Hurricane Sandy Road to Recovery: A New York Homeowner's Guide





Be Informed









Should I repair, rebuild or relocate?

This guide is designed to inform you of options and empower you with available resources that can help as you make critical decisions about how to recover from Hurricane Sandy. The choices you make today can help protect your family and your property from flood risk in the future.

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Be Informed

Homeowners understand the basics as they consider how to build back safer and stronger



Each situation is unique and recovery will not look the same for everyone. Only you can make the best choices for how to protect your family and property. This guide is not intended to make recovery decisions for you, but to provide information about mitigation ideas and resources you may wish to pursue and apply to your situation. Recovery is an important process. We encourage you to invest the time needed to understand your options and make informed decisions.

<u>Step 1.</u> Contact your insurance company. File a claim with your homeowners and flood insurance agents.

<u>Step 2.</u> Register for FEMA assistance.

Apply online at <u>www.disasterassistance.gov</u> or call 800-621-3362 (for people with speech or hearing disabilities, call 800-462-7585). Your application will be evaluated to see if you qualify for assistance to address immediate needs not covered by insurance, such as temporary housing and certain repairs for your primary residence.

<u>Step 3.</u> Submit a Small Business Administration (SBA) disaster loan

application. Do not assume you don't qualify. Submit your SBA application anyway. Not completing this step halts the assistance process and may exclude you from additional federal aid. *Apply and let let SBA decide if you are eligible!* Apply at <u>https://DisasterLoan.SBA.gov/ELA</u>.

Qualified applicants may also receive up to 20% of the value of the loss to help pay for mitigation improvements that will protect the property from future damage of similar disasters.

<u>Step 4.</u> Talk to your floodplain manager or local official about various grant opportunities from the State, FEMA and other federal agencies. The grant process takes time and funding is limited. Talk with your floodplain manager if you are considering mitigation projects such as a buyout or elevating your structure. To locate your community floodplain manager, you may contact your local planning or building department. You may also check with your local officials.

Where can I find money to help me repair and rebuild?

FEMA assistance is just one of the many resources available to help individuals recover after a disaster; however, it is not intended to fully restore damaged homes or belongings to their pre-disaster conditions. Therefore, it is important to pursue all possible funding sources to maximize the assistance you may be eligible to receive for help with the costs of recovering.

Everyone's talking about substantial damage. What is it and why is it so important?

Substantial damage is a formal determination, made by your local floodplain manager, that the cost to repair your flooded building to its "before damage" condition would be 50% or more of the market value of the structure before the damage occurred. Property owners who have insurance will receive estimates of damage from their insurance companies. This is different than a substantial damage determination because insurance estimates may not cover all the costs associated with repairing a structure to its pre-damage condition. Only the community floodplain manager can officially determine whether your property is substantially damaged.

If your building has been repeatedly and/or severely damaged by flooding, your community floodplain ordinances or state building codes may require that you rebuild to certain heights and/or using specific methods. Complying with building and flood codes can reduce your risk to future flood loss and save money on flood insurance premiums. Contact your community's floodplain manager to request a substantial damage determination and find out if there are any requirements for rebuilding.



What's my flood risk?

Flood risk changes over time as conditions in a community change, and a change in flood risk can have significant impacts on recovery efforts and flood insurance costs. Before Hurricane Sandy, FEMA started a study to update **Flood Insurance Rate Maps** (FIRMs) for New York and New Jersey coastlines using improved methods that more precisely reflect the current flood risk. Beginning in January 2013, FEMA released Advisory Base Flood Elevation (ABFE) maps for certain areas affected by Hurricane Sandy to help citizens understand the changes in their flood risk and have the best information available as they make decisions about how to rebuild safer and stronger.

In a few years, new FIRMs will be released that incorporate and refine this ABFE data. The elevations and zones on the new FIRM will affect both building requirements and flood insurance premiums. The ABFEs can help you make rebuilding decisions that can reduce the many costs associated with flood risk, both now and in the future.

