

Nine Steps to Build Back Smarter

Call in number: 605/475-4800
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www.NHMA.info




Nine Steps to Build Back Smarter

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- ✓ **Call in number: 605/475-4800**
- ✓ **Access Code: 1025264#**
- ✓ **Mute phones - *6**
- ✓ **1 CFM CEC – e-mail us if you want it**





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Submit questions via the webinar tool


- ✓ **Go to the orange arrow, upper right corner of your screen**
- ✓ **Click it to see the menu**
- ✓ **Click the “+” at “Questions”**
- ✓ **Enter your question**
- ✓ **We’ll check the questions periodically**
- ✓ **There will be an open questions time at the end**




The Setting:
People are:
 ✓ **Shocked**




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The Setting:
People are:
 ✓ **Shocked**
 ✓ **Weakened**




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The Setting:

People are:

- ✓ Shocked
- ✓ Weakened
- ✓ Short on money




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The Setting:

People are:

- ✓ Shocked
- ✓ Weakened
- ✓ Short on money
- ✓ Prone to blame their government




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The Setting:

People are:

- ✓ Shocked
- ✓ Weakened
- ✓ Short on money
- ✓ Prone to blame their government
- ✓ Want to get back to normal




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The Setting:

- ✓ Normal means continued exposure to the same hazard
- ✓ Nobody wants to do it again
- ✓ Seize the opportunity for a new message: "Build back smarter"



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Building Back Safer & Smarter

Missouri Family was an early, heroic owner. The family went to all our neighbors who have suffered losses and continue to suffer now.

Behind the loss of life and property, the impact of Missouri Family can be measured in terms of dollars and cents. The family's loss was a loss of life and property. The family's loss was a loss of life and property. The family's loss was a loss of life and property.

Build Back Safer and Smarter

The National Hazard Mitigation Association recommends a nine-step process prepared for the next disaster. This website provides more background information for the next one. Many can be done concurrently. It is recommended that you take each step, assign people to implement them, and coordinate progress.

Step 1: Know the risks. The City of Conway, South Carolina, followed an earlier version of this in 1995. The following pages include links to the materials prepared by the City of Conway.

Click here for a PDF copy of the basic nine-step paper prepared for Conway for a PDF copy of a nine-page summary for decision makers.

Step 1: Know the risks

www.NHMA.info/Sandy

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Building Back Safer & Smarter

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Missouri Family had the strength to challenge all of us to "build back smarter." The National Hazard Mitigation Association recommends that affected residents and communities throughout the United States take steps to build back safer, stronger, and more resilient. We can, and should, rebuild in a way that makes us more resilient to future disasters. We can, and should, rebuild in a way that makes us more resilient to future disasters.

Step 1: Know the risks. Most communities have adopted building codes that require reconstruction to meet current standards, not building standards that pre-date flood, wind, earthquakes, and other natural forces. These codes cannot be ignored and must be updated to protect people from the next disaster.

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In some cases following the devastation wrought by hurricanes and floods, community leaders did not rush to return to normal. They stopped and thought about a smarter course. They developed plans to mitigate the effects of future hazard events. Lively discussions are now taking

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Messages:

- ✓ Stop and think
- ✓ It will happen again
- ✓ Don't rush to rebuild before you have a good plan
- ✓ Seize the chance to mitigate

Nine steps to guide stopping and thinking

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Step 1: Know the rules

- ✓ Building codes
- ✓ NFIP floodplain management regulations
 - ✓ A building in the Special Flood Hazard Area
 - ✓ Damaged (regardless of the cause of damage)
 - ✓ Where cost of repair \geq 50% of building value = a substantially damaged building
- ✓ A substantially damaged building must meet new construction standards

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Step 1: Know the rules

- ✓ A substantially damaged building must meet new construction standards

Minimum requirement:

- ✓ Evaluate all damaged buildings
- ✓ Buys time to stop and think
- ✓ Ensures some mitigation will be implemented

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Build Back Safer and Smarter

Comment

Administering the substantial damage rule is discussed in [Step 6](#).

Resources

- The basic requirements of the National Flood Insurance Program are reviewed in FEMA's Floodplain Management Reference, FEMA 400. [Link 8 introduces the substantial damage rules.](#)
- Since FEMA 400 was written, FEMA has refined the substantial damage software.
- FEMA will likely hold training classes and provide technical assistance to communities using the substantial damage software.

