

# FLOOD RESILIENCE ZONING TEXT UPDATE

Community Board Q11

May 1<sup>st</sup>, 2017

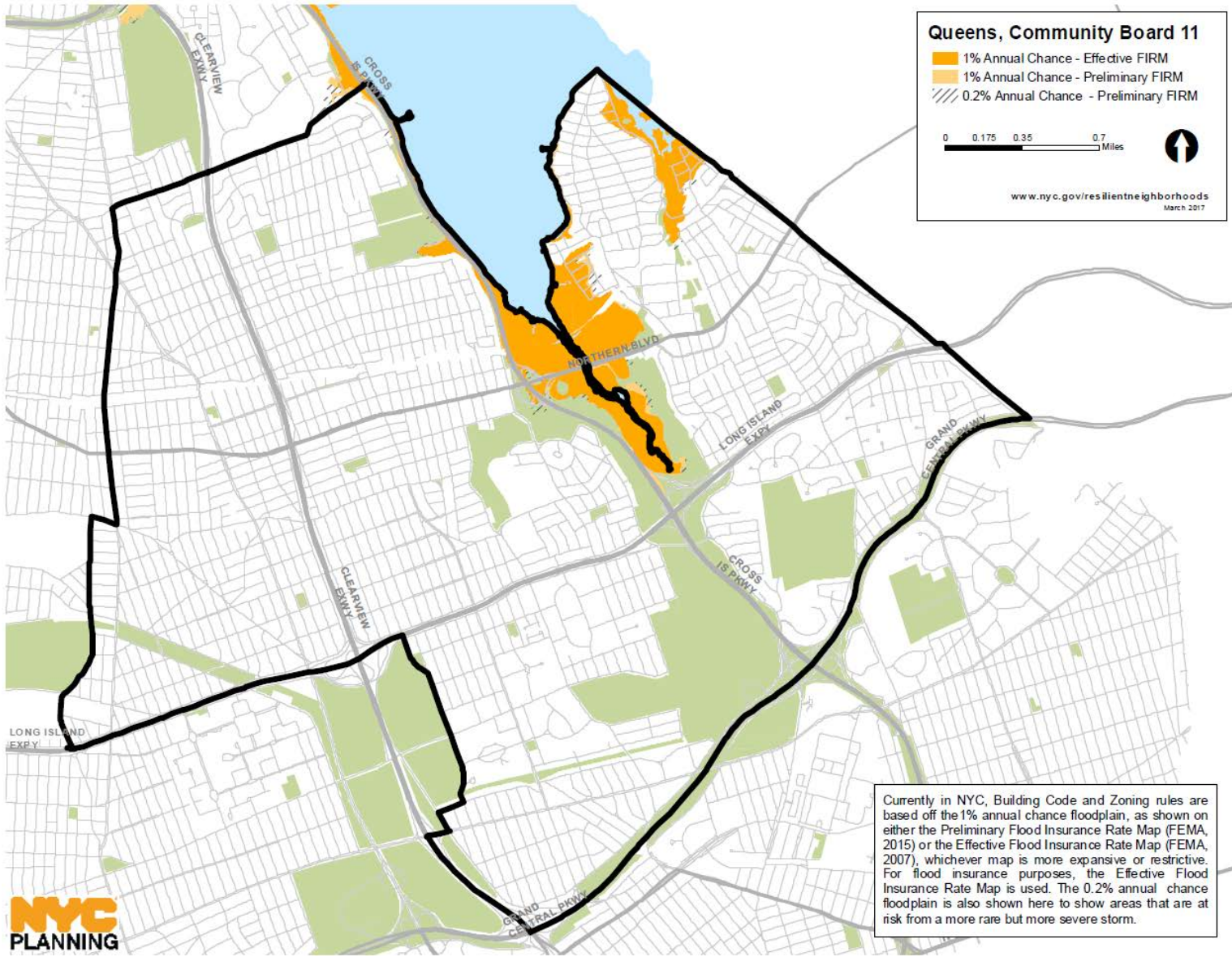


## #ONENYC

“A more resilient NYC is one where neighborhoods, buildings and infrastructure can withstand and recover quickly from flooding and climate events.”