<u>Step 1.</u> Find out the current flood risk for your property. Visit the 'What is My ABFE?' tool on <u>www.region2coastal.com/sandy/table</u> and enter your address into the lookup field to determine your flood risk. Be sure to write down the answers ("Attribute Value") to the following questions:

our address here: Queens, NY	Get Details	Clear Details
imate Address Identified: N/A		
Minush	Norwalk	Map Satellite
Streudsburg	Stamford,	Har
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Bethlehem E-zabeth New York	a barren	
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Quakertown New Island		
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dvisory Base Flood Elevation Information his information is for advisory purposes for rebuilding activ	we The other second	Same Advances
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Attribute Name	Att	tribute Value
		the second s
VII Advisory Base Flood Elevation be available for my property?	N/A	
What is my property's Advisory Base Flood Elevation (ABFE)	N/A	
what is my property's Advisory base Flood Elevation (ABFL)	N/A	
Vhat is my property's Advisory Flood Zone	N/A	
0		
s my Property in the Area of Moderate Wave Action	N/A	
Vhat does my ABFE Map Look Like	N/A	1
few your property on our Interactive Web Tool	N/A	
Where can I get the GIS data for my property area?	N/A	
vnere can i get the uis bata for my property area:	N/A	
fective Flood Insurance Data		
his information is from the effective Flood Insurance Rate I	lap for your commun	ity. It is used to
stermine who must buy flood insurance and how much it co	osts. It is also used by	your community
regulate development in flood prone areas.		
Attribute Name	Att	tribute Value
	N/A	
Vhat is my property's current effective Base Flood Bevation?		
Nat is my property's current effective Base Flood Bevation.	N/A	1

What is the current effective flood zone for my property?
 What is the current effective flood elevation for my property?
 What is the new advisory flood zone for my property?
 What is the new advisory flood elevation for my property?
 Is my property subject to moderate wave action?

<u>Step 2.</u> Find out the elevation of your home before it was damaged to determine how safe your home is from the current flood risk. This information can be found on an Elevation Certificate, in Section C. If you do not have an Elevation Certificate, check with your community or insurance company to see if they have a copy on file; or you may need to hire a licensed engineer or land surveyor to determine this information.

1.	Top of bottom floor (including basement, crawlspace, or enclosed floor):	feet (see C2.a)
2.	Bottom of the lowest horizontal structural member (V Zones only):	feet (see C2.c)
3.	Lowest elevation of machinery or equipment servicing the building:	feet (see C2.e)
4.	Lowest adjacent (finished) grade next to building (LAG):	feet (see C2.f)

Note: If the elevations from the Elevation Certificate are listed in vertical datum NGVD29, they will need to be converted to vertical datum NAVD88 to ensure accurate comparison with the effective and advisory information provided by the "What is My ABFE?" tool. For more information on datum conversions and a link to an online tool to convert your elevations to NAVD88, read the Vertical Datum Fact Sheet.

How is my flood risk related to flood insurance?

If your building is located in a high flood risk area, known as a Special Flood Hazard Area (SFHA) on a FIRM and commonly referred to as a floodplain, you may be required to have flood insurance. Flood insurance policies are rated using the zones and flood elevations on the current effective FIRM. When new FIRMS show an increase in flood elevations and zones, insurance costs may be a lot higher for structures that are below the new flood elevation level.



Under a new Federal law passed in 2012, flood insurance premium rates on many properties in high risk areas will go up significantly. If you rebuild to pre-flood levels, your insurance premium could increase dramatically in the future. You may, however, be able to reduce your premium if you build your home or business to be safer, higher and stronger.

ABFE maps represent the most up-to-date assessment of the current flood risk and are a good representation of what the elevations will be on the new FIRMs. Building to or above the ABFE, and using the appropriate construction methods for the type of zone can save money on flood insurance now as well as keep insurance costs from getting much higher when new FIRMs are issued. Over time, it is possible that flood risk will continue to rise, so property owners may want to consider adding an additional factor of safety to the advisory information. Before starting any rebuilding projects, homeowners should check with their local building officials to fully understand the requirements for using ABFEs.

Does my flood risk require me to rebuild in a certain way?

Rebuilding homes after a disaster presents an opportunity to incorporate techniques to prevent future disaster damages. Elevating your home's lowest floor above the ABFE or the Base Flood Elevation (BFE) shown on your community's effective FIRM (whichever is higher) is a good idea because it can lower flood insurance premiums and provide protection against increased future flood levels. Your community or state may also require you to rebuild to certain elevations or using special methods. For example, people living in Advisory Zone V are subject to more stringent building requirements than other zones because the area is subject to high velocity wave action.

