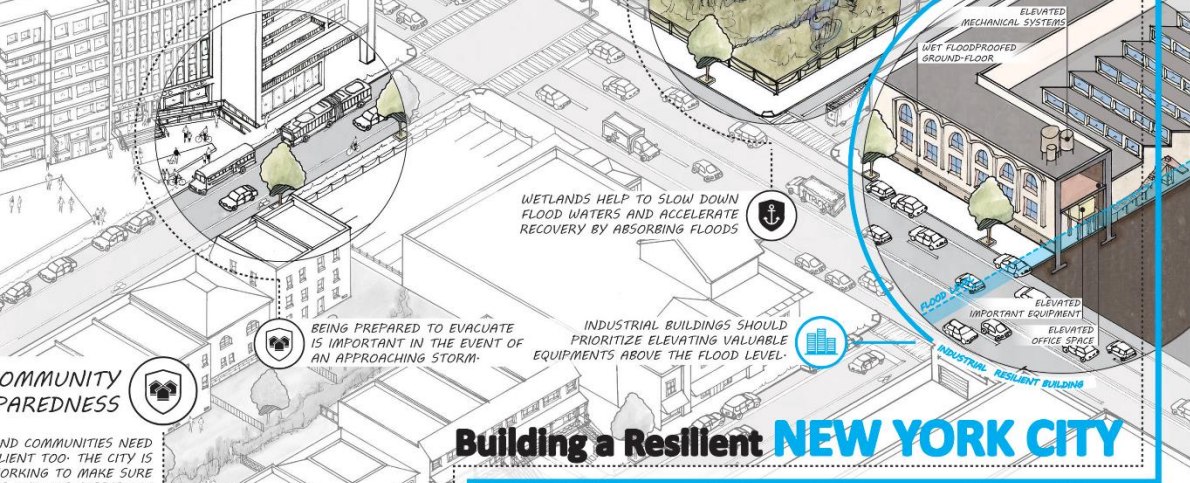
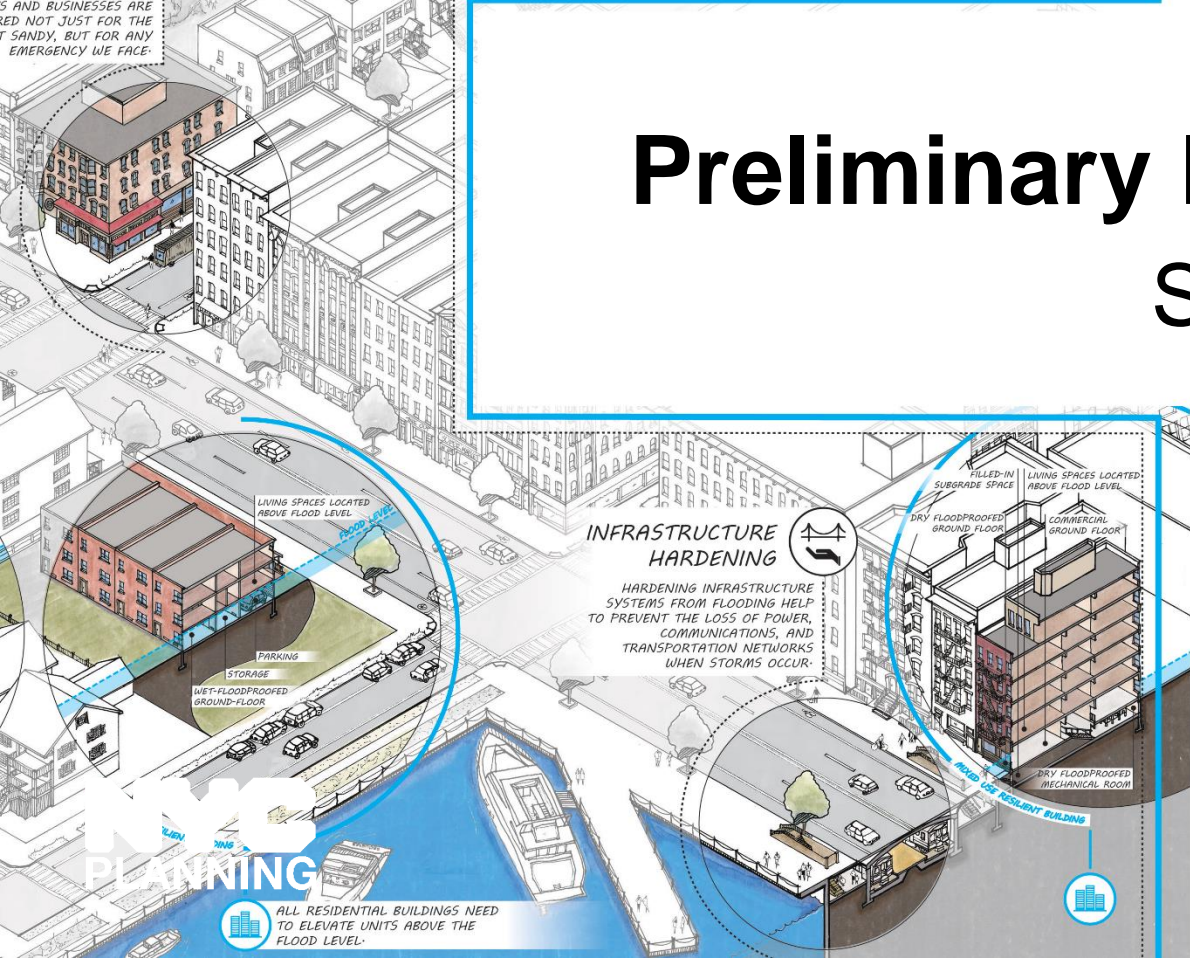


Zoning for Coastal Flood Resiliency



Preliminary Recommendations Summary



Queens CB 14
September 10, 2019



Alley Pond Creek, Queens



Upper Bay

The waterfront is large—with 520 miles—and diverse. These areas face different flood risks and issues with the current regulatory framework, and require particular strategies to make them resilient.