# Flood risk in CB 11





# Overview - Regulatory Framework



## FEMA

### Flood Insurance Rate Maps (FIRMs)

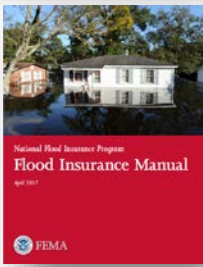
Determine where floodplain regulations apply

### 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



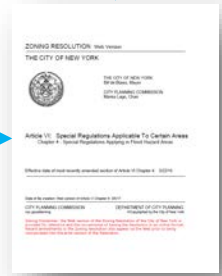
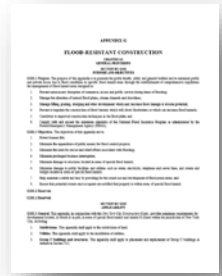
## NYC

### Building Code (DOB)

Requires new buildings and substantial improvements to meet FEMA standards

### Zoning Resolution (DCP)

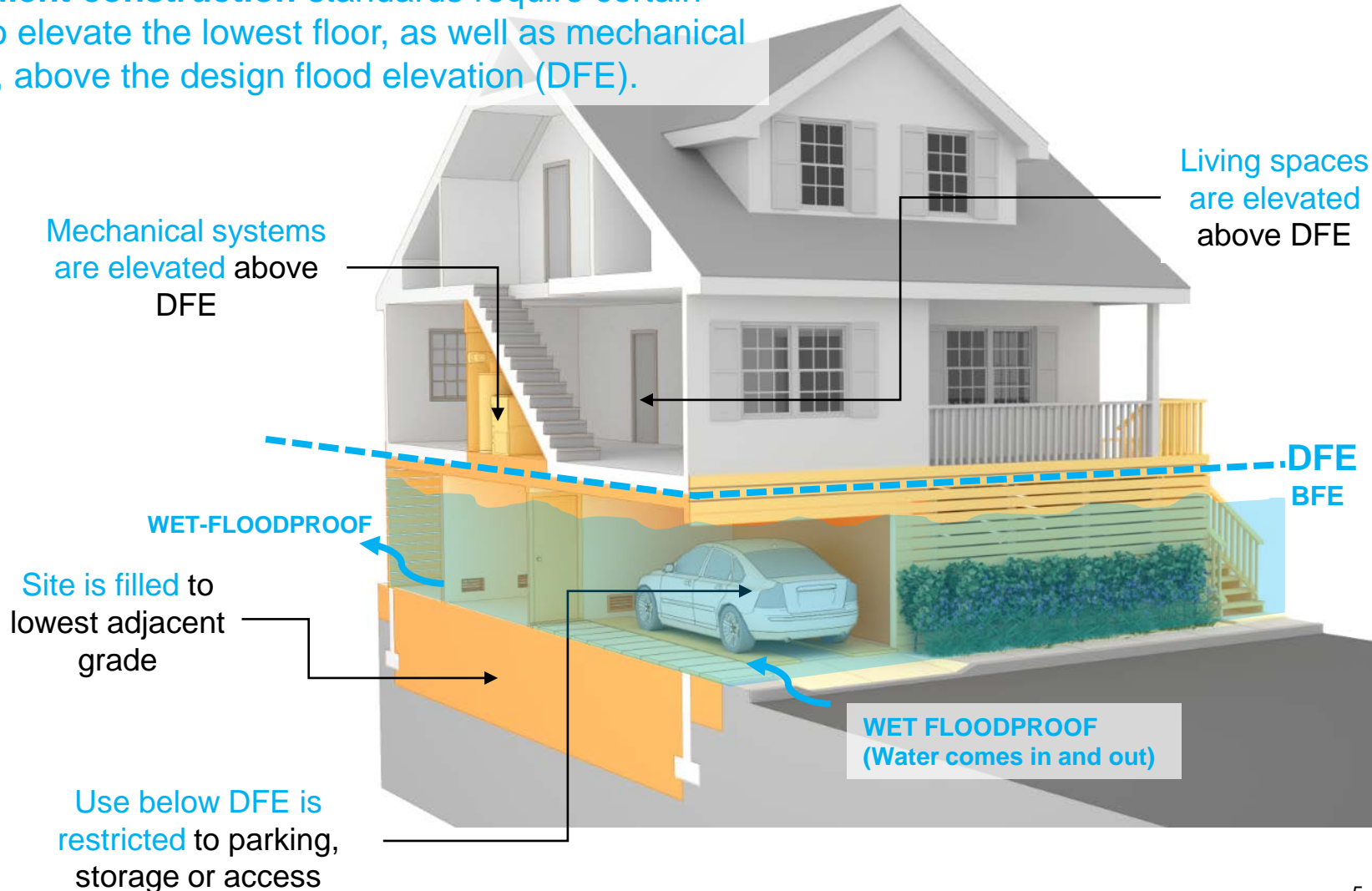
Zoning accommodates these regulations and improves neighborhood character