After a disaster, states may apply for FEMA funding through the Hazard Mitigation Grant Program to help with the costs of rebuilding safer and stronger. State and local communities prioritize projects, which must meet the elevation and zone standards depicted on the ABFE maps.

You are required to build in compliance with your community's floodplain codes if:

- your home was substantially damaged.
- your home is substantially improved during rebuilding and recovery.

Additional Considerations:

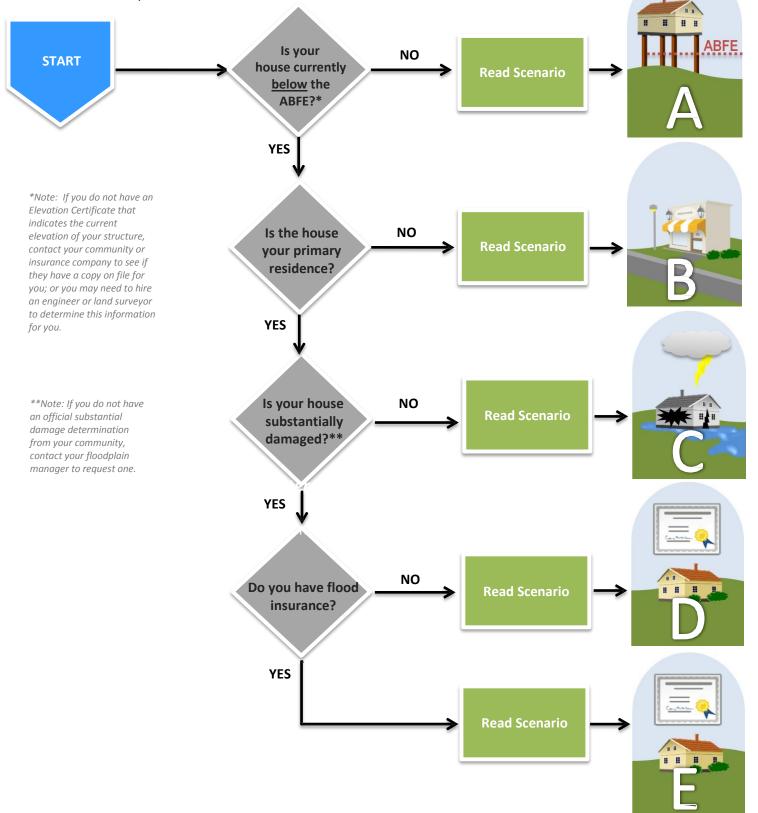
- If your state or municipality has a freeboard requirement or other flood zone building requirements, you may have to build higher or use special methods.
- If the ABFE map shows that your structure is located within advisory **Zone A** or **Zone V**, which are subject to wave action, FEMA recommends using special construction standards (talk with your floodplain manager or read the Coastal Construction Manual in the Recovery Resources section).



Before building, contact your floodplain manager and building officials to determine the mandatory elevations, any construction requirements for your home or building, and all the permits you need. Starting construction before getting all permits may limit sources to help offset costs of rebuilding. Be Empowered

Homeowners empowered with tools and resources to make informed decisions

Many property owners who experienced damage or loss from Hurricane Sandy are now faced with difficult decisions about when, if and how they should rebuild. The following four scenarios are offered to help illustrate various circumstances in which property owners may find themselves and to identify key considerations. Follow the flow chart below to determine which scenario is most similar to your situation, and read about the tools and resources that empower these homeowners to make informed decisions about their risk.



Residential Structure Already At or Above the ABFE

Todd's story

Todd is a retired high school teacher whose coastal home was damaged by Hurricane Sandy's strong winds and rain: the roof lost several shingles, plus the air conditioning unit and the foundation were damaged by floodwaters. Fortunately, Todd's insurance coverage will help pay for most of the damage. Todd has been saving money to move into a retirement community within the next five years; but with a deductible and other repairs to be made, he fears his plans may have to be changed.

While he is glad to learn that his home's first floor elevation already exceeds the ABFE and he won't have to raise his house any more to meet his community's flood codes, he's curious about other mitigation actions that could decrease the risk of future flood damage. He thinks such actions may increase his home's value and attractiveness to potential future buyers.

