Zoning for Coastal Flood Resiliency

Preliminary Recommendations

Summary

Brooklyn CB 18
June 19, 2019
Today’s Agenda

1. **Background** | Context on zoning for resiliency

2. **Preliminary Recommendations** | Summary

3. **Project Timeline & Outreach Resources**
Zoning for Coastal Flood Resilience

1. Background

Zoning for Resiliency
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 ~half of lots currently in the 0.2% annual chance floodplain

This area will likely become the future 1% annual chance floodplain
## Citywide Flood Risk

<table>
<thead>
<tr>
<th>Community District</th>
<th>1% Chance Floodplain (FIRM + PFIRM)</th>
<th>0.2% Chance Floodplain (FIRM + PFIRM)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>65,582</td>
<td>36,723</td>
<td>102,305</td>
</tr>
<tr>
<td>02</td>
<td>25,257</td>
<td>20,457</td>
<td>45,714</td>
</tr>
</tbody>
</table>

### Brooklyn Flood Risk

<table>
<thead>
<tr>
<th>Community District</th>
<th>1% Chance Floodplain (FIRM + PFIRM)</th>
<th>0.2% Chance Floodplain (FIRM + PFIRM)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>29,549</td>
<td>25,115</td>
<td>54,664</td>
</tr>
</tbody>
</table>

### Citywide Total of Lots

- **Total Lots**: 102,305
- **Brooklyn Lots**: 45,714

### Citywide Total of Buildings

- **Total Buildings**: 125,539
- **Brooklyn Buildings**: 54,664

**NYC Planning**
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 the 1% and 0.2% annual chance floodplains where 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

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

**Zoning Resolution (DCP)**
Zoning accommodates these regulations, by setting up optional rules that assist buildings to meet Appendix G
Current Regulatory Framework
Overview of Post-Sandy Zoning Text Amendments

2013 Flood Text: Temporary provisions were adopted to remove zoning barriers to allow storm-damaged properties and new buildings to comply with higher flood elevations and resilient construction requirements (expires 1 year after adoption of the new FIRM).

2015 Recovery Text: Temporary provisions were adopted to simplify documentation requirements and to remove additional zoning barriers to accelerate post-Sandy recovery in certain areas that were heavily damaged by Sandy (expires 2020).

Facilitate Sandy Recovery
DCP’s work since Sandy

Overview of Outreach


Community Outreach (2016-2018) Workshops

We have briefed 2,500 stakeholders at 138 events since August 2016.

• 10 Council Members
• 5 Borough Presidents & Borough Boards
• 35 Community Boards
• 16 Civic Associations
• 12 Non-Profits
• 15 Other Public Events
• 6 Architect Workshops
• 7 Community Workshops

Support to make permanent current temporary rules and update them
Zoning for Coastal Flood Resiliency
From recovery to long-term resiliency

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, potentially save on flood insurance costs, and expedite future-storm recovery.

1. Encourage resiliency throughout the current and future floodplains
2. Support long-term resilient design of all building types through flexibility in zoning
3. Allow for adaptation over time through incremental retrofits
4. Facilitate future storm recovery
2. Preliminary Recommendations

Summary
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
1. Encourage resiliency throughout the current and future floodplains
2. Support long-term resilient design of all building types through flexibility in zoning

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.

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
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
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.

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
3. Project Timeline & Resources
Zoning for Coastal Flood Resilience Update

Project Timeline

**2017**
- Q3: Summarize Feedback
- Q4: Weekly DCP Working Group meetings
- Q1: Additional Research
- Q2: Coordination with Other Agencies

**2018**
- Q1: Outreach Summary
- Q2: Interagency Coordination on Non-Zoning Recommendations
- Q3: Interagency Coordination on Zoning Items
- Q4: Finalize Recommendations and Write Zoning Text

**2019**
- Q1: Environmental Review
- Q2: Scoping
- Q3: Referral
- Q4: Public Review Process

- Public engagement on plain-language proposal

*Timeline subject to change*
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

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718-780-8280
Resources

www.FloodHelpNY.org

Everything you need to know to reduce your risk

Understanding Flood Insurance
Available Programs & Benefits
Strategies for Flood Resiliency

About FloodHelpNY

FloodHelpNY.org is funded through the New York Governor’s Office of Storm Recovery and New York Rising, and is a project of the Center for New York City Neighborhoods, Inc. We promote and protect affordable homeownership in New York so that middle- and working-class families are able to build strong, thriving communities.