## Flood-resistant 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).



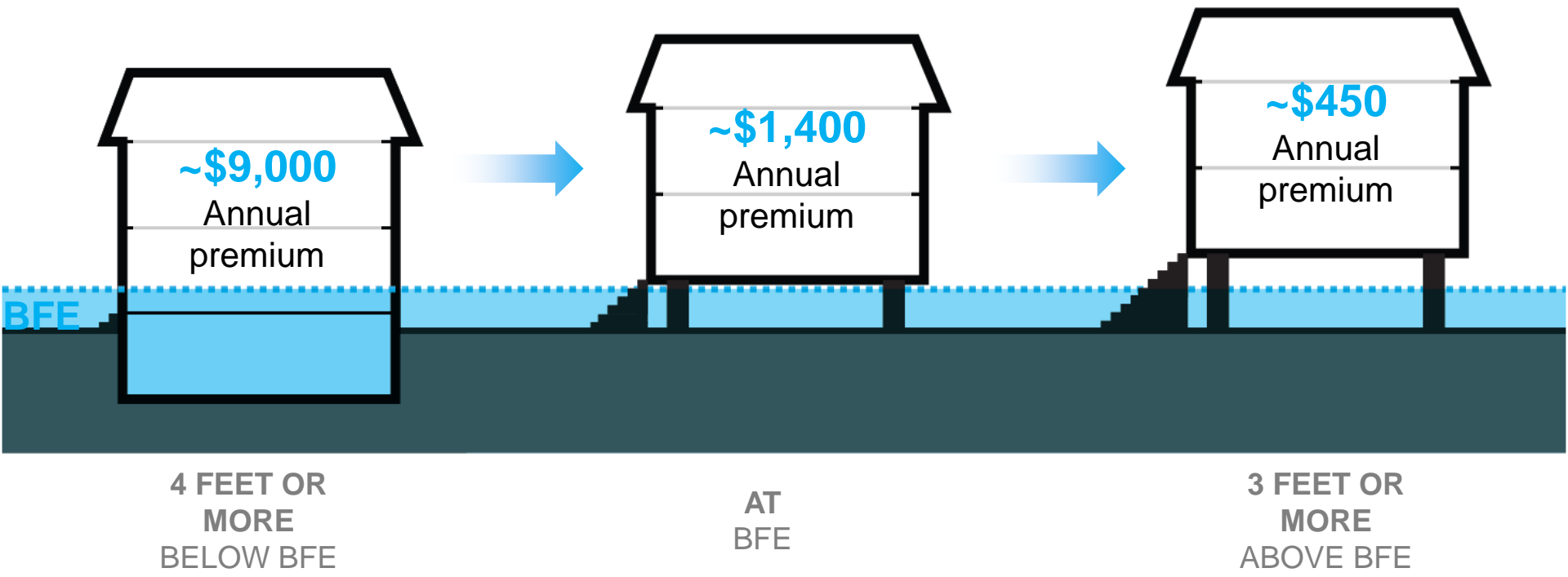
## Flood insurance rates

Set by FEMA



Raising or retrofitting your home will reduce costs.