If Todd qualifies for an SBA loan, he'll be required to maintain flood insurance on his house. Fortunately, as a result of being built above the ABFE, Todd enjoys a low premium now and won't see a significant increase in his premium when the new FIRMs are issued.

Before rebuilding, contact the local floodplain manager and building codes officers to determine any construction requirements or mandatory permits. Todd's Next Steps:

- 1. Todd plans to talk with his local floodplain manager about elevating his utilities to keep them safe from flooding in the future.
- Todd submitted an application for a low-interest Small Business Administration loan to help cover the costs of repairs. Todd has heard about the possibility of increasing an SBA loan by 20% of his verified loss to help pay for mitigation activities, and plans to ask an SBA representative about this option.
- 3. After completing all mitigation improvements to his home, Todd intends to call his insurance agent to ensure he has the best premium rating possible.

Tell Your Story: (capturing these details will aid you on the road to recovery)

• Write down your repair estimate and describe the damage involved:

\$_____

For more information on mitigation ideas to protect homes or properties, read FEMA publication P-805, "Protecting Your Home and Property From Flood Damage" (http://www.fema.gov/library/view Record.do?id=4654)

• List any actions you have considered to reduce your vulnerability to flooding:

A

Secondary/Non-Primary Residence, Below ABFE

Katie's story

B

Five years ago, Katie inherited her grandmother's 2-bedroom ranch-style home. After some minor updates, she began renting the 40-year-old house to a couple who needed a home without stairs, and she put the rental income towards her startup bakery business, "Katie's Kupcakes." Unfortunately, Hurricane Sandy severely flooded Katie's rental property. Since Katie's grandmother hadn't experienced any flooding in the 15 years she had lived there, Katie hadn't thought to purchase a flood insurance policy for the house. Now Katie is faced with making major repairs and may have to meet new building codes as well. Katie isn't sure she can afford to make repairs to the rental property as well as her own primary residence while continuing to run her business. She thinks she might just have to sell the property, but wants to fully understand what her options are and what financial assistance may be available before making any decisions.

If Katie uses any federal funding to assist in rebuilding her rental property, she will likely be required to carry flood insurance on the home.

Rebuilding to pre-hurricane damage standards would leave Katie's property vulnerable to future flooding, and potentially expose her to steep flood insurance premiums now and when new Flood Insurance Rate Maps are issued for her community.

A homeowner should talk to their floodplain manager and flood insurance agent about the Increased Cost of Compliance benefit to help pay for elevating, relocating, retrofitting or demolishing the home, if:

- they have a flood insurance policy,
- the home is determined to be "substantially damaged," and
- the home does not currently comply with the community's flood codes.

Before building, contact the community floodplain manager and building codes officer to determine any construction requirements or mandatory permits.

Katie's Next Steps:

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- 1. Though financial assistance is often limited for non-primary residences, Katie still plans to register at <u>www.disasterassistance.gov</u> and submit an SBA loan application. She'll also ask an SBA representative about the possibility of loan assistance to help pay for mitigation activities, like elevating the home to protect it from future flood damage.
- 2. Katie has made an appointment with her community floodplain manager to get an official substantial damage determination and talk about flood risk mitigation options for her rental property plus any building code requirements or permits she may need if she decides to rebuild.
- 3. Katie learned about FEMA's Hazard Mitigation Grant Program. She intends to ask her community floodplain manager for more information about these programs, and the potential for a community buy-out or financial assistance to elevate or relocate her rental property.
- 4. Katie also plans to research reliable architects and builders and get several estimates to understand what it would cost to rebuild to the ABFE standards.

Tell Your Story: (capturing these details will aid you on the road to recovery)

• Write down your repair estimate and describe the damage involved:

• List any actions you have considered to reduce your vulnerability to flooding:

Primary Residence, Below ABFE, Not Substantially Damaged

Matt's story

Matt works as a general contractor for a home construction company in his hometown. He did his best to prepare for Hurricane Sandy and got right to work afterwards fixing and improving his home. However, a few weeks later Matt heard from his local community officials that new advisory flood maps were released by FEMA. Matt met with his floodplain manager and learned that his crawl-space home is now located in a V zone (area subject to wave action) and should be elevated a minimum of 5 feet above ground using special methods. He also learned that his home is not substantially damaged, so he is not required to rebuild to the advisory elevation or use V zone methods. Matt is concerned, however, about the increased risk to his property and the possibility of higher flood insurance costs if he rebuilds using different elevation standards than the ABFE maps. He has to decide if he wants to build higher and/or use V zone construction standards.