Rockaways, Queens



Williamsburg, Brooklyn

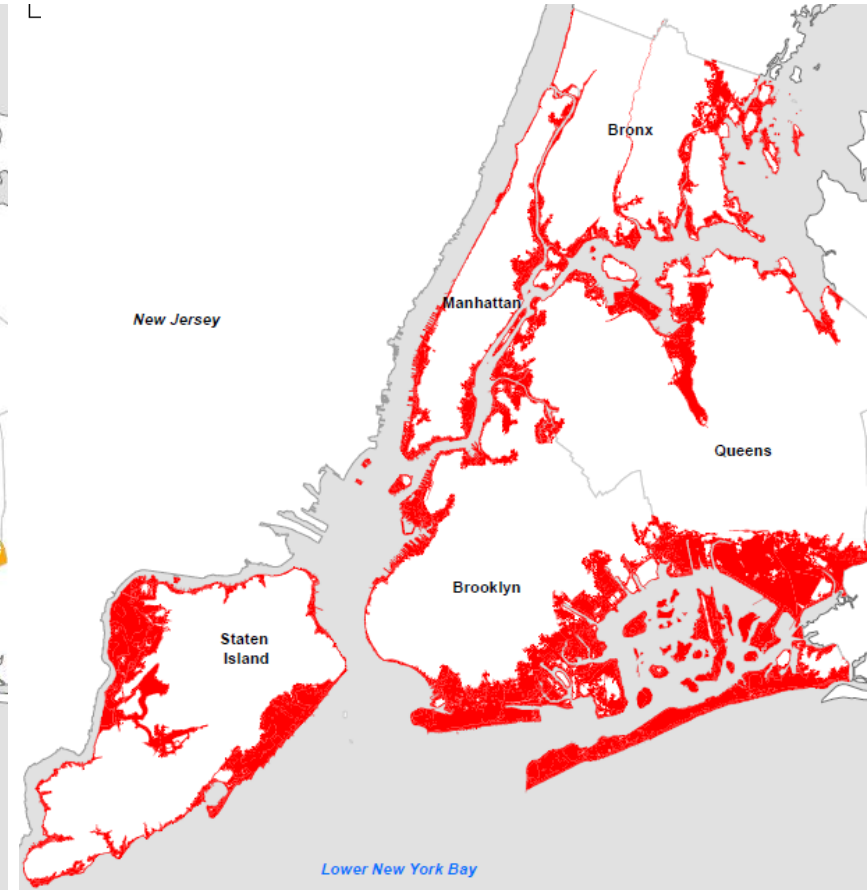
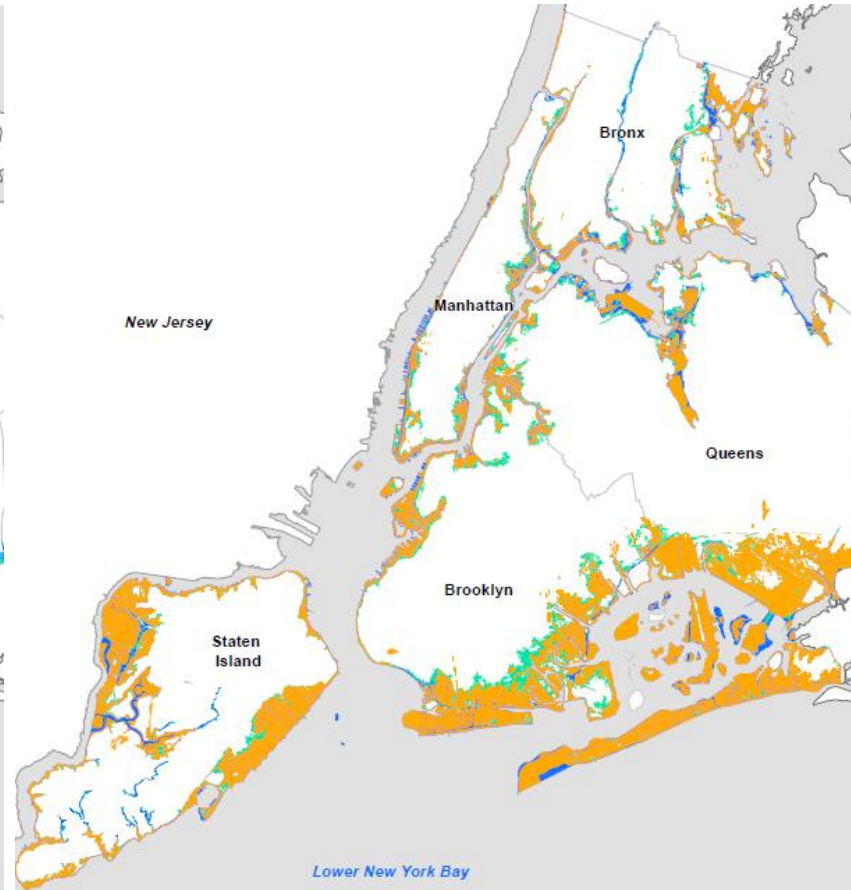
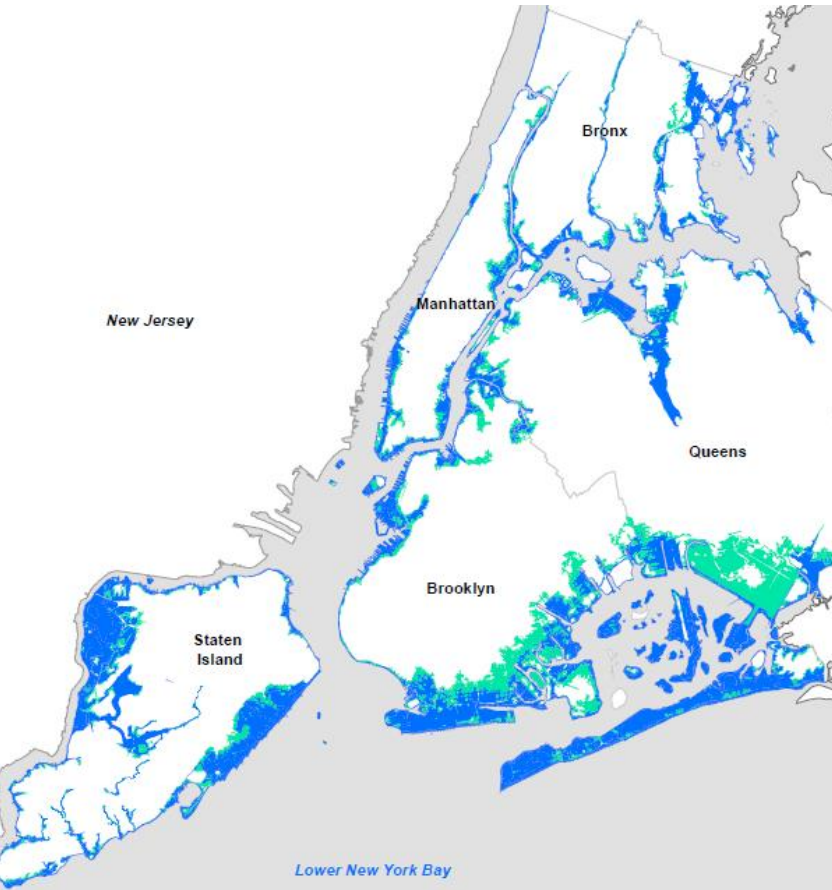
Citywide Flood Risk

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 all lots in the high-risk zone, but also 50% of lots in the moderate-risk area

The current moderate-risk zone will likely become the future high-risk flood zone.



High-risk: 1% annual chance floodplain (FEMA) ■
Moderate-risk: 0.2% annual chance floodplain (FEMA) ■

