




Flood Resilience Zoning Text Amendment - **Approved!**

Update October 9, 2013:

On October 9, 2013 the City Council adopted the Flood Resilience Zoning Text Amendment. The zoning text changes are now in effect.  [View the adopted text.](#)

The Department of City Planning is proposing a zoning text amendment to encourage flood-resilient building construction throughout designated flood zones. The proposed changes are needed in order to remove regulatory barriers that would hinder or prevent the reconstruction of storm-damaged properties. The amendment would enable new and existing buildings to comply with new, higher flood elevations issued by the Federal Emergency Management Agency (FEMA), and to new requirements in Building Code. Building to these new standards will reduce vulnerability to future floods, as well as help avoid higher flood insurance premiums.

Background and Context

This proposal is one part of a wide range of efforts by the City to recover from Hurricane Sandy, promote rebuilding, and increase the city's resilience to climate-related events, including coastal flooding and storm surge.

After Hurricane Sandy, FEMA issued new, non-binding flood maps for New York City, reflecting the best available information about the city's flood risks. These maps included higher flood elevations and a larger 100-year (1% annual chance) flood zone, containing roughly twice as many buildings as before. FEMA will continue to provide new flood maps as more accurate information becomes available.

On January 31, 2013, the New York City Building Code was updated to match New York State standards for flood protection, requiring buildings to protect to a level one or two feet higher than the FEMA-designated flood elevation, depending on building type. Single- and two-family homes are now required to provide two feet of extra protection (commonly called "freeboard") above flood elevation, and most other buildings are required to provide a foot of freeboard.


Owners of severely damaged or destroyed buildings are required to comply with the flood resistant construction standards of Building Code when they rebuild. In addition, any property owner within the newly enlarged FEMA flood zones may wish to make their building comply with new FEMA standards, which call for them to be raised or floodproofed to a higher elevation. This will reduce their vulnerability to future floods, as well as help to avoid higher flood insurance premiums. However, in many instances, zoning regulations or conflicts between zoning and Building Code requirements would make it difficult, or in some cases impossible, for owners to build or retrofit to these standards.



Areas within which Zoning Text
Would Apply
(Effective and Advisory FEMA 100-
year flood zones)

View a  [larger image.](#)

January 31, 2013 Executive Order

The Mayor's emergency  [Executive Order No. 230](#), issued on January 31, 2013, took an important first step to allow property owners rebuilding after Hurricane Sandy to meet updated FEMA flood standards. The Executive Order suspended height and other restrictions to the extent necessary to rebuild to the latest flood-resistant standards. The Executive Order is by nature an interim measure which will expire and must be codified by a zoning text amendment.

Overview of the Proposed Text Amendment

Like the Executive Order, the proposed Flood Resilience Text Amendment modifies zoning to enable flood-resistant construction. It also introduces regulations to mitigate potential negative effects of flood-resistant construction on the streetscape and public realm. Issues addressed by the text amendment include:

- Measuring building height with respect to the latest FEMA flood elevations
- Accommodating building access from grade
- Locating mechanical systems above flood levels




 [View the presentation](#)

- Accommodating off-street parking above grade
- Accommodating flood zone restrictions on ground floor use
- Improving streetscape

The proposal would apply in the 100-year (1% annual chance) flood zone identified on the most recent FEMA flood maps, to all buildings that meet flood-resistant construction standards using the most recent FEMA flood elevations. In addition, all new or elevated buildings in the 100-year flood zone would be subject to rules to mitigate the potential negative effect of higher first floors on the public experience of the street.

This proposal addresses urgent issues for which solutions can be applied throughout the flood zone. Additional local planning will be necessary to address other complex and neighborhood-specific issues in areas severely affected by Hurricane Sandy.

 [View the adopted text](#) - adopted on October 9, 2013.

Expected Future Flood Zone Changes

FEMA is in the process of updating its Flood Insurance Rate Maps (FIRMs) for New York City, and the City expects to adopt new FIRMs in 2015. These maps will become the basis for building code requirements for flood-resistant construction. The proposed text amendment will enable buildings to be designed and constructed today based on the best current understanding of future flood standards.