Before building, contact the community floodplain manager and building codes officer to determine any construction requirements or mandatory permits.

Matt should apply for all forms of financial assistance, including FEMA's disaster assistance, flood insurance (if he has a policy), and an SBA disaster loan for homeowners.

If Matt chooses to elevate his home, he may want to build higher than the ABFE so the open space below the first floor is tall enough to use for parking.

If Matt uses any federal funding to assist in rebuilding his home, he will likely be required to carry flood insurance.

Matt could also talk with his floodplain manager for details about a HMGP grant to help elevate his home. However, HMGP can be a lengthy process, so Matt would have to decide if he's willing to wait to start his elevation project.

Matt's Next Steps:

- 1. Matt plans to talk with a few structural engineers to determine whether his property is structurally sound and can be elevated on posts, piers or pilings.
- 2. Matt will also get written estimates from some of the builders in town to compare the cost of elevating to or above the ABFE on pilings, versus elevating on cinder blocks with lattice work. He will use this information to weigh the immediate costs of elevating his home against the future costs of paying a higher rate for flood insurance if he doesn't elevate.
- 3. Matt is researching additional flood risk mitigation ideas that he could incorporate in his rebuilding efforts to further safeguard his home.
- 4. Matt submitted an SBA Loan application to help with repairs. He also plans to talk with a representative about the possibility of extra money to help pay for mitigation activities, as well as the potential to refinance his mortgage at a lower rate by consolidating it with the SBA loan.

Tell Your Story: (capturing these details will aid you on the road to recovery)

Write down your repair estimate and describe the damage involved:
 \$

• List any actions you have considered to reduce your vulnerability to flooding:

Primary Residence, Below ABFE, Substantially Damaged, Without Flood Insurance

Ed's story

Ed has lived near the beach for most of his adult life, and he and his two-story bungalow have been through many storms together. No storm, however, was as devastating as Hurricane Sandy. Ed's home was severely damaged and he lost most of his possessions, including his furniture, keepsakes, and car. Local officials determined that Ed's bungalow is so damaged that it must be demolished. If he builds a new house, he must be sure the house is properly constructed and elevated to the new ABFE adopted by the city. Ed's neighbors have encouraged Ed to rebuild his bungalow and his life.

However, Ed is not so sure – he doesn't know if he has the heart to start over in the same place with so much missing, and he feels like a major part of his life has been washed away. Ed must decide whether to rebuild higher and stary in his hometown, or sell his land and start over elsewhere. Thanks to the housing assistance Ed is receiving from FEMA, he has a safe place to live while he researches and considers his options.

Ed should also ask his SBA loan officer about other options through SBA, such as refinancing and using a disaster loan to relocate to a new neighborhood.

If Ed decides to rebuild, he may be able to increase the amount of his SBA loans to pay for additional mitigation actions, like elevating utilities or installing hurricane shutters.

Ed is setting up meetings with a couple home builders to talk about costs for building a new home. Ed is also working with a realtor to look at other homes for sale nearby.

If Ed accepts a disaster loan, he may be required to purchase and maintain flood insurance on the damaged or collateral

property for the life of the loan. A home that is elevated to or above the ABFE will not only provide protection from future flood damage, but also help keep Ed's flood insurance premiums lower.

Ed's Next Steps:

- 1. Ed is submitting an application to SBA to see if he qualifies for a low-interest loan to cover costs of demolishing his bungalow and building a new house in compliance with the ABFE map. He also hopes to qualify for money he can use to replace personal property that was damaged, like his car.
- 2. Ed is getting estimates from several contractors for the cost of demolishing his house.
- 3. Ed is setting up meetings with a couple home builders to talk about costs for building a new home. Ed is also working with a realtor to look at other homes for sale nearby.
- 4. Ed is meeting with his floodplain manager and building codes officer to determine any construction requirements or needed permits if he decides to build a new home. Ed is also getting information from his floodplain manager about the possibility of a buy-out from the community through FEMA's HMGP grants.