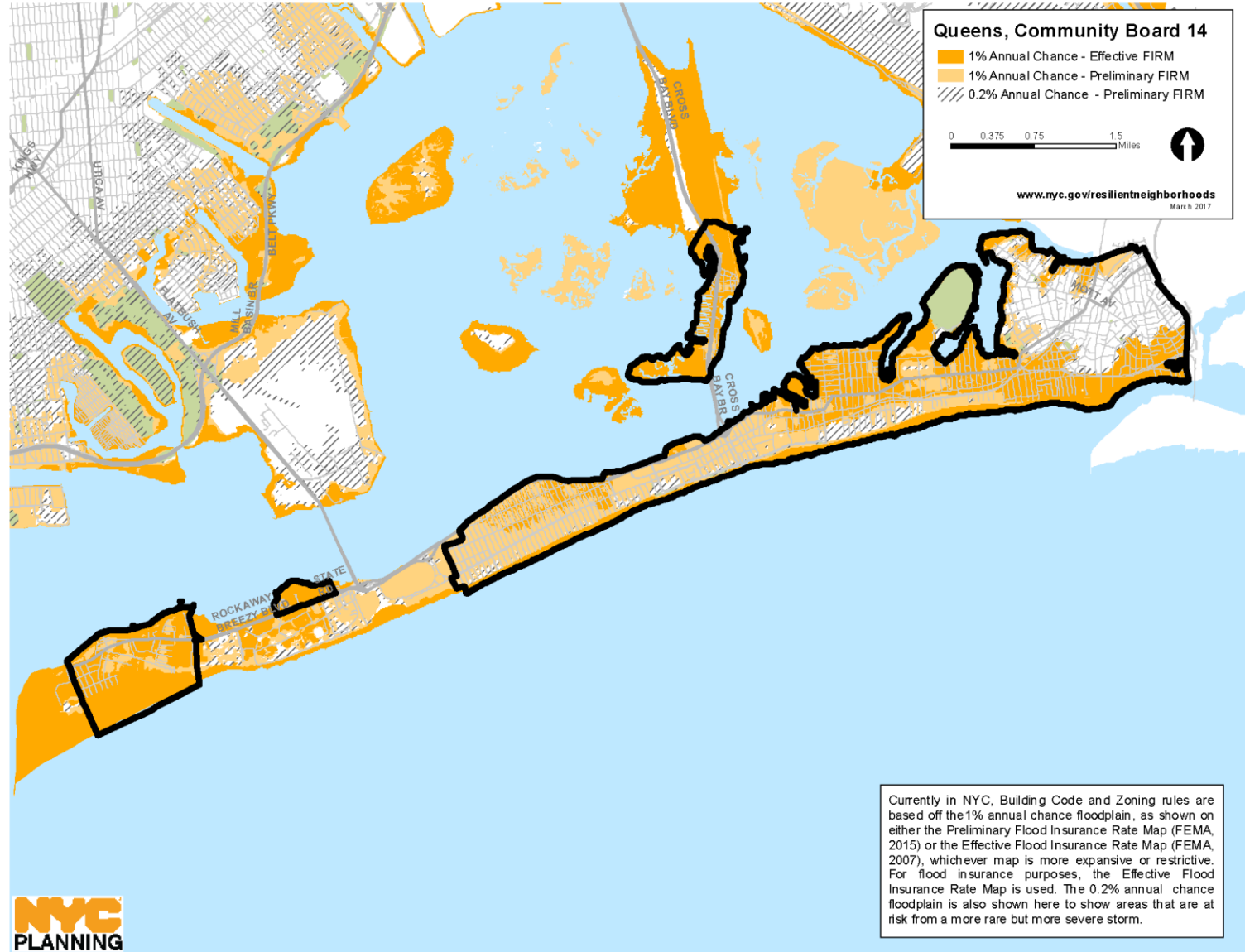
Hurricane Sandy Storm Surge ■

2050s 1% Annual Chance Floodplain (NPCC) ■

Flood Risk

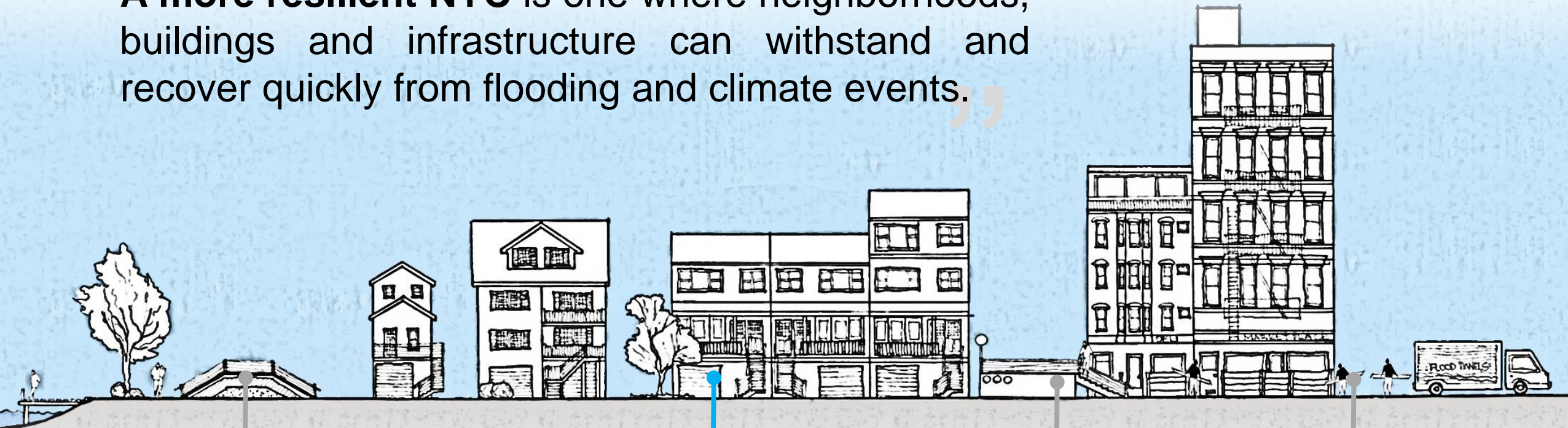
Queens Community District 14

- 16,998 (82%) of CD14 buildings are in the floodplain
- 68.2% of buildings in the floodplain are detached residences
- 65.4% of buildings in the floodplain have a full basement below grade



#ONENYC

“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?

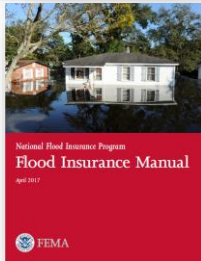


FEMA



Flood Insurance Rate Maps (FIRMs)

Determine 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

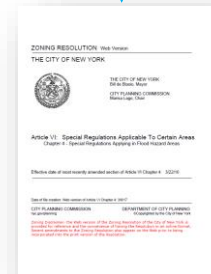
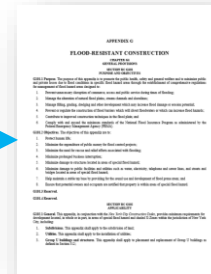
NYC

Building Code (DOB)

Requires new buildings and substantial improvements to meet FEMA standards (Appendix G)

Zoning Resolution (DCP)

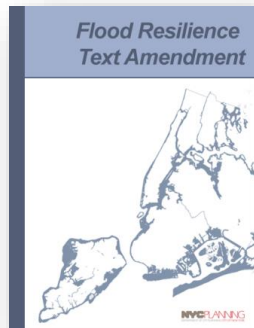
Zoning accommodates these regulations and improves neighborhood character



DCP's work since Sandy

From recovery to long-term resiliency

Zoning Text Amendments (emergency-basis)



2013- FT1
Temporary Provisions



2015- SNRN
Removed additional zoning barriers

Outreach Process



Citywide / Neighborhood Studies
(2014-2017)

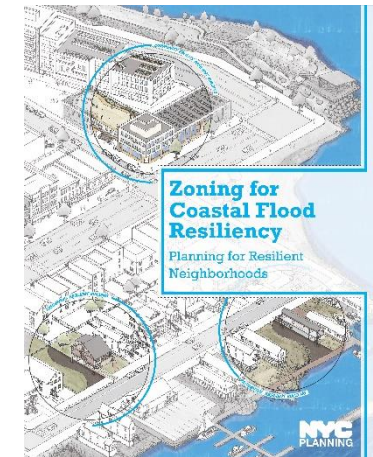
Learn about specific neighborhood challenges faced after Sandy



Community Outreach Workshops
(2016-2018)

Learn about other challenges communities faced to recover from Sandy but also to build future resiliency

Proposal (permanent-basis)



Zoning for Coastal Flood Resiliency
(2018-2019)

A plain-language description of the proposal to encourage resiliency in the long-term

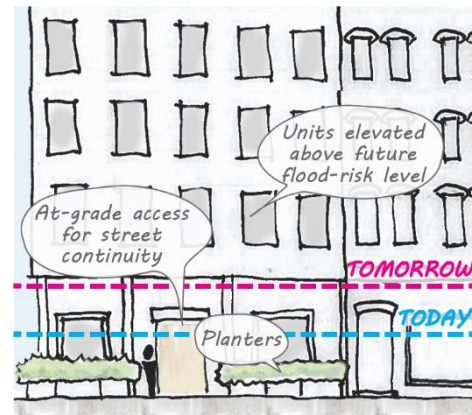
Zoning for Coastal Flood Resiliency

Overview of project's goals

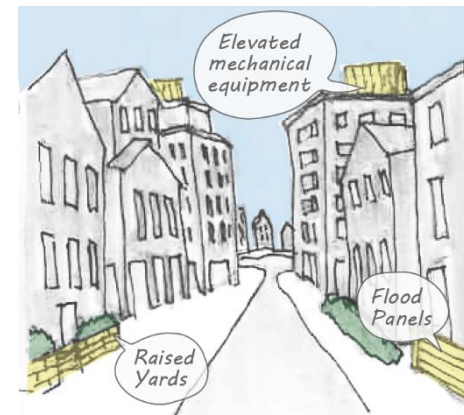
Zoning for Flood Resiliency would provide building owners flexibility to design or otherwise retrofit their buildings to reduce damage from flooding, be resilient in the long-term, save on flood insurance costs, and expedite future-storm recovery.



