Zoning for Coastal Flood Resiliency

Preliminary Recommendations

Summary

Queens CB 10
September 5, 2019
The waterfront is large—with 520 miles—and diverse. These areas face different flood risks and issues with the current regulatory framework, and require particular strategies to make them resilient.
Citywide Flood Risk
NYC’s flood risk is high and will increase.

The city’s current flood risk is high with ~782,800 residents in the floodplain. Sandy inundated all lots in the high-risk zone, but also 50% of lots in the moderate-risk area. The current moderate-risk zone will likely become the future high-risk flood zone.
Flood Risk
Queens Community District 10

- 5,700 (16%) of CD10 buildings are in the floodplain
- 79.8% of buildings in the floodplain are detached residences
- 64% of buildings in the floodplain have a full basement below grade
A more resilient NYC is one where neighborhoods, buildings and infrastructure can withstand and recover quickly from flooding and climate events.

Coastal defenses are strengthened as first line of defense against flooding and sea level rise.

Buildings are designed to withstand and recover from flooding.

Infrastructure is protected from climate hazards.

Residents and businesses are prepared.
How are buildings in the floodplain regulated?

**FEMA**

- **Flood Insurance Rate Maps (FIRMs)**
  - Determine where floodplain regulations apply

- **National Flood Insurance Program**
  - Set up Insurance Rates depending on building elevation and other requirements

- **Construction Standards (ASCE 24)**
  - Design minimum construction requirements for flood hazard areas

**NYC**

- **Building Code (DOB)**
  - Requires new buildings and substantial improvements to meet FEMA standards (Appendix G)

- **Zoning Resolution (DCP)**
  - Zoning accommodates these regulations and improves neighborhood character
DCP’s work since Sandy
From recovery to long-term resiliency

Zoning Text Amendments
(emergency-basis)

Outreach
Process

Proposal
(permanent-basis)

2013- FT1 Temporary Provisions

2015- SNRN Removed additional zoning barriers


Community Outreach Workshops (2016-2018)

Zoning for Coastal Flood Resiliency (2018-2019)

Learn about specific neighborhood challenges faced after Sandy

Learn about other challenges communities faced to recover from Sandy but also to build future resiliency

A plain-language description of the proposal to encourage resiliency in the long-term
Zoning for Coastal Flood Resiliency
Overview of project’s goals

Zoning for Flood Resiliency would provide building owners flexibility to design or otherwise retrofit their buildings to reduce damage from flooding, be resilient in the long-term, save on flood insurance costs, and expedite future-storm recovery.

1. Encourage resiliency throughout the city’s current and future floodplains
2. Support long-term resilient design of all building types by offering flexibility in the zoning framework
3. Allow for adaptation over time through partial resiliency strategies
4. Facilitate future-storm recovery by removing regulatory obstacles
Zoning for Coastal Flood Resiliency
An expanded geography

Building owners in both the city’s 1% and 0.2% annual chance floodplains would be able to invest in resiliency improvements to fully meet or exceed flood-resistant construction standards, even when these standards are not required by the Federal Emergency Management Agency (FEMA) and NYC’s Building Code.

1. Encourage resiliency throughout the current and future floodplains

**Existing Rules**
are only available to buildings within the 1% floodplain

**Proposed Rules**
will be available to lots within the 0.2% floodplain
Applicability in Queens CB 10

Existing FT1 Optional Rules

- Rules available for buildings within the 1% floodplain

Proposed Optional Rules

- Existing rule
- Rules available for lots within the 1% and 0.2% floodplains
Zoning for Coastal Flood Resiliency
An enhanced Building Envelope

Allowances coupled with design requirements would allow building owners to accommodate sea level rise projections when designing new or retrofitting buildings, without creating negative impacts on the streetscape. This would increase the building and its content’s safety and allow flood insurance costs to be reduced.

2. Support long-term resilient design of all building types through flexibility in zoning

**Height Allowances**
for all building-types by allowing the envelope to be measured from the DFE or a higher Reference Plane (10’ or 5’, depending if within 1% or 0.2% floodplain)

**Floor Area Exemptions**
for active uses (commercial and community facilities) that are dry-floodproofed and kept at grade, and any wet-floodproofed spaces
Optional height regulations would facilitate buildings to incorporate sea level rise projections when meeting flood-resistant construction standards, while improving the utility of spaces below the DFE.

