Flood Resilience
Zoning Text Update

Queens Community Board 13
May 8, 2017
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.
NYC’s flood risk is high. The floodplain affects a large geography and most community and council districts.

### 100 Year Floodplain
FEMA 2015 PFIRM

**Population:** 400,000  
50 of 59 Community Boards

**Buildings:** 71,500  
45 of 51 Council Districts

- **Buildings:**
  - 80% 1-4 units
  - 7% 5+ units
  - 13% nonresidential

- **Residential Units:**
  - 30% 1-4 units
  - 70% 5+ units
Future Flood Map
Flood Risk in Queens

<table>
<thead>
<tr>
<th>2015 PFIRMs</th>
<th>2050s Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population in Floodplain</td>
<td>99,100</td>
</tr>
<tr>
<td>Buildings in Floodplain</td>
<td>25,200</td>
</tr>
</tbody>
</table>

- Population increase by 65%
- Buildings increase by 40%
Flood Resilience Zoning
Projects at DCP

2013
“Flood Text”
initial temporary regulations
to facilitate recovery

2018
“Flood Text Update”
improve upon, and make
permanent, the Flood Text
How are buildings in the floodplain regulated?

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

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

Zoning Resolution (DCP)
- Zoning **accommodates** these regulations and improves neighborhood character
Flood resilient construction standards require certain buildings to elevate the lowest floor, as well as mechanical equipment, above the Design Flood Elevation (DFE).

- **Living spaces** are elevated above DFE.
- **Mechanical systems** are elevated above DFE.
- **Site** is filled to the lowest adjacent grade.
- **Use below DFE** is restricted to parking, storage or access.
- **WET FLOODPROOF** (Water comes in and out).
- **BFE**
Flood resilient construction
Required by DOB

Flood resilient construction standards require certain buildings to elevate the lowest floor, as well as mechanical equipment, above the Design Flood Elevation (DFE).
Flood insurance rates
Set by FEMA

Raising or retrofitting your building or home will reduce costs

FEMA’s flood insurance premiums are lowest when the lowest inhabited floor (any area not used solely for storage, access or parking) is elevated above the Base Flood Elevation (BFE).

- **4 FEET OR MORE BELOW BFE**: Annual premium ~$9,000
- **AT BFE**: Annual premium ~$1,400
- **3 FEET OR MORE ABOVE BFE**: Annual premium ~$450
2013 Citywide Flood Text
Amended zoning in six key areas

1. **Height**
   Measured from flood elevation

2. **Access**
   Flexibility for stairs, ramps, lifts

3. **Parking**
   Flexibility to relocate parking

4. **Systems**
   Flexibility to relocate/elevate

5. **Ground Floors**
   Account for costs of new flood risk

6. **Streetscape**
   Require features to mitigate blank wall
Lessons learned since 2013

**Construction/retrofitting activity in the flood zone:**

The zoning relief we provided may not be achieving our goal of increasing code-compliant, flood-resistant projects.

<table>
<thead>
<tr>
<th>DOB Permit Filings</th>
<th>in the flood hazard area, 10/2013 – 1/26/2016</th>
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<tbody>
<tr>
<td></td>
<td><strong>New Buildings</strong></td>
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<tr>
<td></td>
<td>NB 1,021</td>
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<tr>
<td></td>
<td>All 1,021 (100%) meet full resiliency standards</td>
</tr>
<tr>
<td></td>
<td>149 (14%) approved 451 (44%) underway 179 (17%) complete</td>
</tr>
<tr>
<td></td>
<td>25% rejected/pending</td>
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</table>
Flood Text Update
Need for a new citywide text amendment

1. Make the provisions of the current, temporary 2013 Flood Text permanent
2. Fix and improve provisions based on studies, lessons learned, and outreach
3. Begin to promote new development + proactive retrofitting to high resiliency standards
Flood Text II
Fix and improve provisions based on lessons learned

1 **Height**
Homeowners may face the loss of subgrade spaces when retrofitting

2 **Height**
Property owners may want to address future risk by over-elevating

3 **Ground Floors**
Current incentives to keep active ground floors may not be enough

4 **Homes in M Districts**
Existing homes in M. Districts, if damaged, may not be able to rebuild

5 **Old Homes in Small Lots**
Old homes on small lots may need more flexibility to rebuild in the future

6 **Highly Vulnerable Areas**
Density may need to be limited in highly vulnerable areas
As part of this outreach process, DCP will:

- **Partner with stakeholders** to educate and promote awareness of flood risk and resiliency issues
- **Explain how zoning tools** relate to resiliency
- **Explore unique neighborhood issues** through in-depth public presentations and workshops
- Develop a proposal through an **iterative process** that is shaped by feedback

* Schedule is tentative and 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
Thank you!

For more information, and to stay involved, email resilientneighborhoods@planning.nyc.gov