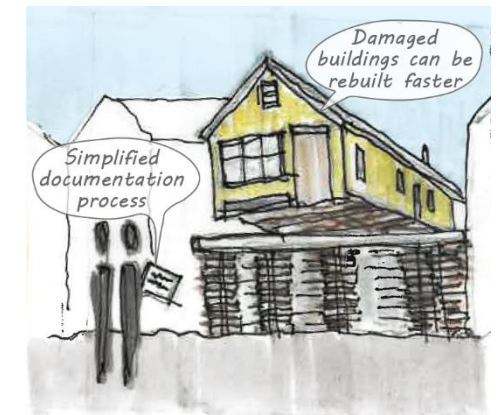
1. Encourage resiliency throughout the city's current and future floodplains



2. Support long-term resilient design of all building types by offering flexibility in the zoning framework



3. Allow for adaptation over time through partial resiliency strategies



4. Facilitate future-storm recovery by removing regulatory obstacles

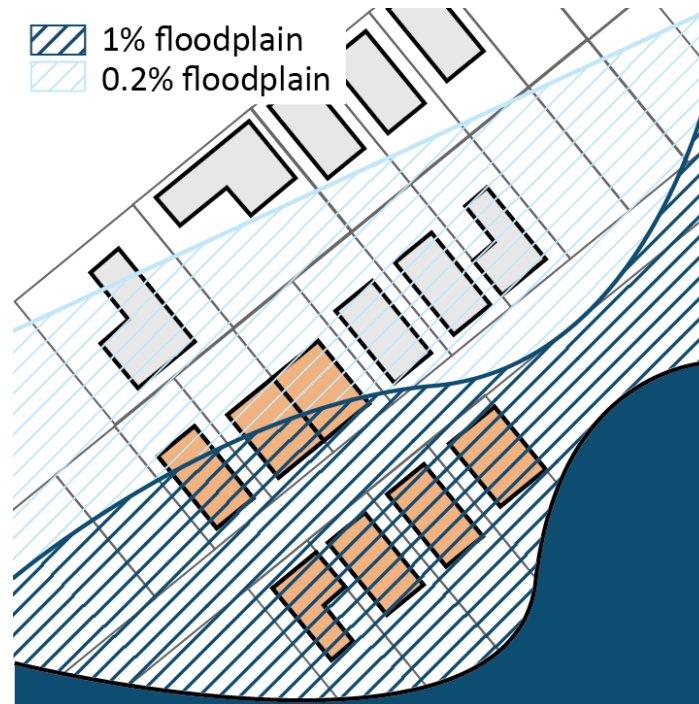
Zoning for Coastal Flood Resiliency

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.

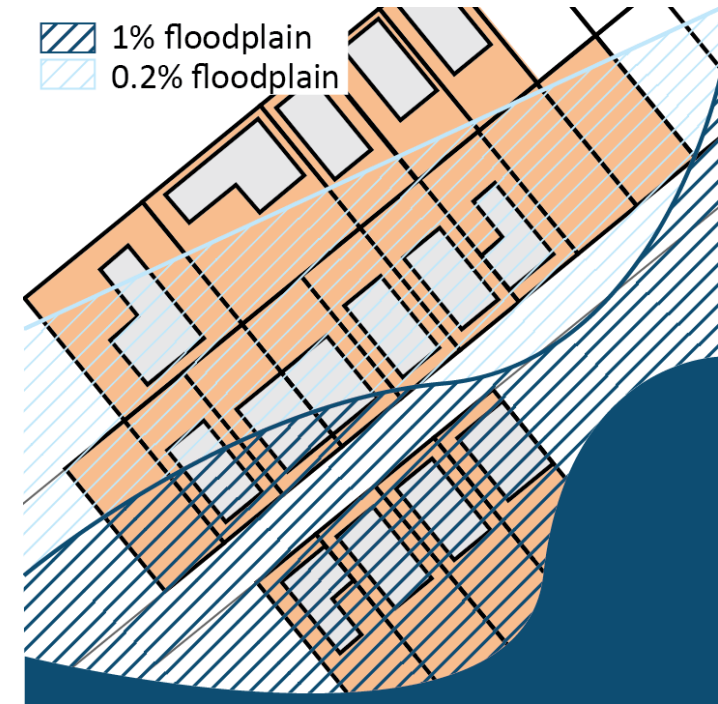


1. Encourage resiliency throughout the current and future floodplains



Existing Rules

are only available to buildings within the 1% floodplain



Proposed Rules

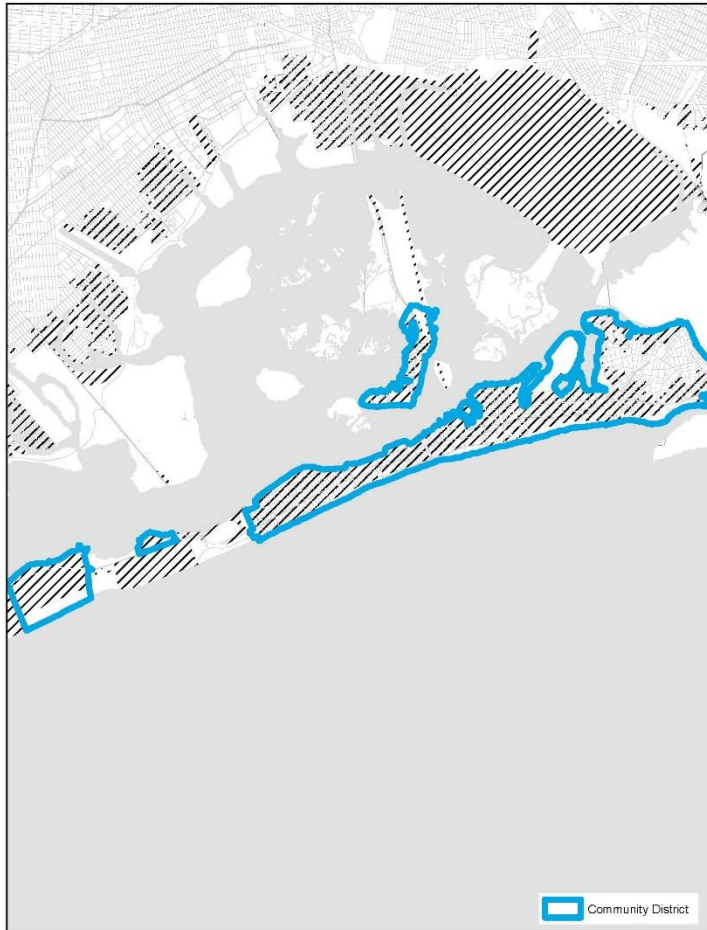
will be available to lots within the 0.2% floodplain

