Zoning for Flood Resilience

Manhattan Flood Resilient Retail Workshop
At LMHQ
Tuesday, November 21st – 9:00-11:00am

Welcome to the workshop! Before we get started, please take our survey on one of our tablets or your personal cell phone:

bit.ly/2ATivOr
Zoning for Flood Resilience
Workshop Agenda

Agenda:

1. Welcome and introduction – 5 min
2. Presentation by Small Business Services on a new grant program for Hurricane Sandy-impacted small businesses – 10 min
3. Presentation by the Department of City Planning on flood risk in Manhattan, resilient retail building designs, and zoning that applies in the floodplain – 20 min
4. Table activity and discussion: How can zoning help achieve building-scale resilience to ensure vibrant retail corridors? – 60 min
5. Workshop wrap-up – 15 min
Was your business impacted by flooding or power outage because of Hurricane Sandy? You can apply to receive a free one-on-one, on-site, risk assessment & grant.

The assessment will:

• Help you identify and understand physical, operational and financial risks that your business faces.
• Provide you with personalized recommendations to improve your business preparedness and resiliency.
• Make you eligible for a grant of up to $3,000 towards certain items or equipment like portable generators, tablets, fire/flood proof storage containers, and more.

For more information email: BusinessPREP@sbs.nyc.gov or visit www.nyc.gov/businessprep
https://www.youtube.com/watch?v=9EMyQ5IPZyw
SBS provides immediate assistance to businesses that experience natural disasters or emergencies like fires. This includes:

• One-on-one personal assistance with client managers to guide you through the recovery process
• Assistance with insurance questions/paperwork
• Connections to financing assistance, including NYC Business Solutions and SBA loans
• Access to pro-bono legal services
• Help accelerating the replacement of necessary licenses and permits

SBS emergency support
Telephone Number: (212) 618-8810
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
US Army Corps of Engineers, NYS DEC, NYC DPR

Buildings are designed to withstand and recover from flooding
FEMA, DCP, DOB, HRO, NYCHA

Infrastructure is protected from climate hazards
DOT, DEP, DDC, Utility Companies, MTA

Residents and businesses are prepared
OEM
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
Zoning for Flood Resilience
Overview of DCP’s Timeline

As part of this outreach process, DCP has been:

- Partnering 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 in 7 languages
www.nyc.gov/resilientneighborhoods
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

**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
Required by DOB

**Required** for all new buildings

**Not required** for existing buildings (unless substantially damaged or improved)

Substantially Damaged: Restoring Cost ≥ 50% Market Value
Substantially Improved: Improvement Cost ≥ 50% Market Value
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
- **Buildings:** 71,500
- **50 of 59 Community Boards**
- **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 Risk
### Manhattan

<table>
<thead>
<tr>
<th></th>
<th>2015 PFIRMs</th>
<th>2050s Projected</th>
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</thead>
<tbody>
<tr>
<td>Population in Floodplain</td>
<td>89,100</td>
<td>214,500</td>
</tr>
<tr>
<td>Buildings in Floodplain</td>
<td>3,100</td>
<td>5,900</td>
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</tbody>
</table>
Flood resilient construction standards require certain buildings to elevate the lowest floor, as well as mechanical equipment, above the Design Flood Elevation (DFE).
Flood resilient construction
Required by DOB

Residential Building in Manhattan
With wet-floodproofed residential lobby

Residential Building in Manhattan
Elevated to DFE (~3’ above grade)
Flood resilient construction standards require certain buildings to elevate the lowest floor, as well as mechanical equipment, above the Design Flood Elevation (DFE).
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
Flood Text Update
Permanent Rules

Goal 1
Facilitate Recovery from Future Storms by making the provisions of the temporary Flood Text permanent.

Goal 2
Promote Long-Term Resiliency by encouraging proactive retrofitting and development that is safe in the long run.

Goal 3
Enhance Neighborhood Character by encouraging good resilient design within coastal communities.
Resilient Retail Study

Retail Corridors

• Support existing retail corridors and the neighborhoods they serve by addressing short- and long-term challenges related to flood risk.

Retail Businesses

• Promote retrofitting and rebuilding strategies that reduce flood risk to individual businesses

• Ensure businesses remain accessible, viable and able to meet community needs for critical goods and services.

Advocacy

• Advocate for federal reforms to NFIP and floodplain regulations that support partial mitigations.

• Build a national coalition of communities, business groups, and designers to support flexibility for commercial corridors.
Retail Business in the Floodplain

NYC retail businesses and jobs are at risk from storms and flooding.

Today’s 100-year floodplain affects:

- 3,900 retailers
- 67,000 retail jobs
- $3 billion in annual retail wages

Across a broad range of buildings:

- 1,047 Single-Use Retail Stores
- 247 Walk-up Apartments
- 109 Elevator Apartments
- 757 Mixed-use Buildings
- 87 Office Buildings
- 265 Lofts, Factories and other Buildings

And many critical retail goods and services:

- 400 Supermarkets & Convenience Stores
- 180 Pharmacies & Drug Stores
- 35 Home Centers & Hardware Stores
- 45 Lumberyards
- 50 Gas Stations
- 150 Savings Banks & Other Lenders

= 1,000 Jobs
Post-Sandy Business Challenges

- Few businesses were able to make resilient improvements
- Lack of operational readiness (loss of records, no business disruption insurance)
- Most repaired in place to reopen quickly
- Many struggled to obtain loans/grants and meet SBA requirements
- Build it Back was not an option for businesses

- Most businesses are individually owned, and many are owned by people who live in the floodplain
- Landlord absenteeism made it difficult to make repairs
- Many business owners went into major debt to reopen their business
- While most businesses “survived” Sandy, a future storm would have a catastrophic effect on business viability
2nd Avenue, East Harlem
Water Street, Financial District

Street View ©2015 Google
10th Avenue, West Chelsea
Resiliency Challenges ---

Dense, Mixed-Use & Pedestrian-Oriented

Mixed use buildings are required to floodproof their residential and commercial spaces separately in different ways.
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Small lot sizes pose challenge to retrofitting buildings.
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Small lot sizes pose challenge to retrofitting buildings.

Many businesses in a Type A corridor are limited in space and need their cellar space to function effectively.
Resiliency Challenges ---

Varied Buildings, Lot Sizes & Uses

Elevating businesses in the floodplain would significantly impact sidewalk activity & may jeopardize business viability.

Many businesses in a Type B corridor depend on their ground floor visibility to attract customers.
Urban Design Principles

Neighborhood Character

Visual Connectivity/
Active Streets

Façade Articulation

Inviting Access

Sheepshead Bay Road, South Brooklyn
Neighborhood Character

John Allan's Hair Salon – TriBeCa, Manhattan
Visual Connectivity / Active Streets

Tribeca, Lower Manhattan
Façade Articulation
Inviting Access

Chillax Café – Manhattan Beach, Brooklyn
Zoning for Flood Resilience
Workshop Overview

**TABLE ACTIVITY**

1. Existing commercial buildings and uses – 15 min
2. Design options for new construction in the floodplain – 30 min
3. Urban design strategies for active corridors – 15 min

**WRAP-UP**

4. Group discussion – 15 min