The City of Conway realized its obligation to FEMA as a participant in the National Flood Insurance Program. Meeting these rules was both a priority of the City and a helpful tool to motivate people to think about mitigating and rebuilding differently. See Section 1 in Conway's Mitigation Commitment Resolution.

Next - Step 2: Adopt higher redevelopment standards

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Step 1: Know the rules

Conway

WHEREAS, the floodplain ordinance of the City requires substantially damaged residences to be either elevated or demolished and either option can place a hardship upon the owners;

It is the policy of the City of Conway to:

1. Keep the City in good standing in the National Flood Insurance Program to ensure that all residents can obtain financial assistance and flood insurance to protect their properties from flood damage;

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Step 2: Adopt higher standards

- ✓ A substantially damaged building must meet current construction standards

Are they good enough?

The world is changing

Flood protection to old study's 100-year flood level

Variety of higher possible standards

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Step 2: Adopt higher standards

Variety of higher possible standards

- ✓ Advisory base flood elevations



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Step 2: Adopt higher standards

Variety of higher possible standards

- ✓ Advisory base flood elevations
- ✓ Freeboard



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New Hampshire Marine Insurance Association

Step 2: Adopt higher standards

Variety of higher possible standards

- ✓ Advisory base flood elevations
- ✓ Freeboard
- ✓ Enclosure limits



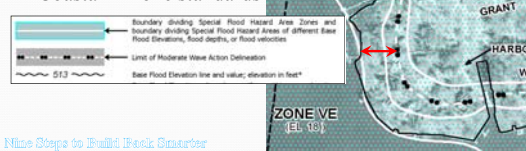
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New Hampshire Marine Insurance Association

Step 2: Adopt higher standards

Variety of higher possible standards

- ✓ Advisory base flood elevations
- ✓ Freeboard
- ✓ Enclosure limits
- ✓ Coastal A Zone standards



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Step 2: Adopt higher standards

Variety of higher possible standards

- ✓ Advisory base flood elevations
- ✓ Freeboard
- ✓ Enclosure limits
- ✓ Coastal A Zone standards
- ✓ Zoning for the hazard



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New Hampshire Marine Insurance Association

Step 2: Adopt higher standards

Variety of higher possible standards

- ✓ Advisory base flood elevations
- ✓ Freeboard
- ✓ Enclosure limits
- ✓ Coastal A Zone standards
- ✓ Zoning for the hazard
- ✓ Others



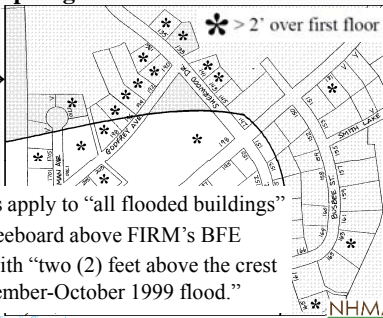
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New Hampshire Marine Insurance Association

Step 2: Adopt higher standards

Conway

SFHA →



- ✓ Regulations apply to “all flooded buildings”
- ✓ One foot freeboard above FIRM’s BFE
Replaced with “two (2) feet above the crest of the September-October 1999 flood.”

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New Hampshire Flood Mitigation Association

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Step 3: Commit to mitigate

Formal, public statement

- ✓ Objective is to make things better
- ✓ Explain the rules
- ✓ Explain the planning process
- ✓ Explain that it will take time



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New Hampshire Flood Mitigation Association

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Step 3: Commit to mitigate

Conway Council Resolution

City policy:

1. Keep in good standing in the NFIP
2. No reconstruction or reoccupation until City inspection
3. Develop a mitigation plan for flooded areas
4. Help residents with information on relocation, flood protection, and financial assistance

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New Hampshire Flood Mitigation Association

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Step 3: Commit to mitigate

Conway Council Resolution

To implement the policy:

1. Building Official to inspect every building (no fee)
2. Mitigation Planning Committee established
3. Committee to prepare a post-flood mitigation plan
4. Moratorium on reconstruction until plan done


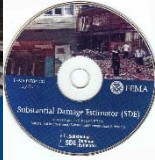
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Step 4: Triage the damaged area

Need to separate substantially damaged areas

- ✓ Who can rebuild and who has to wait
- ✓ Preliminary damage assessments
- ✓ Windshield survey
- ✓ Eventually building by building review

Substantial Improvement/
Substantial Damage
Desk Reference

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Step 4: Triage the damaged area