Applicability

General Applicability

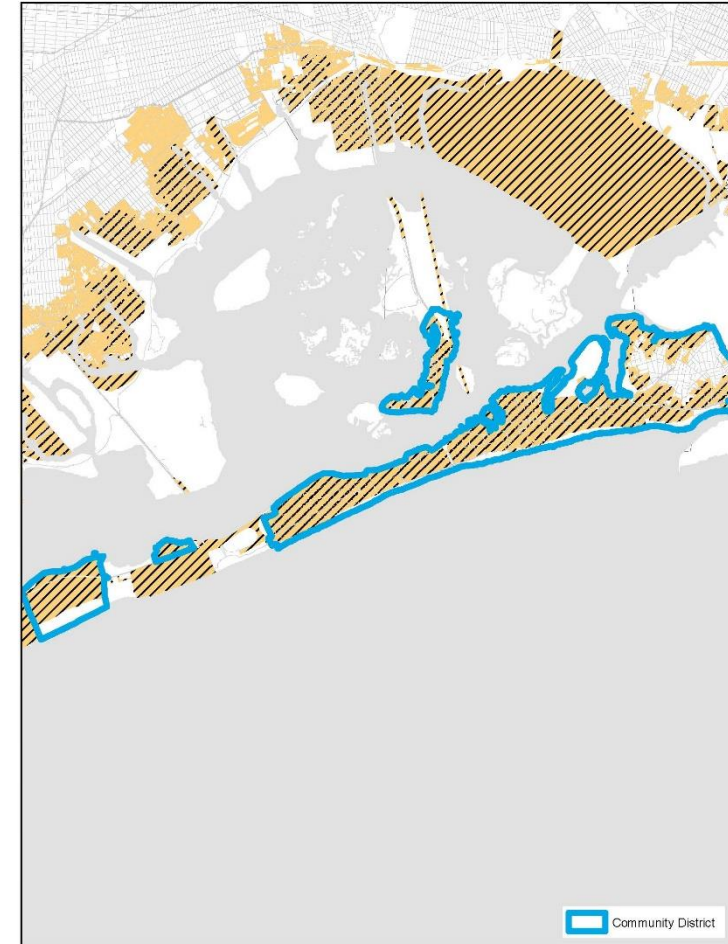
Applicability in Queens CB 14

Existing FT1 Optional Rules



▨ Rules available for buildings within the 1% floodplain

Proposed Optional Rules



▨ Existing rule

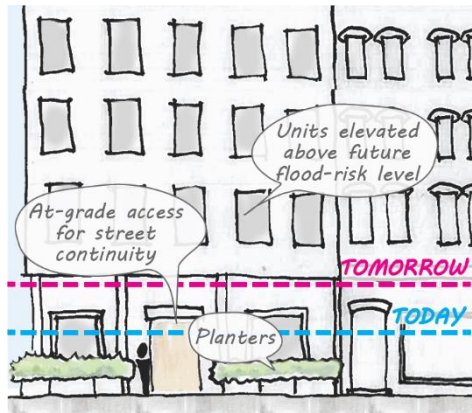
■ Rules available for lots within the 1% and 0.2% floodplains



Zoning for Coastal Flood Resiliency

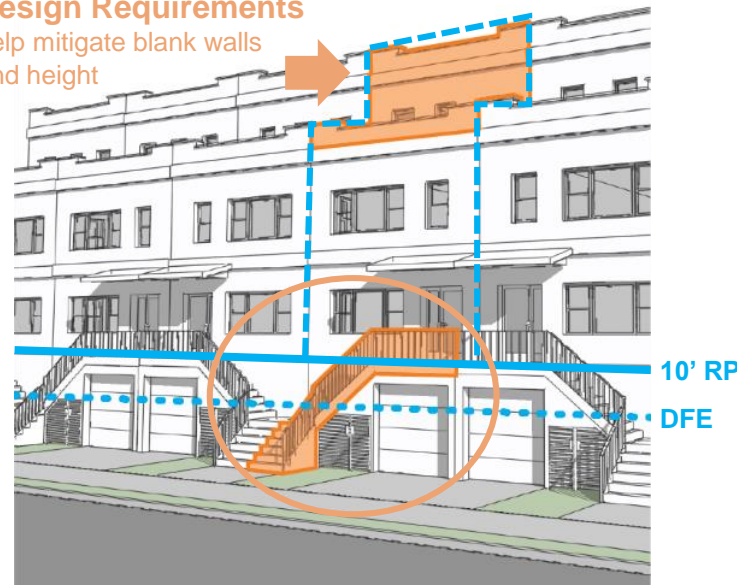
An enhanced Building Envelope

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.



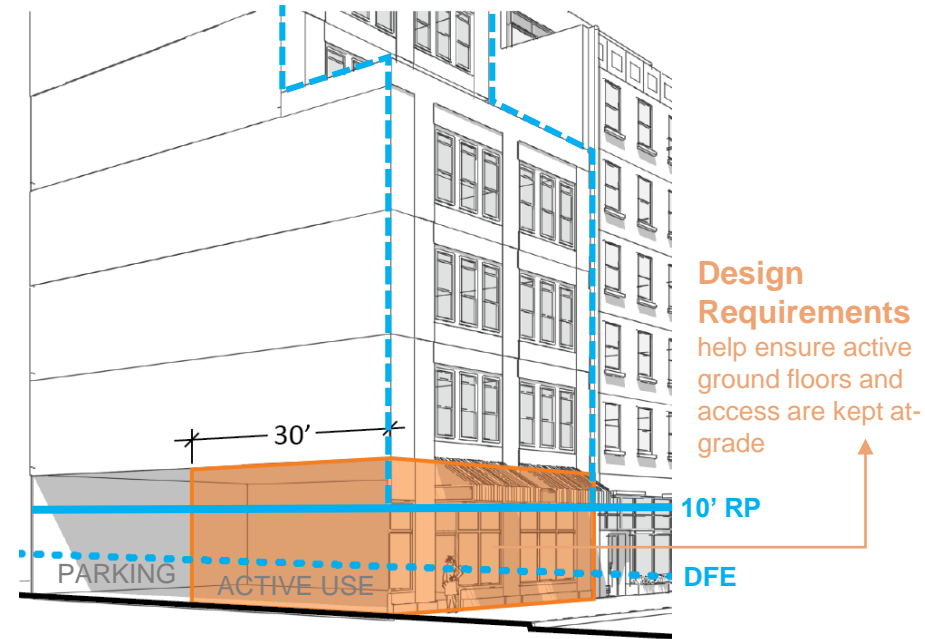
2. Support long-term resilient design of all building types through flexibility in zoning

Design Requirements
help mitigate blank walls and height



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)



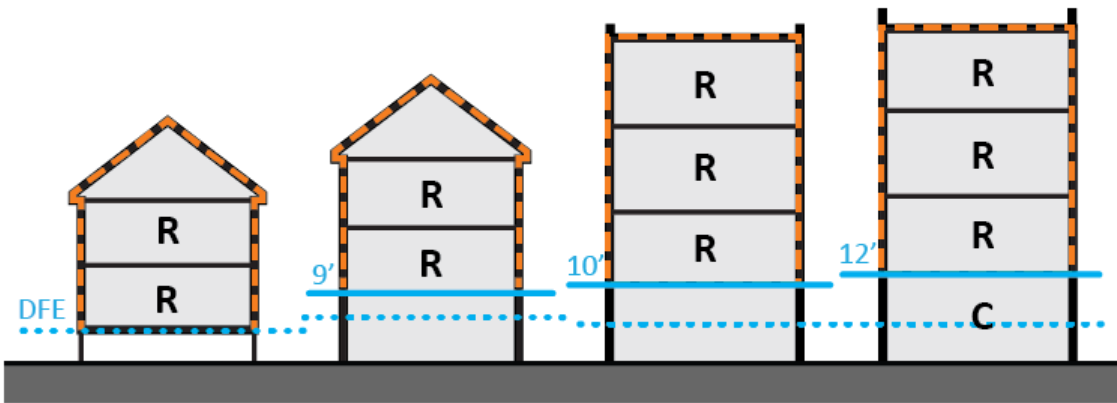
Floor Area Exemptions

for active uses (commercial and community facilities) that are dry-floodproofed and kept at grade, and any wet-floodproofed spaces