**Existing Rules:** DFE or a Reference Plane measured from 9’, 10’ or 12’ depending on the building’s use and zoning district

**Proposed Rules:** DFE or a Reference Plane (up to 10’ or 5’) available to all lots in the 1% and 0.2% floodplains, respectively

* Rules available if the building fully meets Appendix G of the Building Code
Applicability in Queens CB 10

Existing FT1 Optional Rules

- Height can be measured from DFE or 12', 10', 9' RP whichever is higher

Proposed Optional Rules

- Height can be measured from DFE or up to 10' RP whichever is higher
- Height can be measured from up to 5' RP
Optional *Building Envelope* would facilitate the **construction, reconstruction, and retrofit** of homes located on pre-existing substandard lots in all areas, and better reflect the scale of traditional cottage buildings.

**Existing Rules:** maximum height of 35’ as measured from the DFE or 9’ Reference Plane

**Proposed Rules:** maximum height of 25’ as measured from the DFE up to 10’ Reference Plane

* Rules available if the building fully meets Appendix G of the Building Code
Applicability in Queens CB 10

Building Envelope

Cottage Envelope

Existing FT1 Optional Rules

- Rule available within SRNR Boundaries in 1% floodplain

Proposed Optional Rules

- Existing rule
- Rule available within 1% and 0.2% floodplains
Zoning for Coastal Flood Resiliency
Alternatives for the relocation of important equipment

Building owners would have additional zoning flexibility to relocate mechanical, electrical and plumbing equipment or install back-up systems such as generators above areas at risk of being flooded, including on roofs or in new separate structures.

3. Allow for adaptation over time through incremental retrofits

Floor Area Exemptions for existing industrial buildings allow the creation of small mezzanine space or a 2nd floor to store important spaces/equipment

More flexible permitted obstructions provide more options for MEP to be relocated to either above the roof or within separate structures
Supplemental use regulations would offer alternatives beyond dry-floodproofed cellars for businesses to locate commercial uses, especially accessory spaces.

**Existing Rules:** Commercial uses are limited to the ground-floor in mixed-use buildings in certain commercial corridors.

**Proposed Rules:** Commercial uses can be located within the second story in mixed-use buildings above the flood level in all commercial corridors.

* Rules available if the building fully meets Appendix G of the Building Code.
2nd story commercial allowed in C4-C6 and C1&C2 within R9-R10

2nd story commercial allowed in C1 & C2 within R1-R10 in the 1% and 0.2% floodplains
Zoning for Coastal Flood Resiliency

Future storm recovery

Rules that make it easier for damaged buildings to be reconstructed would be enabled in the event of a future disaster. This would allow residents and neighborhoods to recover faster and allow the City to more quickly offer disaster assistance to those who are impacted.

4. Facilitate future storm recovery

Reconstruction allowances
Substantially-damaged non-conforming or non-complying buildings can rebuild to at least minimum resiliency standards

Documentation process
Aerial photographs/tax bills can be used to establish the existence of a building. A survey may be used to document non-compliances
Zoning for Coastal Flood Resiliency
Project Timeline

2017
Q3 | Q4

2018
Q1 | Q2 | Q3 | Q4

2019
Q1 | Q2 | Q3 | Q4

2020
Q1 | Q2 | Q3

**Summary**

- 2017: Summarize Feedback
- 2018: Outreach Summary, Interagency Coordination on Non-Zoning Recommendations, Weekly DCP Working Group meetings, Additional Research, Coordination with Other Agencies
- 2019: Finalize Recommendations and Write Zoning Text, Environmental Review, Scoping, Referral
- 2020: Public Review Process

*Timeline subject to change*

**Outreach**

- 2017: Broad public engagement on resiliency (newsletter, events, video)

**Plain Language Proposal**

**Interagency Coordination on Zoning Items**

**Public Review Process**

* Timeline subject to change *
Outreach Resources

NYC Flood Hazard Mapper

www.nyc.gov/floodhazardmapper

Info briefs on Flood Resilience Zoning, Flood Risk, Flood Resilient Construction, and Flood Insurance

www.nyc.gov/resilientneighborhoods
Zoning for Coastal Flood Resiliency

Questions?