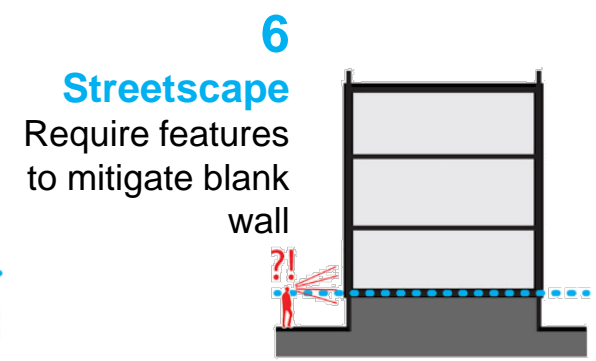
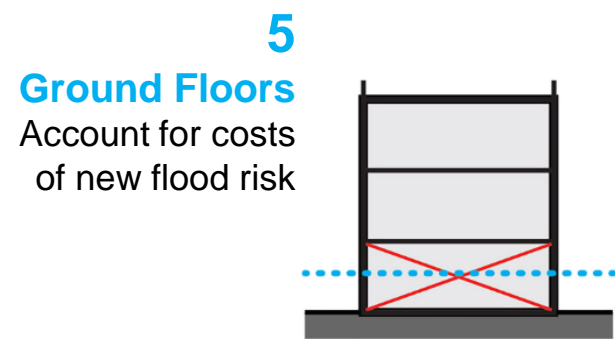
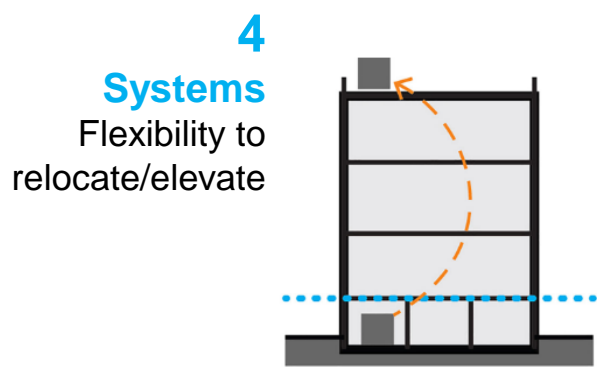
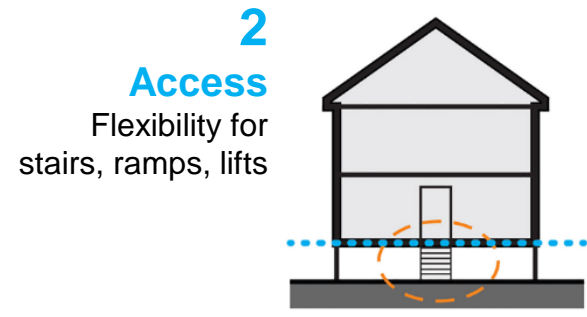
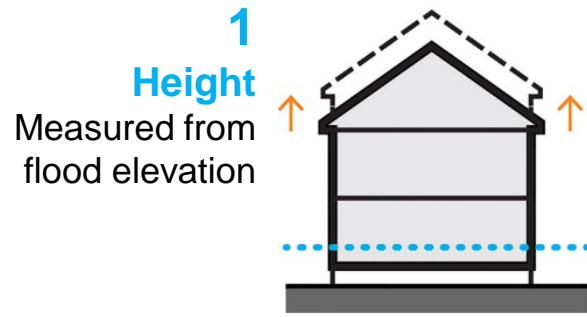
FEMA's flood insurance premiums are lowest when the lowest inhabited floor (any area not used solely for storage, access or parking) is elevated above the Base Flood Elevation (BFE).