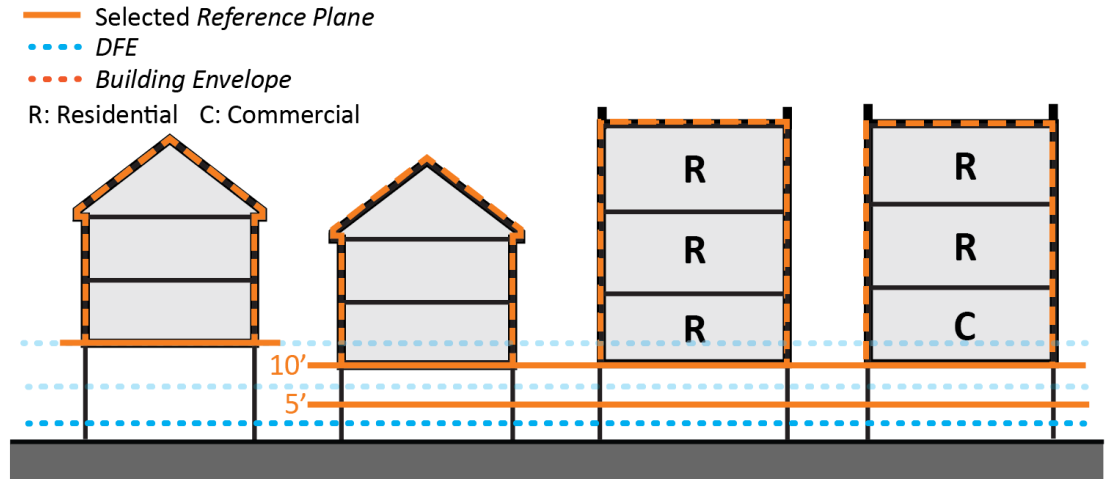
Building Envelope

Height Allowance

Optional height regulations would facilitate buildings to **incorporate sea level rise projections** when meeting *flood-resistant construction standards*, while improving the utility of spaces below the *DFE*.



Existing Rules: DFE or a Reference Plane measured from 9', 10' or 12' depending on the building's use and zoning district



Proposed Rules: DFE or a Reference Plane (up to 10' or 5') available to all lots in the 1% and 0.2% floodplains, respectively

Updated Item

Building Envelope

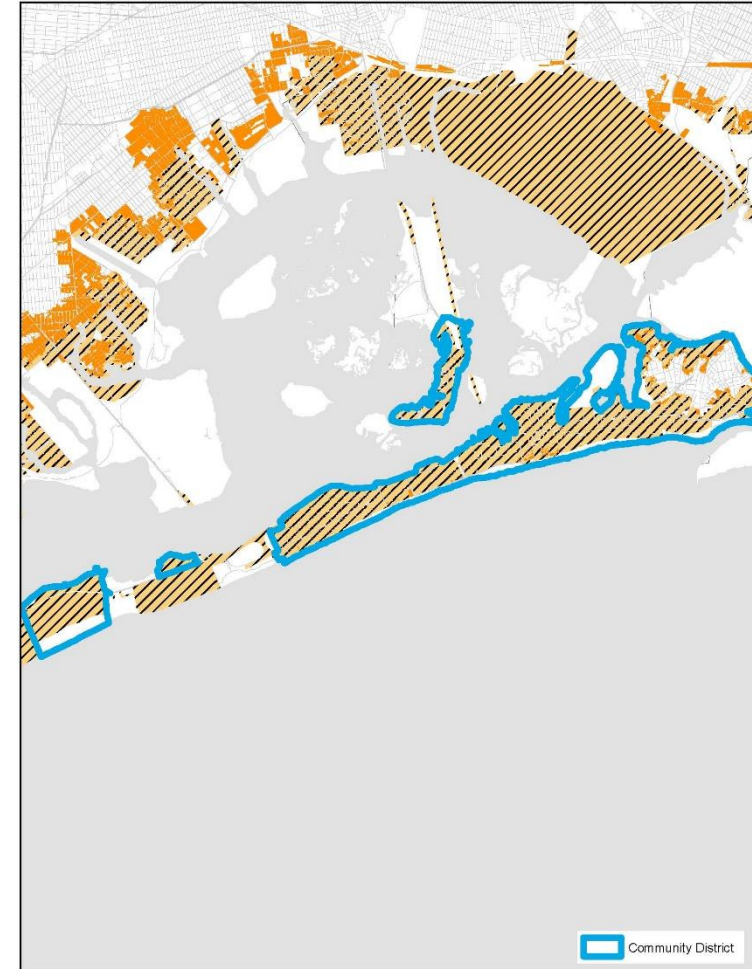
Height Allowance

Applicability in Queens CB 14

Existing FT1 Optional Rules



Proposed Optional Rules



▨ Height can be measured from DFE

▩ Height can be measured from DFE or 12', 10', 9' RP whichever is higher

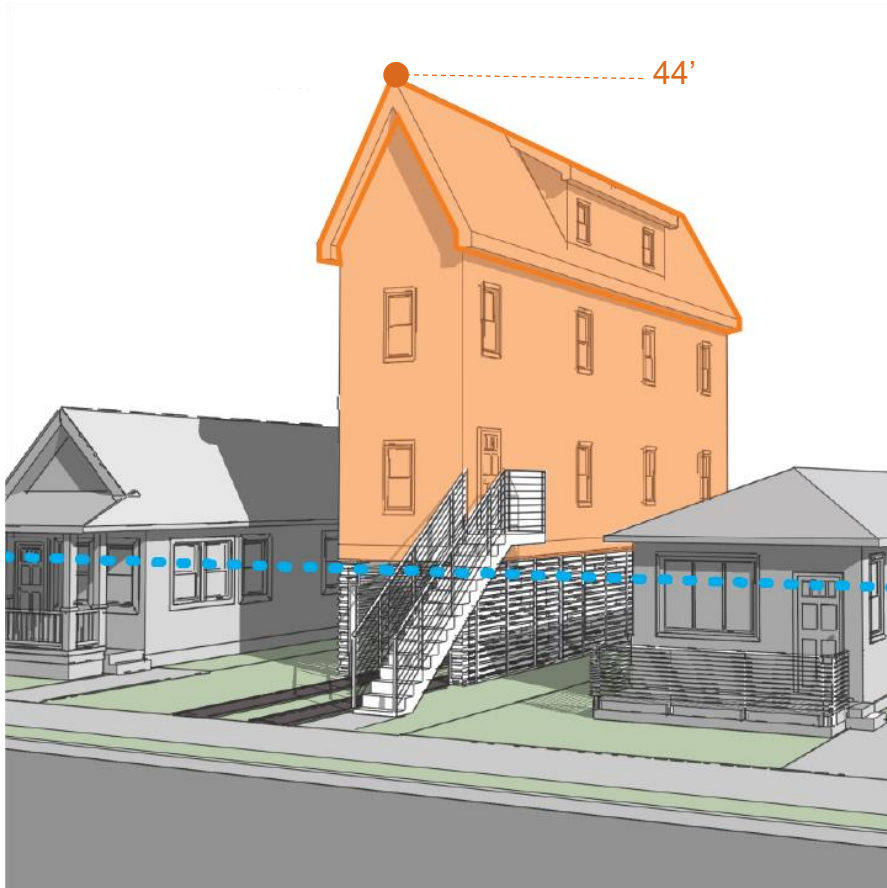
▩ Height can be measured from DFE or up to 10' RP whichever is higher

■ Height can be measured from up to 5' RP

Building Envelope

Cottage Envelope

Optional *Building Envelope* would facilitate the **construction, reconstruction, and retrofit** of homes located on pre-existing substandard lots **in all areas**, and better reflect the scale of traditional cottage buildings.