Tell Your Story: (capturing these details will aid you on the road to recovery)

- Write down your repair estimate and describe the damage involved:
 - \$_____
 - List any actions you have considered to reduce your vulnerability to flooding:

Primary Residence, Below ABFE, Substantially Damaged, With Flood Insurance

Mary's story

Mary is an urgent care nurse at a local hospital, which serves an area that was significantly affected by Hurricane Sandy. Mary was working at the time Sandy made landfall, caring for storm victims that poured into the hospital. Unfortunately, at the same time, water was pouring into her primary residence which sits two blocks from the beach. Floodwaters rose at least three feet high in the first floor. While Mary stayed in a hotel waiting until it was safe to return to her home to view the damage, she registered for assistance with FEMA and called her flood insurance agent to file a claim. In addition to the interior damage to the home, the exterior had lost most of its siding and windows due to strong waves and winds. Mary's community floodplain manager determined her home is "substantially damaged," which means she is required to rebuild to the ABFE standards adopted by her community. Mary is researching all her options and the resources available before making any decisions.

Mary's Next Steps:

Mary may qualify for additional money from SBA to pay for other mitigation activities to protect her home in the future, such as elevating utilities, using waterresistant materials for rebuilding, or installing hurricane shutters and roof tie-downs.

If Mary decides to elevate or rebuild, she should consider researching additional mitigation activities that can be included in the project.

Before building, contact the community floodplain manager and building codes officer to determine any construction requirements or mandatory permits.

If Mary qualifies for a low-interest SBA loan, she doesn't have to accept the loan right away. She has time to talk with her floodplain manager and see if there are other options like HMGP. Mary should discuss her situation with her SBA loan officer and ask about all the options and possibilities the SBA disaster loan program can offer her.

- 1. Mary will send the official substantial damage letter to her flood insurance company and file a claim for additional money under the Increased Cost of Compliance benefit of her flood insurance policy.
- 2. Mary will also submit the SBA loan application to see if she qualifies for a lowinterest loan to pay for repairs and the cost of bringing her current home to recommended ABFE levels.
- 3. Mary has an appointment to talk with her floodplain manager to determine how high she has to rebuild and if there are any special construction techniques required to protect her home from wave damage, like building on posts, piers or pilings.
- 4. She will also ask her floodplain manager about elevating, relocating and buy-out options through HMGP, which can be a lengthy process.
- 5. Mary plans to have a structural engineer inspect her home and determine if it is safe to elevate or relocate the home.
- 6. Mary will get written estimates from several builders for:
 - a. the cost of completing repairs and elevating to or above the ABFE on pilings;
 - b. the cost of completing repairs and relocating the home to another site; c. the cost of demolishing the home and constructing a new home. Mary will use this information to help her decide if she wants to elevate,

relocate, demolish and reconstruct, or sell her property to the community or another buyer.

Your Story: (capturing these details will aid you on the road to recovery)

- Write down your repair estimate and describe the damage involved:
- List any actions you have considered to reduce your vulnerability to flooding:



Take Action

Homeowners research and document the steps they will personally take to rebuild safer and stronger, and reduce their risk of future flood damage

Recovery Action Checklist

- □ File claim and register for various assistance:
 - □ File Flood Insurance Claim (Claim Check Amount: \$_____)
 - □ Apply for FEMA Assistance (www.disasterassistance.gov)
 - □ Submit SBA loan application (Approved Loan Amount: \$_____)
 - Application available online at https://DisasterLoan.SBA.gov/ELA
 - □ Ask SBA Rep about extra 20% for mitigation (additional amount: \$_____)
 - □ Ask SBA Rep about consolidation/refinancing
 - □ For more information, call 800-659-2955
- □ Talk to your Floodplain Manager and Building Official about:
 - □ Substantial damage determination
 - □ Resources and mitigation ideas I am interested in:

Resources

Mitigation Ideas

Increased Cost of Compliance coverage through flood insurance	Elevating structure or utilities and equipment
Hazard Mitigation Grant Program	Relocation
SBA Disaster Loan	Acquisition/Buy-out
Other:	Other:
Other:	Other:
Other:	Other:

Renters - did you know?

