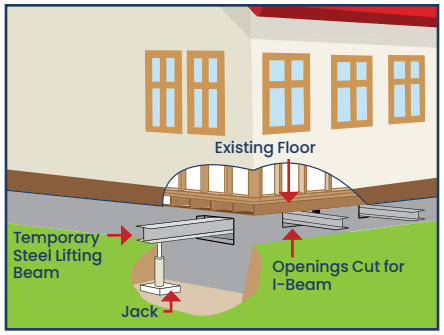
Properly elevating a home will avoid future flood losses and save money on flood insurance premiums. For more complete information on elevating an existing home, see FEMA Publication P-259. *Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures* (January 2012).

Elevating Buildings Over a Crawlspace

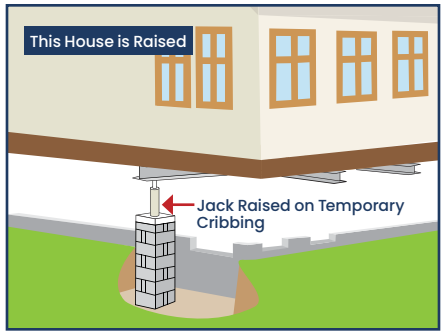
Buildings constructed over crawlspaces are generally the easiest and least expensive to elevate. The crawlspace allows for access in placing the steel beams underneath the building for lifting. In addition, most utilities are already on the first floor and will not need to be relocated.



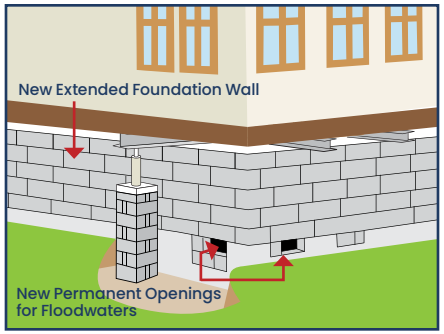
Existing building on a crawlspace.



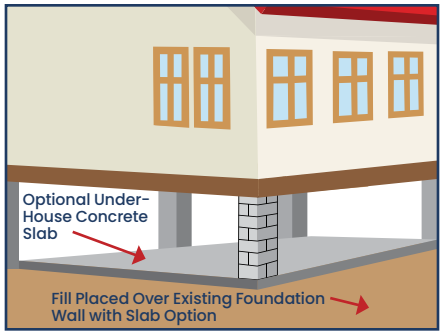
Steel I-beams are installed under the floor joists.



Jacks are used to raise the building to a flood safe elevation.



The foundation walls are extended as the house is raised, and permanent openings for floodwaters are created.



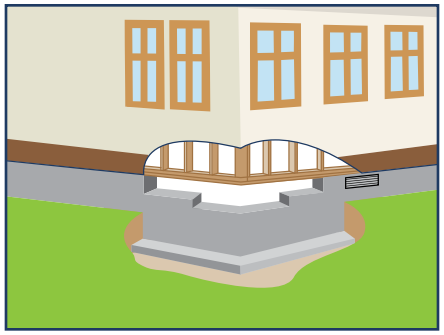
The finished product.

Building is elevated and anchored to the new foundation. The final product can either be elevated on a crawlspace foundation with flow-through openings (left) or on piers or columns (right).

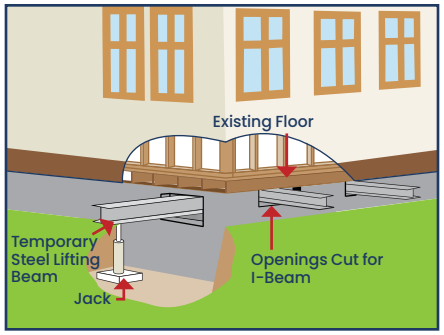
Resources/Appendix

Elevating Buildings over Basements

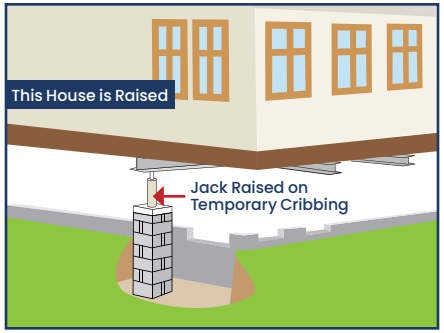
New buildings in the floodplain must have the lowest floor (including basement) elevated above the flood protection elevation. Therefore, existing basements will likely have to be backfilled. Buildings with basements are slightly more difficult to elevate because any mechanical and utility equipment in the basement must be relocated to a higher floor (above the flood level).



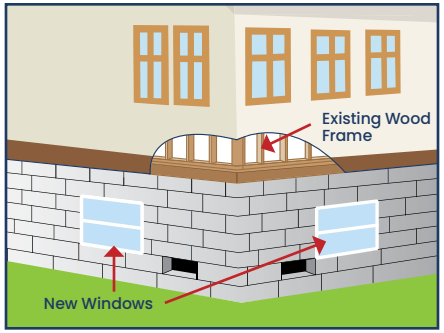
Existing building on a basement.