Existing Rules: maximum height of 35' as measured from the DFE or 9' Reference Plane



Proposed Rules: maximum height of 25' as measured from the DFE up to 10' Reference Plane

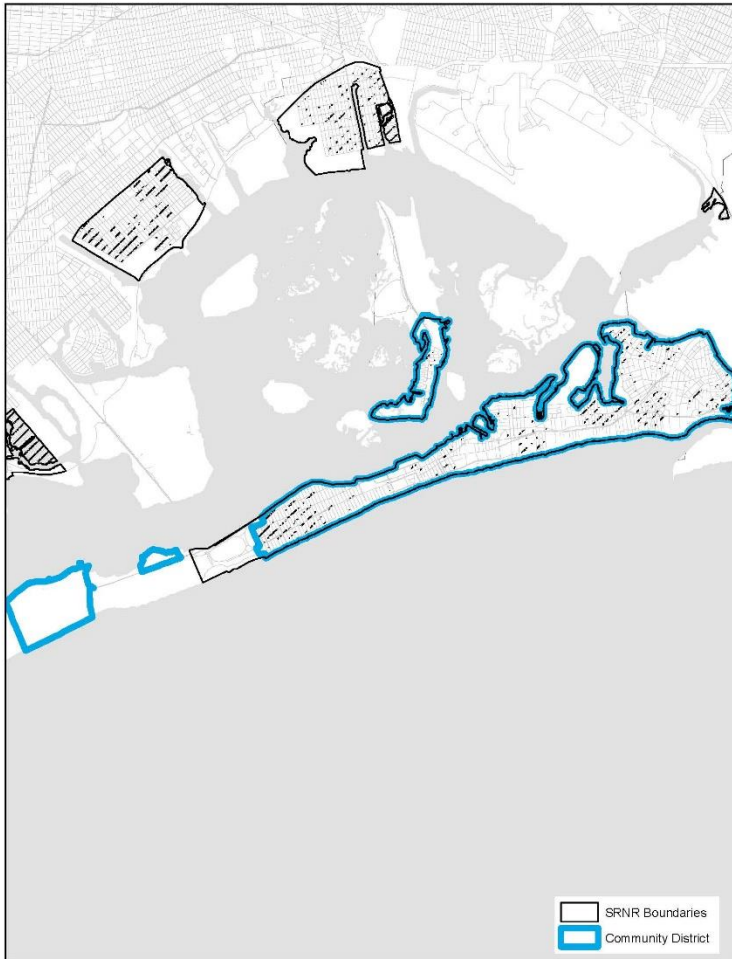
Updated Item

Building Envelope

Cottage Envelope

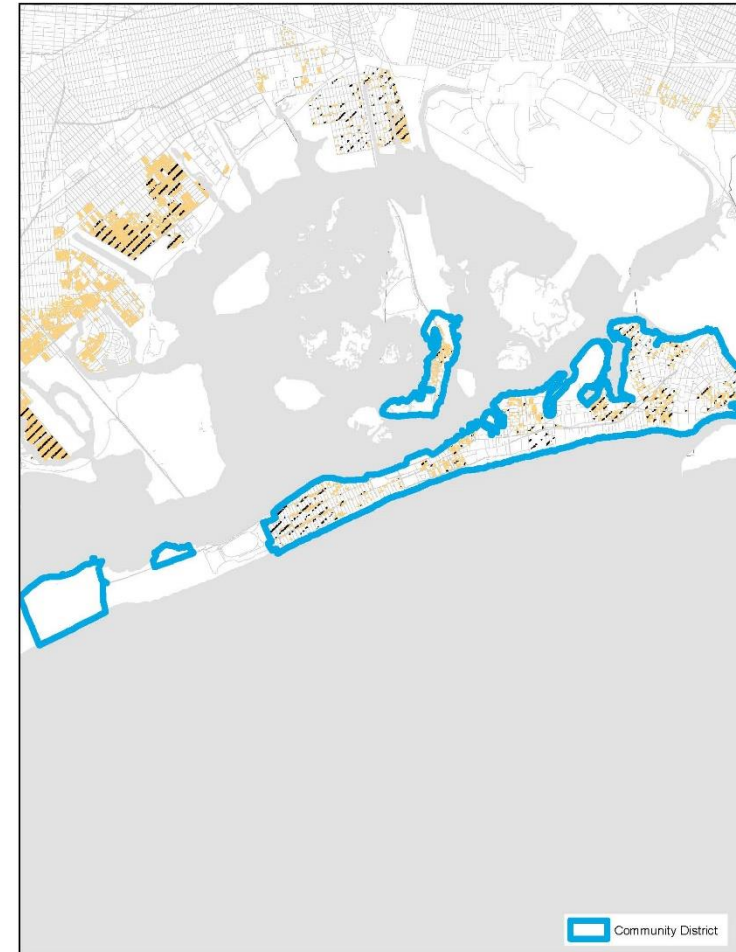
Applicability in Queens CB 14

Existing FT1 Optional Rules



▨ Rule available within SRNR Boundaries in 1% floodplain

Proposed Optional Rules



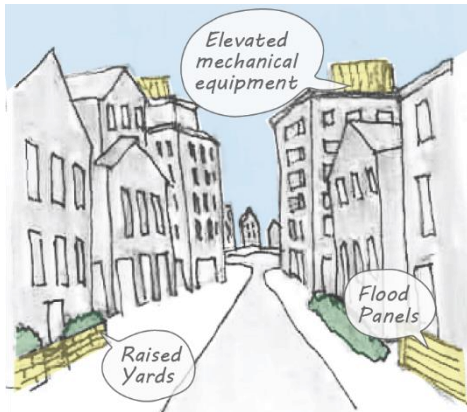
▨ Existing rule ■ Rule available within 1% and 0.2% floodplains



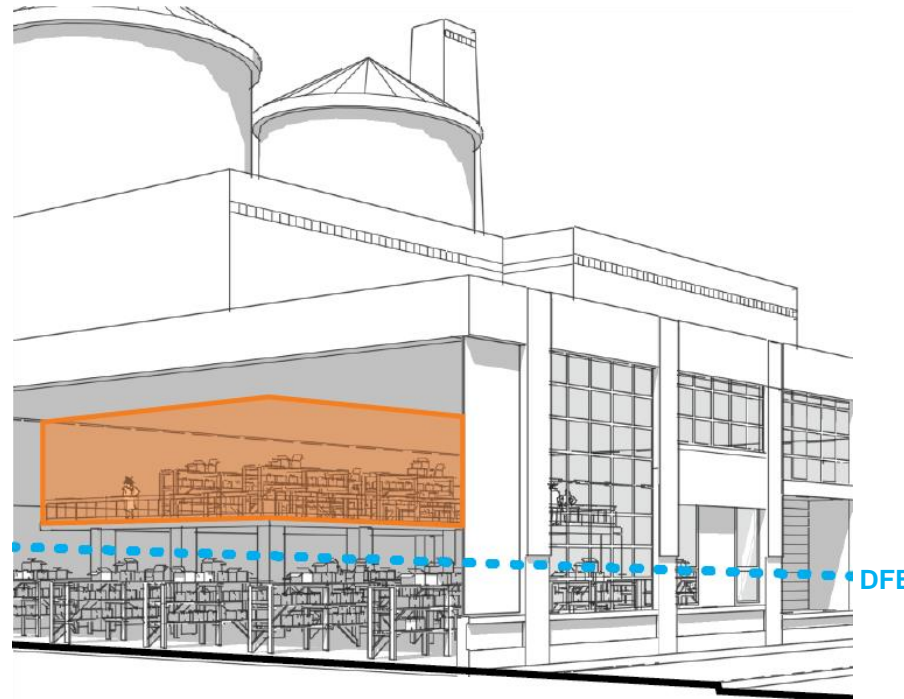
Zoning for Coastal Flood Resiliency

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.