Three categories:

1. Apparently safe
 - ✓ People can make repairs
 - ✓ Will need permits



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Step 4: Triage the damaged area**Three categories:**

1. Apparently safe
2. Obviously substantially damaged
 - ✓ Will need to meet code
 - ✓ Or be removed



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Nashua Housing Market Analysis**Step 4: Triage the damaged area****Three categories:**

1. Apparently safe
2. Obviously substantially damaged
3. Could be substantially damaged
 - ✓ Need more time

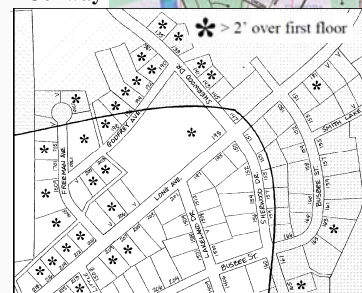


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NHMA
Nashua Housing Market Analysis**Step 5: Identify target areas**

- ✓ Areas with lots of category B and C buildings
- ✓ Potential for clearance and redevelopment
- ✓ Will need area plans
- ✓ Plans will take time
- ✓ Residents can clean up and salvage their property but should not put money into rebuilding yet

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Nashua Housing Market Analysis**Step 5: Identify target areas****Conway**NHMA
Nashua Housing Market Analysis**Step 5: Identify target areas****Conway**

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Nashua Housing Market Analysis**Step 5: Identify target areas****Conway**

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NHMA
Nashua Housing Market Analysis

Step 6: Involve those affected in the planning

- ✓ The plans affect their homes, businesses, schools
- ✓ This is their future
- ✓ They know the area best
- ✓ They decide what will be done to their properties
- ✓ Educated residents may do more than required
- ✓ Build on neighborhood/community sentiments

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**Step 6: Involve those affected in the planning****Result: Area plans that identify**

- ✓ Which areas and buildings can be restored (to code/higher standards)
- ✓ Which buildings should be demolished
- ✓ Which areas should be cleared and redeveloped



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**Step 6: Involve those affected in the planning****Conway**

- ✓ Public meetings
- ✓ Planning Committee

- Bill Graham, chair, floodplain resident
- John Griggs, vice-chair, floodplain resident
- A. M. (Mack) Floyd, floodplain resident
- Russell Faulk, floodplain resident
- James Goldfinch, floodplain resident
- Vivian Chestnut, Council member and floodplain resident
- Alys Lawson, Council member and floodplain resident
- Linda Vereen, Asst. City Administrator, Public Int
- Jason Collins, Director of Planning
- Ralph Bussey, Building Official and floodplain resident
- Jerry Barnhill, Director of Public Works

**Flood Hazard Mitigation Plan
Interim Report**

 City of Conway, South Carolina
October 19, 2009


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Step 6: Involve those affected in the planning**Conway**

- ✓ Public meetings
- ✓ Planning Committee
- ✓ Questionnaire

The last question was "The City Council is looking at six alternatives for a damaged structure. If financial assistance is available, which of the following alternatives would you consider for your residence/business?"

Restore the structure to pre-flood condition - yes:	32	no:	8
Restore the structure with mitigation (examples: elevate utilities, weatherize) - yes:	29	no:	7
Rebuild and elevate the structure above flood level - yes:	18	no:	9
Replace the damaged structure with a new one, elevated above flood level - yes:	11	no:	13
Relocate the structure to another property - yes:	7	no:	18
Sell the property and buy a new property outside the floodplain - yes:	38	no:	6

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**Step 6: Involve those affected in the planning****Substantially Damaged Buildings**

FIRM Zone	External Depth (to nearest 1/4 foot)	Internal Depth (to nearest 1/4 foot)	Percent Damaged	Flood Insurance	Flooded Before?	Want to Sell?
X	4.00	3.00	123.37%	n	y	y
X	3.50	1.75	120.45%	n	n	y
AE	3.50	2.50	118.48%	n	n	y
AE	3.75	3.75	98.06%	y	y	y
AE	4.00	0.25	93.03%	n	y	y
AE	1.50	0.75	92.30%	y	n	y
AE	5.75	1.25	90.96%	y	y	y
X	2.50	0.75	86.75%	n	n	y
AE	3.25	1.75	81.72%	n	y	y
AE	4.25	3.25	80.12%	y	y	y
AE	4.50	1.75	77.83%	y	n	y
AE	4.25	1.75	75.74%	y	y	y
X	4.00	2.00	70.12%	n	y	y
X	3.50	0.50	66.39%	n	n	y