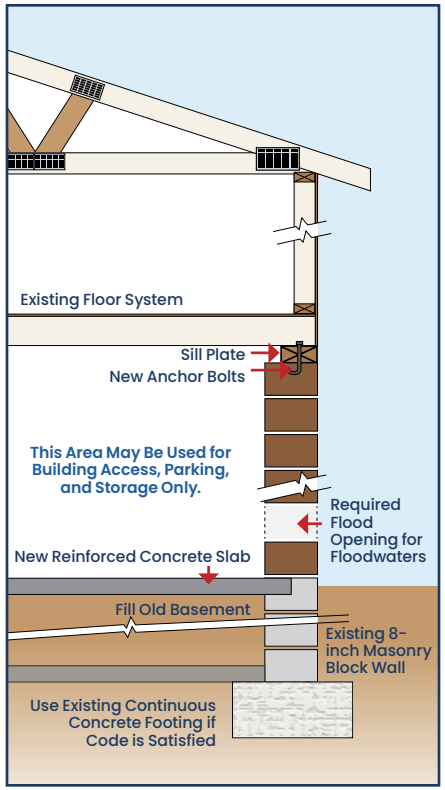
After openings are made in the foundation walls, steel I-beams are installed bellow the floor joists.



Building is raised and basement backfilled.



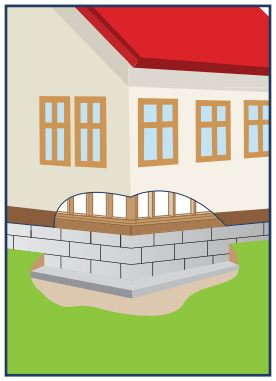
New foundation with flow-through openings.



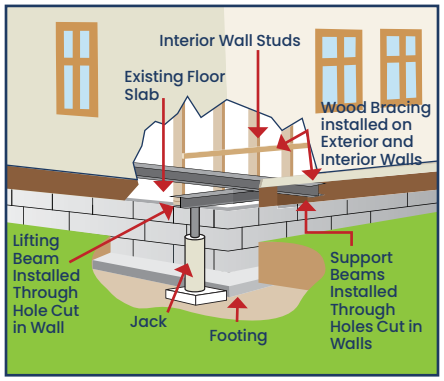
Note: Flood resistant materials and methods required below the flood protection elevation.

Slab on Grade Buildings

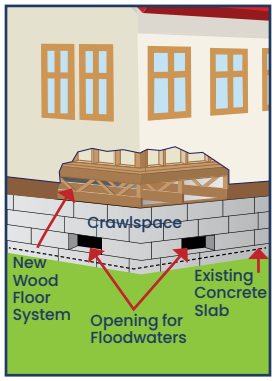
Slab-on-grade buildings can be the most difficult to raise. They can be raised with or without the slab. The new elevated first floor can be composed of wood or concrete. If the existing slab is to remain in place, the building must be detached from the slab, the structure must be raised separately from the slab, and a new floor system must be built along with an elevated foundation.



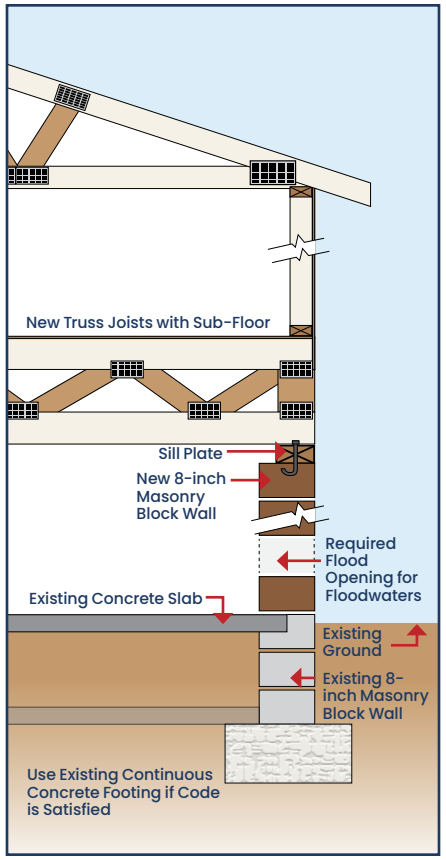
Existing slab-on-grade building.