With the exception of elevating your home, all recovery resources may apply for renters, as well as homeowners.

Ideas to Rebuild Safer & Stronger



Before beginning a project, talk with your community floodplain manager and building code official about local, state or federal requirements and permits, as well as possible funding options. You may need special permits if you are receiving federal funds to complete a mitigation project.

Damage to	Mitigation Ideas
Equipment, such as: furnace/air conditioner, water heater, washer/dryer, refrigerator/freezer Electrical	 Elevate and anchor equipment to or above the Base Flood Elevation or Advisory Base Flood Elevation so it won't be swept away in flood waters Relocate equipment to a higher floor to prevent water damage Replace a basement updraft furnace with a downdraft furnace on an upper floor Place heavy appliances on raised platforms Move the main breaker or fuse box and utility meters at least 12" above the Base Flood Elevation or Advisory Base Flood Elevation for your house If the electrical code allows, raise the electrical outlets and switches above the flood level
Walls and Baseboards	 Consider metal studs and sills as they are less damaged by water than wooden ones Use synthetic baseboards <i>instead</i> of wood baseboards
Floors	 Consider using water-resistant materials, such as sheet vinyl flooring or tile Floor joists and some wood floors regain their shape when naturally dried. Particle board or plywood falls apart when wet for lengthy periods Use galvanized screws or screw nails on floors and stairs to minimize warping and rusting
Insulation	 Use rigid (closed-cell) insulation instead of fiber-glass insulation. It will not deform or lose its insulation properties when wet and can be dried out and reinstalled in wall/floor cavities
Windows and Doors	 Replace flood damaged windows with vinyl or metal framed windows Hollow core or polystyrene foam filled metal doors are water resistant. These materials will not warp if saturated Install permanent storm/hurricane shutters for windows
Exterior and Roof	 Consider using water-resistant materials, such as vinyl siding, brick and concrete (in conjunction with a water-proof membrane), plastic wood, and marine plywood Reinforce your garage doors; if wind enters a garage it can cause dangerous and expensive structural damage Securely fasten your roof to the frame structure by Installing straps or additional clips
Structure	 Elevate - Most types of homes can be elevated above floodwaters as a reliable method of reducing risk. Elevation requirements vary with local codes and ordinances. Some buildings may be elevated high enough for the new lower level to serve as a garage. It is important that the elevation be structurally designed to withstand lateral (sideways) forces like fast-flowing currents and the impact of waterborne debris. Additionally, buildings in flood zones that are subject to wave action must be designed to be structurally able to withstand lateral (sideways) forces like fast-flowing currents debris Relocate - It is possible, and sometimes necessary, to move your house to a new location outside the floodplain. Moving your home out of the floodplain area is the surest way to
Plumbing/Sewer	protect it and your family from flood damage, but it can be costly
Fidilibilig/ Sewer	 For sump pumps, install one-way valves that will not allow water to flow back into the discharge hose or pipe To prevent sewage backup during a flood, install a backflow valve in the sewer line Install a floor drain plug with a float to stop sewer backup but still allow water to drain from the house. <i>Caution! – In older houses, the sewer lines under the basement floor may be clay tile. A buildup of water pressure can damage the sewer lines.</i>

Recovery Resources

FEMA: www.fema.gov
General Disaster Assistance
http://www.fema.gov/sandy
Hurricane Sandy Mitigation Resources
http://www.fema.gov/region-vi/hurricane-sandy-mitigation-resources
Individual Assistance and Housing Program
http://www.fema.gov/help-after-disaster
Flood Risk and ABFE information: www.region2coastal.com
Hurricane Sandy ABFE Homepage
http://www.region2coastal.com/sandy/abfe
ABFE Fact Sheet
http://www.region2coastal.com/Sandy_ABFE_Fact_Sheet.pdf
ABFE Frequently Asked Questions
http://www.region2coastal.com/faqs/advisory-bfe-faq
"What Is My ABFE?" Tool
http://www.region2coastal.com/sandy/table
ABFE Interactive Geo Portal
http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=2f0a884bfb434d76af8c15c26541a545
FEMA GeoPortal ABFE Quick Start Guide
http://184.72.33.183/Public/Public_Documents/FEMA_GeoPortal_ABFE_Map_Quick_Reference.pdf
Toolkit for Property Owners
http://www.region2coastal.com/sandy/abfe/property_owners
Effective Flood Insurance Rate Maps via FEMA's Map Service Center
https://msc.fema.gov
Overview of the Elevation Certificate video tutorials
http://www.h2opartnersusa.com/ec-made-ez/
Flood Insurance: www.floodsmart.gov
Increased Cost of Compliance
http://www.fema.gov/library/viewRecord.do?id=3010
http://www.fema.gov/national-flood-insurance-program-2/increased-cost-compliance-coverage
Changes In Flood Insurance: Considerations for Rebuilding
http://184.72.33.183/Public/Public_Documents/Changes%20in%20the%20Flood%20Insurance%20Program%
20Early%20Considerations%20for%20Rebuilding.pdf
Flood Insurance Requirements for Recipients of Disaster Assistance
http://www.fema.gov/library/viewRecord.do?id=3323
Answers to Questions about the National Flood Insurance Program (NFIP)
http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=1404
NFIP Summary of Coverage
http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=3011
Myths and Facts About the NFIP
http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=3002