Within a year after the adoption of new FIRMs, the Department would advance a second zoning text amendment to address any further flood zone issues resulting from the new maps and further refine the regulations as warranted.

Public Review

The proposed text amendment was referred out on May 20, 2013 for 60 days to all affected Community Boards, Borough Boards and Borough Presidents for review and comment. [View the presentation](#) describing the original proposal.

The Department of City Planning filed a revised application on July 19, 2013 in response to public comments. [View the presentation](#) describing the modifications to the original proposal.

The City Planning Commission approved the revised application on September 11, 2013.

| Milestone | Date |
|--|--------------------|
| Department of City Planning Certification/ Referral | May 20, 2013 |
| Comment deadline for Community Boards, Borough Boards and Borough Presidents | July 29, 2013 |
| City Planning Commission Public Hearing | August 7, 2013 |
| City Planning Commission Approval ( Read the CPC Report) | September 11, 2013 |
| City Council Approval | October 9, 2013 |

Additional Resources

The following links provide more information about rebuilding in flood zones and the proposed zoning text amendment. For additional information, contact the Zoning Division at 212-720-3325.

- [Frequently Asked Questions](#) – Answers questions about the proposed zoning text amendment and other related questions
- [NYC Recovery](#) – The City of New York’s main portal for information regarding rebuilding
- [NYC Housing Recovery](#) – resources for individuals affected by Hurricane Sandy

- [FEMA Region 2 Website](#) – Find information about flood risk for your property
- [DOB Information on Rebuilding After Sandy](#) – guide to rebuilding, information on flood-resistant construction standards, and more
- [DCP Climate Resilience Initiatives](#) – information on coastal and flood zone initiatives

Flood Resilience Zoning Text Amendment

Frequently Asked Questions

1. Q: What are flood zones?

A: Flood zones are land areas identified by the Federal Emergency Management Agency (FEMA). Each flood zone describes that land area in terms of its risk of flooding.

2. Q: Are City evacuation zones different than FEMA flood zones?

A: Evacuation zones and flood hazard areas are different. New York City's hurricane contingency plans are based on six evacuation zones (1-6). To find out if you live in a hurricane evacuation zone, use the [Hurricane Evacuation Zone Finder](#), or call 311.

3. Q: How do I know if I am in a flood zone?

A: FEMA creates and updates flood maps for New York City and has created a website to provide the most up to date information regarding flood risk for particular locations throughout the five boroughs. On their website, you can view the latest flood risk information for your property, as well as the currently adopted Flood Insurance Rate Maps. To find this information for your specific address, go to www.region2coastal.com/sandy/table. If the marker on the website does not find your exact house address, but it is close, click on the marker and drag it over your home's location to find the flood elevation.

4. Q: Why are FEMA flood maps changing? Which flood maps should I be referring to?

A: Building code requirements are based on the FEMA Flood Insurance Rate Maps (FIRMs), which were last updated in 2007. FEMA began the process of updating these maps before Hurricane Sandy, but new FIRMs have not yet been issued. Following Hurricane Sandy, FEMA has issued Preliminary Work Maps, which provide the best currently available information on flood risk. These maps are accessible at www.region2coastal.com. As part of the FIRM update process, FEMA will be releasing preliminary FIRMs as part of its formal public review process. As FEMA releases new, more accurate flood maps, these will be posted on their website. The proposed zoning text amendment enables buildings to be designed and constructed based on the most recent available base flood elevation data from FEMA.

5. Q: What are flood-resistant construction standards?

A: Flood-resistant construction standards are minimum requirements for construction in the flood zone established by the Federal Emergency Management Agency (FEMA), the New York State Building Code and the City's Building Code. These standards require that flood-resistant materials be used for parts of buildings that are susceptible to water damage, that certain buildings and uses be elevated above anticipated flood levels and that buildings are designed to withstand the pressure of waves, when necessary. Flood-resistant construction standards are defined in Appendix G of the NYC Building Code and the American Society of Civil Engineers' Flood Resistant Design and Construction manual, referred to as ASCE 24.