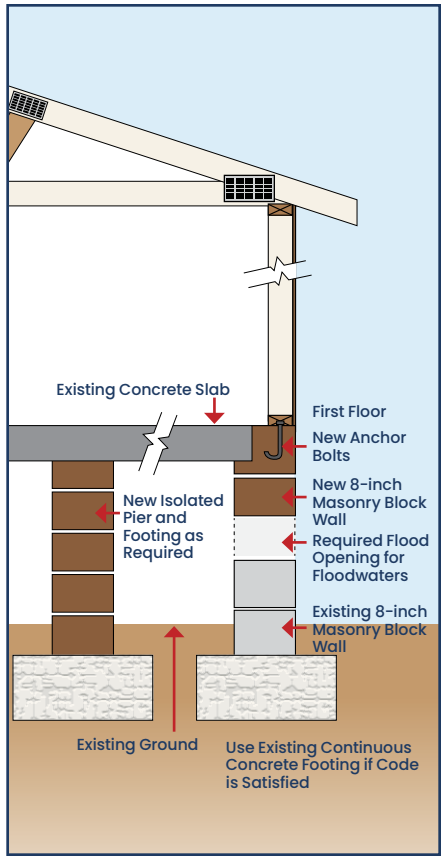
I-beams are installed below the building and it is raised to the flood protection elevation (either with or without the slab.)



New floor is above the flood protection elevation and new flow-through foundation is constructed.



Slab building is elevated with a new framed floor. The existing slab remains in place. Flow-through area is located below the new floor.



Slab building is elevated using the existing slab. Flow-through area is located below the elevated concrete slab.

Resources/Appendix

Additional Resources for Those Needing Help

US Government Primary Website for Disaster Assistance

- **FEMA Disaster Assistance website** (www.disasterassistance.gov)
- **FEMA Regions** (www.fema.gov/about/organization/regions)

General Assistance from Local Agencies, Including Housing and Food

- **United Way 2-1-1** (www.211helps.org/) ph: call 2-1-1
- **American Red Cross** (www.redcross.org/find-your-local-chapter.html)
- **Salvation Army** (www.salvationarmyusa.org/usn/contact/)

Agriculture

- **U.S. Department of Agriculture** (www.fsa.usda.gov/programs-and-services/disaster-assistance-program index)

  The USDA has a variety of programs for the agricultural community impacted by natural disasters.

Consumer Protection

- **National Association of Attorneys General** (www.naag.org/issues/disaster-preparedness-and-response/consumer-protection-in-disasters/)

  ph: (800) 771-7755

  Attorneys General are tasked with the job of protecting consumers during all stages of a disaster. Most Attorneys General have consumer protection and education initiatives that promote their consumer protection role before disaster strikes so that consumers know where to turn when issues arise.

Debris Removal

- **US Environmental Protection Agency** (www.epa.gov/natural-disasters/dealing-debris-and-damaged-buildings)

  The EPA website includes a disaster debris recovery tool to help impacted residents and communities address debris issues in their states, regions, and communities.

Employment

- **US Department of Labor** (www.dol.gov/general/disasterrecovery)
- **Disaster Unemployment Insurance** (www. disasterassistance.gov/get-assistance/forms-of-assistance/4466)

  ph: (888) 469-7365 or
  ph: (518) 457-9000

  Disaster Unemployment Assistance (DUA) provides temporary benefits to individuals whose employment or self-employment has been lost or interrupted as a direct result of a major disaster and who are not eligible for regular Unemployment Insurance (UI).

Resources/Appendix

Food

- **US Department of Agriculture Food and Nutrition Services**
  www.fns.usda.gov/da/disaster-assistance
- **Feeding America**
  www.feedingamerica.org/find-your-local-foodbank Provides a search engine to find food banks and food resources.

Historic Buildings

- **National Park Service**
  www.nps.gov/articles/000/guidelines-on-flood-adaptation-for-rehabilitating-historic-buildings.htm
  Provides information on protecting and making repairs of historic buildings after a flood.

Insurance

- **National Association of Insurance Commissioners**
  content.naic.org/
  Provides a listing of Insurance Department contacts in each state. Also information on flood insurance.
- **National Flood Insurance Program**
  www.fema.gov/flood-insurance
- **Floodsmart**
  www.floodsmart.gov/
  FEMA's easy-to-use website on flood insurance, policy information, agent contacts, before-and-after flood advice, etc.

Low Interest Loans to Property Owners

- **U.S. Small Business Administration**
  www.sba.gov
  The U.S. Small Business Administration (SBA) provides low-interest disaster loans to repair or replace real estate, personal property, machinery & equipment, inventory, and business assets that have been damaged or destroyed in a declared disaster. View SBA's website for more information on low-interest loans.

Mental Health, Elderly, and Disabilities

- **Center for Disease Control and Prevention (CDC)**
  www.cdc.gov/disasters/floods/index. html
  Provides guidance on flood recovery, health concerns, clean up, and returning home after a flood.
- **American Psychiatric Association**
  www.psychiatry.org/patients-families/coping-after-disaster-trauma
  Expert guidance and advice on coping after a disaster.

Taxes

- **US Department of Revenue**
  www.cdc.gov/disasters/floods/index. html
  Includes information on tax relief after a disaster as well as a current listing of state disaster relief programs and policies.

This booklet may be downloaded from the
Association of State Floodplain Managers (ASFPM)
www.floods.org/
or
National Emergency Management Association (NEMA)
www.nemaweb.org/