# 2013 Citywide Flood Resilience Text Amendment



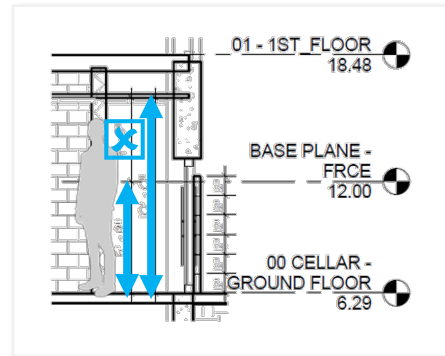
\*Intended to be updated based on lessons learned, expires 1 year after adoption of PFIRMs.





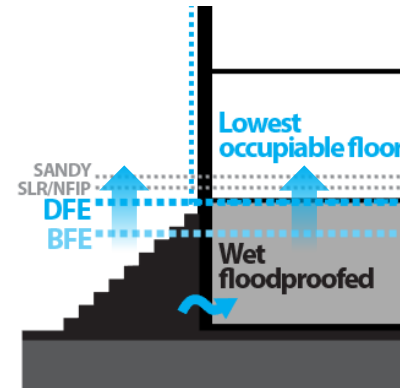
1

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



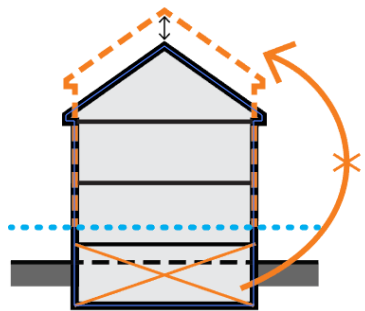
# Flood Text II: fix and improved based on lessons learned



1

### Height

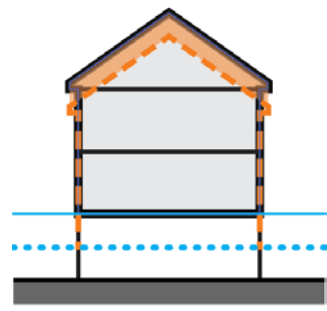
Homeowners may face the loss of subgrade spaces when retrofitting



2

### Height

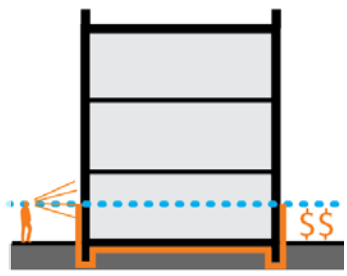
Property owners may want to address future risk by over-elevating



3

### Ground Floors

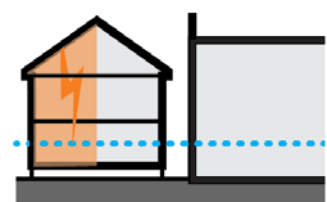
Current incentives to keep active ground floors may not be enough



4

### Homes in M Districts

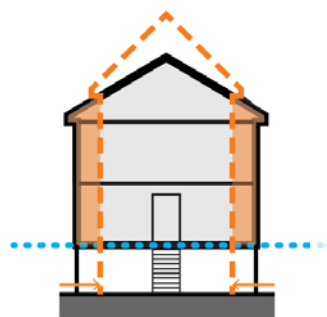
Existing homes in M. Districts, if damaged, may not be able to rebuild



