Zoning for Coastal Flood Resiliency

N210095ZRY
CPC Post-Hearing – Feb 16, 2021
Post-Hearing Agenda
Zoning and Non-Zoning Topics

Zoning Topics
1) Future Floodplain + Future Maps
2) Historic Districts & Special Districts
3) New vs. Existing Buildings (height and floor area regulations)
4) Permitted Obstructions (mechanical equip.)
5) Power systems
6) Vulnerable Populations

Non-Zoning Topics
7) Green Infrastructure
The Municipal Arts Society suggested that the expansion area should reflect the 2080’s projected 1% floodplain, to better reflect the usable lifespan of buildings.

**Table 8 – NYC sea level rise projections**

<table>
<thead>
<tr>
<th>Baseline (2000-2004)</th>
<th>Low estimate (10th percentile)</th>
<th>Middle range (25th to 75th percentile)</th>
<th>High estimate (90th percentile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020s</td>
<td>2 in</td>
<td>4-8 in</td>
<td>10 in</td>
</tr>
<tr>
<td>2050s</td>
<td>8 in</td>
<td>11-21 in</td>
<td>30 in</td>
</tr>
<tr>
<td>2080s</td>
<td>13 in</td>
<td>18-39 in</td>
<td>58 in</td>
</tr>
<tr>
<td>2100</td>
<td>15 in</td>
<td>22-50 in</td>
<td>75 in</td>
</tr>
</tbody>
</table>

Where ZCFR’s rules (ZR 64-00) are proposed to apply

NPCC’s 2050 high-estimate projection for the future 1% annual chance floodplain (the likely scenario for the 2100)

Note: Projections are based on six-component approach that incorporates both local and global factors. The model-based components are from 24 global climate models and two representative concentration pathways. Projections are relative to the 2000-2004 base period.
One Board in the Bronx had a specific comment that suggested that FEMA’s update to the FIRMs will occur in less than one year and therefore the proposal is premature.

The new maps are still several years ahead. Even though, ZCFR is built to always reflect the flood-risk map used at the time for Code purposes.
Concerns were raised regarding how ZCFR overrides the rules located within Special Districts and Historic Districts.
Manhattan CBs, the BPO and MAS, questioned the fact that ZCFR supersedes Historic District’s regulations and suggested that building within these areas should be subject CPC’s approval.

**LPC Regulatory Jurisdiction:**

“All designated structure, whether it is an individual landmark or a building in a historic district, is protected under the Landmarks Law and subject to the same review procedures.

Any minor work or alterations to a building [with the exception of ordinary repairs and some interior alterations], must obtain the Commission’s approval before beginning work. (…)

Alterations such as raising window and door openings, interior floors or entire buildings always requires LPC review, possibly at a Public Hearing.”

Source: West Chelsea Report, NYC Department of City Planning
Manhattan CBs, the BPO and MAS, questioned the fact that ZCFR supersedes Historic District’s regulations and suggested that building within these areas should be subject CPC’s approval.

**NYC Building Code:**

Projects that receive approval from the LPC and/or the NYS Historical Preservation Office that trigger Appendix G compliance can pursue a variance with the BSA in case the repair or rehabilitation poses a conflict with the preservation of the historic character and design of the structure.

**G107.1 General.** The Board of Standards and Appeals shall hear and decide requests for variances from the requirements of this appendix. The Board of Standards and Appeals shall base its determination on technical justifications, and has the right to attach such conditions to variances as it deems necessary to further the purposes and objectives of this appendix.

**G107.2 Conditions for variance.**

- **G107.2.1 Historic structures.** The Board of Standards and Appeals is authorized to issue a variance for the repair or rehabilitation of a historic structure provided that:
  1. The application has received approval from the Landmark Preservation Commission and/or the New York State Historical Preservation Office, as applicable;
  2. The proposed repair or rehabilitation will not preclude the structure’s continued designation as a historic structure; and
  3. The variance is the minimum necessary to preserve the historic character and design of the structure.
Manhattan CBs, the BPO and MAS, as well as one Board in the Bronx, and the Riverdale N. Preservancy, questioned the fact that ZCFR supersedes Special District’s regulations, with some suggestions that building within these areas should be subject CPC’s approval.

### 2013 Flood Text

#### The Bronx
- City Island
- Special Natural Area District (SNAD)
- Harlem River Waterfront
- Hunts Point

#### Brooklyn
- Bay Ridge
- Coney Island Mixed Use
- Coney Island
- Ocean Parkway
- Sheepshead Bay

#### Manhattan
- East Harlem Corridors
- Inwood
- Hudson River Park
- Battery Park City
- Governors Island
- Manhattanville Mixed Use
- Clinton
- Hudson Yards
- West Chelsea
- Tribeca Mixed Use
- Hudson Square
- Lower Manhattan

#### Queens
- Downtown Far Rockaway
- SNAD
- Long Island City Mixed Use
- Southern Hunters Point
- College Point
- Willets Point

#### Staten Island
- Bay Street
- SNAD
- South Richmond Development
- Stapleton Waterfront
- St. George

Rules contained within Article VI of the Zoning Resolution already supersede Special District regulations, therefore the proposal is consistent with how the ZR is structured.
The 2013 Flood Text already applies within the Special West Chelsea District. Since BFE levels are high in the neighborhoods, the current regulations already provide height allowances in the form of the Bump-Up regulations and floor area exemptions that are actually greater than what will be included within ZCFR in this area.
Item 2

Special Districts: SWCD

ZCFR is reducing the 12ft Bump-Up rule to 10ft.