6. Q: Will this zoning amendment require me to reconstruct my home to meet flood resistant construction standards?

A: No, the purpose of this zoning amendment is to remove barriers and restrictions on property owners to allow them to rebuild. Nothing in this amendment will mandate that a property owner change their existing home. Where a property owner is required to meet flood-resistant construction standards by the Building Code, this amendment offers zoning relief to ensure that a property can be rebuilt as it was before the storm, but more resiliently.

7. Q: If my building wasn't substantially damaged, why is this text amendment important to me?

A: While it may not be necessary to make changes immediately to a building that wasn't damaged, FEMA has recently identified a greater risk of flooding for many New York City properties. In addition, there is a risk of increased flood insurance premiums in the future for buildings that do not comply with flood-resistant construction standards. For this reason, this amendment could provide important zoning relief to allow property owners to adapt buildings and reduce the risk of increased premiums. Buildings built with their lowest floor level above the required elevation could save thousands of dollars annually in insurance premiums compared to buildings that are built below this elevation. More information on flood insurance is available from FEMA at www.floodsmart.gov.

8. Q: What is the difference between A, V, Coastal A, and X zones?

A: FEMA identifies different flood hazard designations to differentiate potential flood risks. A, V, and Coastal A zones are all part of the 1% annual chance flood zone, within which FEMA requirements for flood insurance and Building Code requirements for flood-resistant construction apply.

A Zone: comprised of the area subject to flooding from the 1% annual chance flood. These areas are not subject to high velocity wave action but are still considered high risk flooding areas. In A zones, building code requires buildings to be elevated or flood-proofed based on the base flood elevation identified on the FEMA maps. A Zones can also be shown as AE, AH or AO on FEMA flood maps.

V Zone: comprised of the area subject to high velocity wave action (a breaking wave 3 feet high or larger) from the 1% annual chance coastal flood. Zone V is subject to more stringent building requirements than other zones because of the damaging force of waves. V Zones can also be shown as VE on FEMA flood maps.

Coastal A Zone: The portion of the A zone where base flood wave heights are expected to be between 1.5 and 3 feet high. This zone is indicated by the Limit of Moderate Wave Action (LiMWA) Line on the latest FEMA flood maps. This zone is being mapped by FEMA for the first time in New York City, and does not appear on the currently effective (2007) Flood Insurance Rate Maps. Currently, the Building Code requirements for Coastal A zones are the same as for A zones.

Shaded X Zone: comprised of the area of moderate flood risk outside the regulatory 1% annual chance flood but within the limits of the 0.2% annual chance flood level (one in 500 chance). There are no current Building Code or FEMA flood insurance requirements for buildings in this zone.

9. Q: Is the elevation on the latest FEMA map the height that I need to raise my building?

A: The elevation on the latest FEMA flood map is an absolute measurement of height, not a measurement of flood height above the level of the ground at your property. To determine the height that your building must be raised above grade, you need to subtract the absolute height of grade. The building code also requires an additional 1 to 2 feet of elevation as a measure of safety, called freeboard (see below). Note that the 2007 FEMA maps and the more recent FEMA maps measure height from a different "datum," or zero point. A correction factor needs to be used when comparing the two. For more information, see [DOB's guide to rebuilding after Sandy](#).

10. Q: What is freeboard?

A: "Freeboard" is the practice of elevating a building's lowest floor above predicted flood elevations by a small additional height, typically one to three feet above FEMA minimum height requirements, depending on building type (two feet for single and two-family residences and one foot for most other buildings). The benefits of freeboard include an additional margin of safety to protect against more severe storms and increased future flood risks from rising sea levels. Additionally, FEMA recognizes that freeboard significantly reduces flood risk and provides substantial reductions in flood insurance premiums for structures that incorporate freeboard.