5

### Old Homes in Small Lots

Old homes on small lots may need more flexibility to rebuild in the future



6

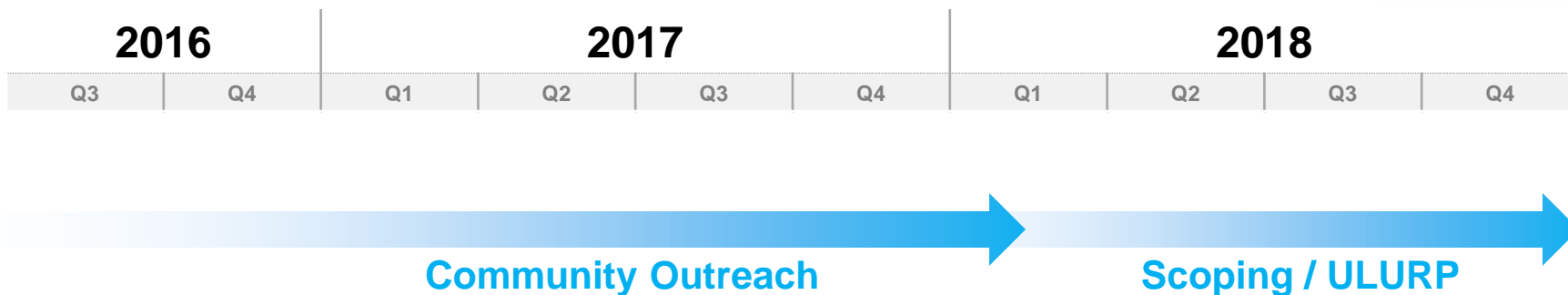
### Highly Vulnerable Areas

Density may need to be limited in highly vulnerable areas





DCP plans a robust public engagement process:



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**

**NYC PLANNING** Info Brief  
**Flood Insurance**

Flood insurance covers damages to property or personal contents from flooding caused by excessive rainfall, tidal flooding, or wind-driven storm surges. Changes to flood maps and reforms to the National Flood Insurance Program will lead to increases in flood insurance rates over time. In addition to flood resilient construction, insurance is another strategy for reducing flood risk.

**Why is Flood Insurance Important?**

- Floods can cause significant damage to your most valuable asset: your business.
- Even properties far from the coast are at risk of flooding.
- Homeowner and property insurance typically do not cover damage by flooding. You need a separate policy.
- Federal assistance is not guaranteed in the event of a flood.
- Many property owners are required by federal law to purchase and maintain flood insurance if the property is located in a local risk flood zone of the 2007 FIRM (to the right), has a federally backed mortgage, or has received federal disaster assistance.

**How Much Flood Insurance Must a Homeowner Purchase?**

Properties with a federally backed mortgage in a high-risk flood zone and those that have received federal disaster assistance must maintain flood insurance up to the NFIP limits, or the outstanding mortgage amount, whichever is lower. Failure to do so can result in mortgage servicers purchasing a private flood policy at a higher price on the cost through monthly mortgage payments. Homeowners without a federally backed mortgage or outside a high-risk flood zone can carry up to the maximum policy limit with additional contents coverage up to \$100,000 for owners or renters. Co-located family buildings and businesses can be covered up to \$500,000. Businesses and tenants can also purchase up to \$500,000 in contents coverage.

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**NYC Flood Hazard Mapper**

[www.nyc.gov/floodhazardmapper](http://www.nyc.gov/floodhazardmapper)

**NYC PLANNING** Info Brief  
**Flood Risk in NYC**

New York City is highly vulnerable to flooding from coastal storms due to its intensively used waterfront and its extensive coastal geography. Floods have the potential to destroy homes and businesses, impact infrastructure, and threaten human safety. With climate change and sea level rise, these risks are expected to increase in the future, but will most adversely affect low-lying neighborhoods.

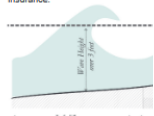
**Flood Risks**

Hurricanes, tropical storms, nor'easters, intense rain storms, and even extreme tides are the primary causes of flooding in NYC.

For building code, zoning, and planning purposes, flood risk in NYC is reported on FEMA's 2013 Preliminary Flood Risk Rate Maps (PFRMs).

- PFRMs show the extent to which waters are expected to rise during a 1% annual chance event that has a 1% annual chance of occurring. This height is denoted as Flood Elevation (FE) on the map.
- The 1% annual chance floodplain, sometimes referred to as the 100-year floodplain, is the area that is expected to be flooded by a 1% annual chance event. In the 1% annual chance floodplain, there is a 26% chance over the life of a 30-year mortgage that a flood will occur.