Transparency at-grade built under the 2013 Flood Text, since the project had access to the bump-up rule and therefore could keep the floor at the sidewalk level.

76 11th Avenue, West Chelsea
A floor area exemption for dry-floodproofed spaces along the retail corridors would encourage active uses to be kept at the street level, promoting a safe and lively pedestrian environment.

2013 Flood Text: allows the entire ground floor to be exempted if the space is considered a “cellar”

Proposed Rule: allows a portion of the ground-floor to be exempted without regard to the FRCE level for new and existing buildings, provided that certain design conditions are met (spaces will not be considered “cellars”)

* Rules available if the building fully meets Appendix G of the Building Code
Blank walls built under the 2013 Flood Text, since the project did not access the bump-up or floor area exemptions to keep the floor at the sidewalk level.
Item 2

Special Districts: SNAD

The applicability of ZCFR within SNAD in the Bronx is minor, with only a few lots (highlighted in orange) overlapping with the 1% and 0.2% annual chance floodplains, allowing buildings within these areas to proactively undertake resiliency improvements.
Manhattan CBs, the BB and BP had recommendations to provide a different treatment for new and existing buildings (modify height and floor area exemptions to ultimately reduce these allowances in new developments).

**Required for all new buildings**

**Generally not required for existing buildings**
(Unless substantially damaged or improved)
Item 3

Existing vs. New Buildings

New floor area must fit within allowable building envelope

New floor area must fit within allowable building envelope

Existing buildings may relocate wet flood-proofed floor area located below the FRCE

Ground floor space that is dry-flood proofed to allow commercial or community facility use may also be exempted

Parking, storage and access are the only permitted uses for wet flood-proofed space

Temporary flood panels are used at openings to dry flood-proof commercial and community facility space

2013 Flood Text
Item 3
Existing vs. New Buildings

- Overall height measured from RP
- Floodproofed spaces exempted from floor area
- Units well-above the expected flood levels

At-grade access for street continuity

Units elevated above future flood-risk level

Planters

TOMORROW

TODAY
Item 3

Existing vs. New Buildings

Internal access is enabled by the Reference Plane coupled with FA exemptions

Exterior circulation blocks visual connection between sidewalk and ground floor
Additional height and floor area exemptions vary today by the flood level, leading to unintended outcomes, sometimes even along the same street.
Flood Plain

Several architects and residents of waterfront communities raised concerns about the impact of the proposed height and setback regulations in flood plain areas. As a result, for areas where a flood plain is above the finished adjoining grade, the amendment was revised to measure building perimeter wall, roof and cellar heights from the flood plain rather than the adjoining grade. The objective of this change was to remove an unintended restriction on achieving permitted floor area in areas prone to flooding.
2013 Flood Text: allows the entire ground floor to be exempted if the space is considered a “cellar”

Proposed Rule: allows a portion of the ground-floor to be exempted without regard to the FRCE level for new and existing buildings, provided that certain design conditions are met (spaces will not be considered “cellars”)

For new buildings, the exemption has unintentionally resulted in low-quality, sunken or squished (i.e., low-ceilinged) ground floors

Up to 30’ of the street wall is exempted for spaces used for non-residential uses

Height of ground floor must be 13’ or higher and floor must be within 2’ of adjacent sidewalk level.

Transparency requirements must be met.
**2013 Flood Text:** allows building height to be measured from a reference plane located at 9’, 10’ or 12’ depending on the building’s use and zoning district

**Proposed Rule:** allows building height to be measured from a Reference Plane located at **max 10’ or 5’ above grade** (in the 1% and 0.2% floodplains, respectively)

The Reference Plane will assist all new and existing buildings to incorporate SLR into their designs aside from also reducing low-quality crawl spaces which generate blank walls.

It would also enable greater flexibility for the relocation of floors from below the DFE to above.
Item 4

Permitted Obstructions (Mechanical Equip.)

Many buildings place mechanical systems located below-grade. To be more resilient these mechanical systems may need to be relocated above the DFE.

For all buildings, other than one-or two-family homes, allow mechanical systems within required rear yards, provided they are screened or enclosed, and within the same bulk envelope permitted for other rear yard obstructions (enclosed parking and commercial and community facility uses may extend into rear yards up to a height of 14 or 23 feet).
**Item 4**

**Permitted Obstructions (Mechanical Equip.)**

- Mechanical equipment is often located below-grade within cellar.

**New Item**

- Mechanical building cannot exceed a max coverage of 25% of the required open space and must comply with 1 point of streetscape regulations.

**2013 Flood Text:** does not provide additional relief for mechanical equipment in stand-alone buildings on campuses.

**Proposed Rule:** will allow buildings used predominantly for mechanical equipment to be located in open areas in zoning lots larger than 1.5 acres.
Item 5

Power Systems

**Proposed Rule:** allows all buildings throughout the city, to place power systems, including emergency generators, as permitted obstructions on open areas, provided that size limitations are met.
Proposed Rule: prohibits new nursing homes and restrict the enlargement of existing facilities within the 1% annual chance floodplain and selected areas where vehicular access would likely become limited during a disaster.
Work of other City Agencies

*Inland flooding mitigation and green infrastructure programs*

1. **DEP**
   - Sewer networks
   - [Green Infrastructure Grant Program](#)

2. **MOS**
   - Launched Study (2019) on precipitation-based flooding

3. **Council**
   - Introduced bill #962
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