11. Q: What is the Flood Resistant Construction Elevation (FRCE)? **A:** The FRCE is a new zoning datum that will be used as the basis for zoning calculations in flood zones. The FRCE is determined by using the elevation shown on the latest FEMA Flood maps and adding the additional freeboard elevation that is required by the Building Code for your building type.

Example: A single family home is located in an A zone with an elevation of 12 on the latest FEMA flood map. The height of grade is 8 feet above sea level, which means the difference between the height of grade and the FEMA flood elevation is 4 feet. By adding the additional 2 feet of freeboard required for a single-family home, the Flood Resistant Construction Elevation (FRCE) is determined to be 14 feet, which is 6 feet above grade.

12. Q: What makes this text amendment different from the Mayor's Executive Order?

A: This text amendment codifies the zoning relief that was offered by the Mayor's Executive Order, as well provides additional areas of relief that the Executive order did not. Additionally, the Executive Order must be renewed every five (5) days which provides some uncertainty for those trying to rebuild. This text amendment provides more permanent regulations to allow property owners to rebuild with confidence, based on the best available flood risk information from FEMA.

13. Q: When is this text amendment anticipated to become effective? What can I do until then?

A: This text amendment has been referred out to all affected Community Boards, Borough Boards and Borough Presidents for comments and must be voted on by the Planning Commission and City Council in order to take effect. This process will take several months, but is expected to conclude in the Fall of 2013. Until then, the Mayor's Executive Order will remain in place to offer zoning relief for those seeking to rebuild.

14. Q: What is City Planning doing to address recovery and resilience in waterfront communities – those affected and

those not affected by Hurricane Sandy?

A: In addition to this city-wide text amendment to allow property owners to build to a higher, safer standard of construction, The Department of City Planning has issued two reports detailing strategies on how the city can better adapt to increased flood risk. "[Designing for Flood Risk](#)" identifies key design principles to guide flood-resistant construction in urban areas and explores the impacts of flood-resistant construction standards on built form and the creation of a vibrant streetscape. The second study, "[Urban Adaptive Waterfront Strategies](#)" is a resource to help guide planners and policy makers in New York City and other urban areas in identifying and evaluating potential coastal protection strategies, from bulkheads to artificial reefs. These efforts will be supplemented in the coming months by local, neighborhood-scale planning to address unique issues in the communities most affected by Hurricane Sandy and potential future flooding.

15. Q: What if I need certain types of relief that are not provided for in this amendment?

A: While this amendment attempts to provide a large amount of flexibility to enable rebuilding, there may be special circumstances that arise that are not covered. To provide additional flexibility, a new special permit has been proposed by this amendment to allow certain zoning modifications within flood zones to enable rebuilding. Also, this is just the first of several efforts underway by the Department of City Planning. Over the next several months, additional neighborhood planning and study of buildings within the flood zones will be conducted to determine additional steps that will be necessary.

16. Q: This text amendment only deals with individual building strategies; what is New York City doing as a whole to retrofit it's shoreline to better withstand future storms?

A: On June 11, Mayor Michael Bloomberg announced "A Stronger, More Resilient New York", a comprehensive plan that contains actionable recommendations both for rebuilding the communities impacted by Sandy and increasing the resilience of infrastructure and buildings citywide. A copy of the report can be found on the [Special Initiative for Rebuilding and Resiliency's website](#).

17. Q: Where can I go to find out more information regarding flood insurance, new regulations and other recovery efforts?

A: The following links provide additional information:

[NYC Recovery](#) – The City of New York's main portal for information regarding rebuilding

[NYC Housing Recovery](#) – resources for individuals affected by Hurricane Sandy


[FEMA Region 2 Website](#) – Find information about flood risk for your property

[DOB Information on Rebuilding After Sandy](#) – guide to rebuilding, information on flood-resistant construction standards, and more

[DCP Climate Resilience Initiatives](#) – information on coastal and flood zone initiatives

[FloodSmart.gov](#) – The official website of the National Flood Insurance Program (NFIP)

Related Notes

-  Items accompanied by this symbol require the [free Adobe Acrobat Reader](#).