Mitigation: Rebuilding Safer and Stronger <u>http://www.fema.gov/building-science/</u>
Brochures, Fact Sheets, Flyers and websites
Hurricane Sandy Building Sciences Resources Page
http://www.fema.gov/building-science/hurricane-sandy-building-science-activities-resources
Building Safer and Stronger Pays Off
http://184.72.33.183/Public/Public_Documents/Rebuilding%20After%20Hurricane%20Sandy_Building%20Saf
er%20and%20Stronger%20Pays%20Off.pdf
Build Back Safer and Stronger: What You Need to Know
http://184.72.33.183/Public/Public_Documents/Build_Back_Fact_Sheet.pdf
Protecting Your Home and Property From Flood Damage (FEMA P-805)
http://www.fema.gov/library/viewRecord.do?id=4654
Recommended Residential Construction for Coastal Areas: Building on Strong and Safe Foundations
(FEMA P-550)
http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=1853
Coastal Construction Manual (FEMA P-55)
http://www.fema.gov/residential-coastal-construction#1
Home Builder's Guide to Coastal Construction (Fact Sheet Series) (FEMA P-499)
http://www.fema.gov/technology-transfer/home-builders-guide-coastal-construction-technical-fact-sheet-
series-fema-p-499
Homeowner's Guide to Retrofitting (FEMA P-85)
http://www.fema.gov/library/viewRecord.do?id=1420
Protecting Building Utilities from Flood Damage (FEMA P-348)
http://www.fema.gov/library/viewRecord.do?id=1750
Wind Retrofit Guide for Residential Buildings (FEMA P-804)
http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=4569
Frequently Asked Questions (Building Science)
http://www.fema.gov/frequently-asked-questions#F1
Avoiding Hurricane Damage: Checklist for Homeowners
http://www.fema.gov/library/viewRecord.do?id=3340
Coastal Barrier Resources Act (CBRA) Fact Sheet
http://www.fema.gov/library/viewRecord.do?id=3818
Best Practices
Mantoloking Home Survives Sandy
http://www.fema.gov/mitigationbp/brief.do?mitssId=9811
Mitigation Utilities in Older Home Prevents Damage
http://www.fema.gov/mitigationbp/brief.do;jsessionid=56133B96371948BEC27E76DB1B5AFDFC.WorkerPubl
ic3?mitssId=9852
Owner-Elevated Dwelling Avoids Repetitive Flood Damage
http://www.fema.gov/mitigationbp/brief.do?mitssId=9191
Decision to Elevate Home Avoids Subsequent Disastrous Flooding
http://www.fema.gov/mitigationbp/brief.do?mitssId=9151
Furnace Elevation to Prevent Future Damage
http://www.fema.gov/mitigationbp/brief.do?mitssId=3825

Resources for Funding

Note: The links below provide general information on funding distributed to local communities and States. Interested individuals should contact their community or State officials to determine application requirements.

FEMA Hazard Mitigation Assistance Programs

http://www.fema.gov/hazard-mitigation-assistance

HOME Investment Partnership

http://portal.hud.gov/hudportal/HUD?src=/hudprograms/home-program

This document was developed by FEMA to assist homeowners living in areas affected by Hurricane Sandy.