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Step 7: Keep the public informed**People will support the process when they know:**

- ✓ The rules (and see them fairly enforced)
- ✓ The planning process
- ✓ They can participate (and their views mean something)
- ✓ How to safely repair/salvage
- ✓ How they can mitigate/make things better

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Step 7: Keep the public informed**“Educated residents may do more than required”**

- ✓ They will support the planning process
- ✓ If substantially damaged, they may rebuild to a higher standard voluntarily
- ✓ If not substantially damaged, they may incorporate mitigation measures in repairs



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- ✓ News releases
- ✓ Flyers to the neighborhoods
- ✓ Explanatory handouts (in plain English)
- ✓ Public deliberations
- ✓ Opportunities to comment



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NHMA
New Hampshire Mitigation Association**Step 7: Keep the public informed****Conway**

- ✓ Public meeting at beginning of the process
- ✓ Questionnaire to all flooded properties
- ✓ Open planning committee meetings
- ✓ Public meeting on committee recommendations
- ✓ Handouts
 - ✓ *Advice to Flooded Property Owners*
 - ✓ *Repairing Flooded Buildings*
 - ✓ *Mitigation Financial Assistance*
 - ✓ *Elevating and Relocating a House*

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New Hampshire Mitigation Association**Step 7: Keep the public informed****Conway****✓ Advice to Flooded Property Owners**

3. If your building was damaged and you have not had a building inspector look at it, call the Building Department at 248-1760.
4. You can proceed with cleaning up, even if an inspector has not been by. To clean up, do the following:
 - 4.1. Remove and throw away the following items if they got wet:
 - ductwork
 - carpeting and carpet pads
 - sheetrock
 - insulation
 - particle board, pressboard, Masonite, and similar wood composition products
 - wallpaper over plaster
 - all electrical outlets and switches that are below the high water line.
 - 4.2. Hose out the crawlspace and other flooded areas building to remove the mud as explained on pages 9 - 10 of *Repairing Your Flooded Home*. Clean all exposed surfaces with a disinfectant (see Step 6 of *Repairing Your Flooded Home*).

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New Hampshire Mitigation Association**Step 8: Ensure full repairs and reconstruction**

- ✓ No shortcuts to permit requirements
- ✓ No shortcuts to safety and health standards
- ✓ Substantial damage determinations
- ✓ Substantial damage appeal process



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Step 9: Mitigate to the extent feasible**✓ Incorporate during repairs****Conway**

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Step 9: Mitigate to the extent feasible

- Buildings on crawlspaces or with damaged foundations should be elevated on new, stronger foundations.
- Hurricane shutters can be installed.
- Damaged furnaces, air conditioners, and water heaters should be replaced with units on platforms above the flood level.
- When the walls and ceilings have been opened up for wind protection and insulation can be installed for winter storms.
- When a roof is replaced, impact resistant roofing should be installed.



Selecting Appropriate Mitigation Measures for Floodprone Structures

FEMA 551 / March 2007

FEMA

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Planning for Redevelopment



www.fema.gov/multi-hazard-mitigation-planning



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Conway

21 action items

- ✓ Remap floodplain
- ✓ Redevelopment
- ✓ Codes, ordinances
- ✓ Public information
- ✓ Preparedness



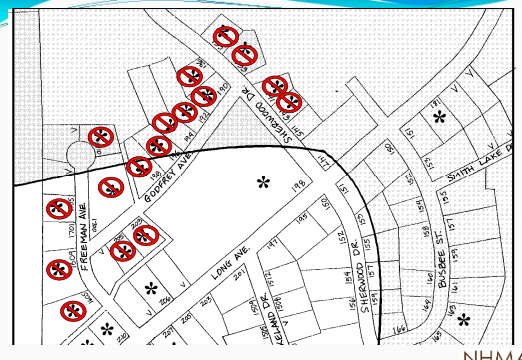
City of Conway
South Carolina



Flood Hazard Mitigation Plan

NHMA

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These steps have been proven to work

- ✓ Stop and think
- ✓ Plan for the target areas
- ✓ Think about the future
- ✓ Involve those affected

Result: a better, safer community



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NHMA
NATURAL HAZARD MITIGATION ASSOCIATION

Nine Steps to Build Back Smarter

www.NHMA.info/Sandy

Questions?



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