For flood insurance purposes, the 2007 Flood Insurance Rate Maps (FIRMs) are used. The 1% annual chance floodplain with a federally backed mortgage is mandated by law to purchase flood insurance.



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

[www.nyc.gov/resilientneighborhoods](http://www.nyc.gov/resilientneighborhoods)

**NYC PLANNING** Info Brief  
**Flood Resilience Zoning**  
[www.nyc.gov/resilientneighborhoods](http://www.nyc.gov/resilientneighborhoods)

City Planning is working with communities throughout the floodplain to identify zoning and land use strategies to reduce flood risks and support the city's vitality and resiliency through long-term adaptive planning. The Flood Resilience Zoning Text is one part of a wide range of efforts by the City to recover from Hurricane Sandy, promote rebuilding, and increase the city's resilience to climate-related events.

**Overview**

The Flood Text enables and encourages resilient building construction that is designed to withstand flooding.

The Flood Text modified zoning to remove regulatory barriers that hindered or prevented the reconstruction of storm-damaged buildings by enabling new and existing buildings with new, higher flood elevations as set by the Federal Emergency Management Agency (FEMA), and to comply with new requirements in the New York City Building Code.

It also introduced regulations to mitigate negative effects of flood resilient construction on the public realm. The text was adopted on a temporary, emergency basis. Its future update, if any, will be guided by public input, which will aim to make the text permanent and incorporate lessons learned during the rebuilding process.

**Where is the Flood Text Applicable?**

The Flood Text is available to buildings located entirely or partially within annual chance floodplains.

These rules can be found in Article V of the Zoning Resolution and, if utilized, require the building to fully comply with resilient construction standards found in the New York City Building Code, with some provisions, such as elevation requirements, are available to all buildings in the floodplain, even if not fully compliant with Appendix G.

For more information about the Flood Text, visit [www.nyc.gov/resilientneighborhoods](http://www.nyc.gov/resilientneighborhoods) or the more restrictive of the 2007 PFRMs or FIRMs.

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**NYC PLANNING** Info Brief  
**Flood Resilient Construction**

Flood resilient construction reduces potential damages from flooding and can lower flood insurance premiums. New buildings in the floodplain are required to meet flood resilient standards. Existing buildings can reduce their risk by retrofitting or rebuilding to meet these standards, or can take partial, short-term measures to address safety concerns.

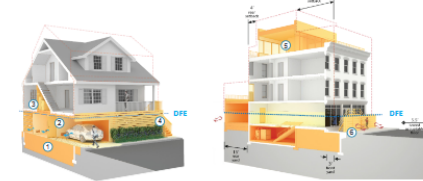
**Overview**

There is a wide range of accepted flood resilient construction practices for buildings to better withstand floods and recover more quickly following a storm. These include:

- Elevating mechanical equipment such as electrical, heating, and plumbing equipment.
- Wet floodproofing by utilizing water resistant building materials and limiting uses below the Design Flood Elevation (DFE) to parking, building access, and minor storage. This allows water to move in and out of uninhabited, lower portions of the building with minimal damage.
- Dry floodproofing sealing the building's exterior to flood waters and using removable barriers at entrances below the expected level of flooding in mixed-use and non-residential buildings.

**Examples of Flood Resilient Construction**

Visit [www.nyc.gov/resilientneighborhoods](http://www.nyc.gov/resilientneighborhoods) to see more examples in the Retrofitting for Flood Risk report.



- 1 Wet floodproofed residential building
- 2 Mechanical systems are above the DFE
- 3 Plans and stair turns improve the look of the building from the street
- 4 Dry floodproofed mixed-use building
- 5 Retrofit section replaces lost below grade space
- 6 Commercial space is dry floodproofed with removable barriers

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Thank you!

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