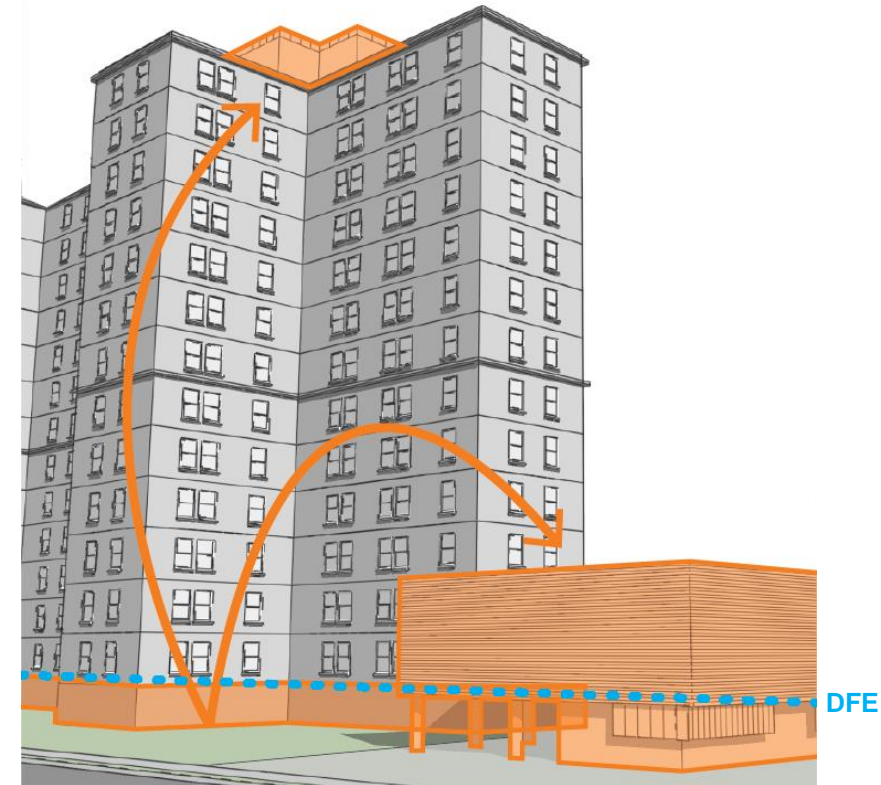


3. Allow for adaptation over time through incremental retrofits



Floor Area Exemptions

for existing industrial buildings allow the creation of small mezzanine space or a 2nd floor to store important spaces/equipment



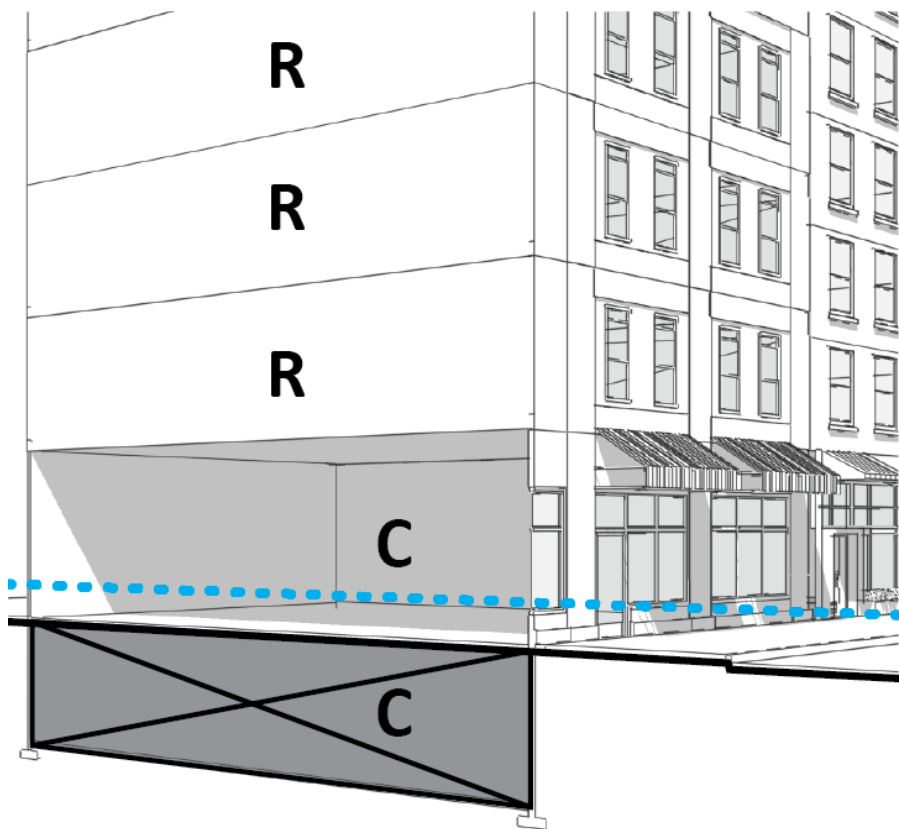
More flexible permitted obstructions

provide more options for MEP to be relocated to either above the roof or within separate structures

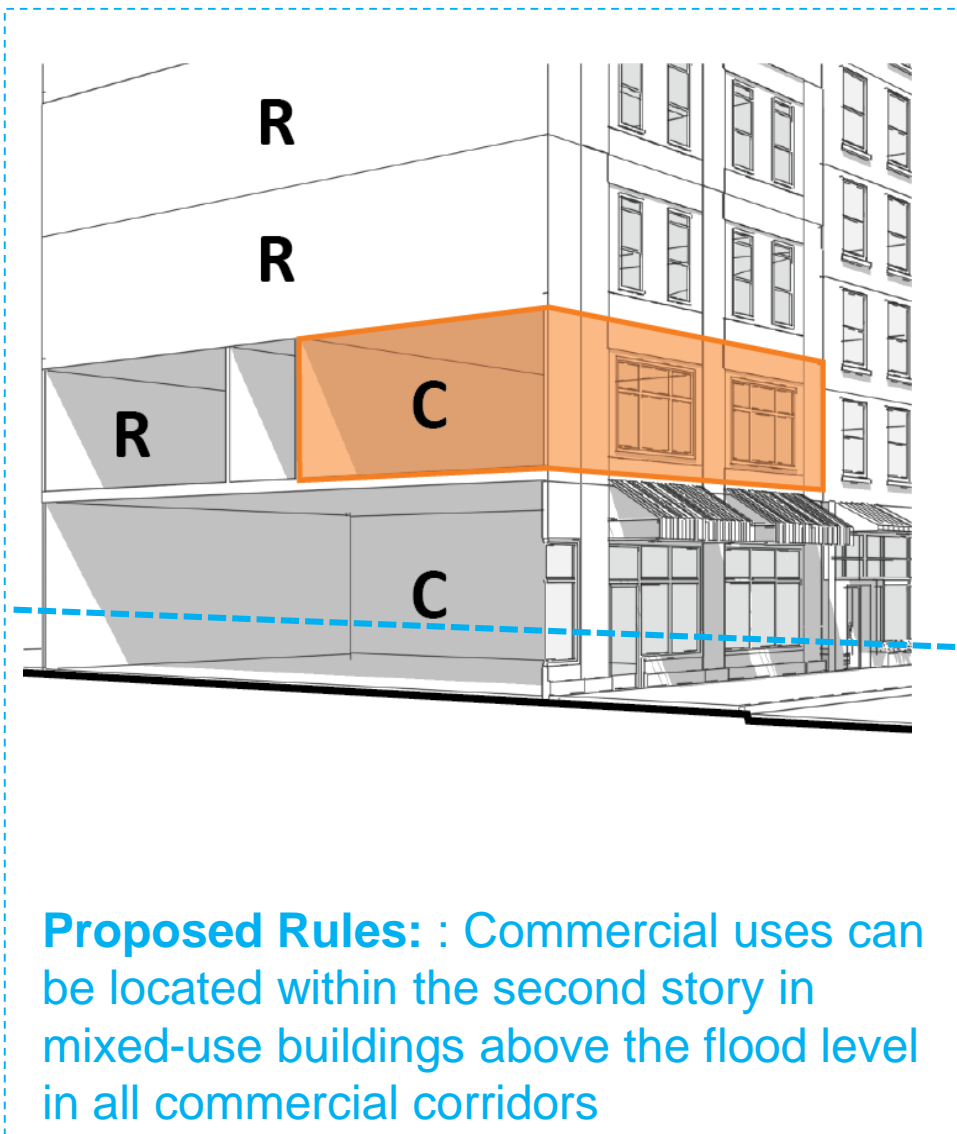
Building Design

Use Regulation

Supplemental use regulations would offer alternatives beyond dry-floodproofed cellars for businesses to locate commercial uses, especially accessory spaces



Existing Rules: Commercial uses are limited to the ground-floor in mixed-use buildings in certain commercial corridors



Proposed Rules: Commercial uses can be located within the second story in mixed-use buildings above the flood level in all commercial corridors

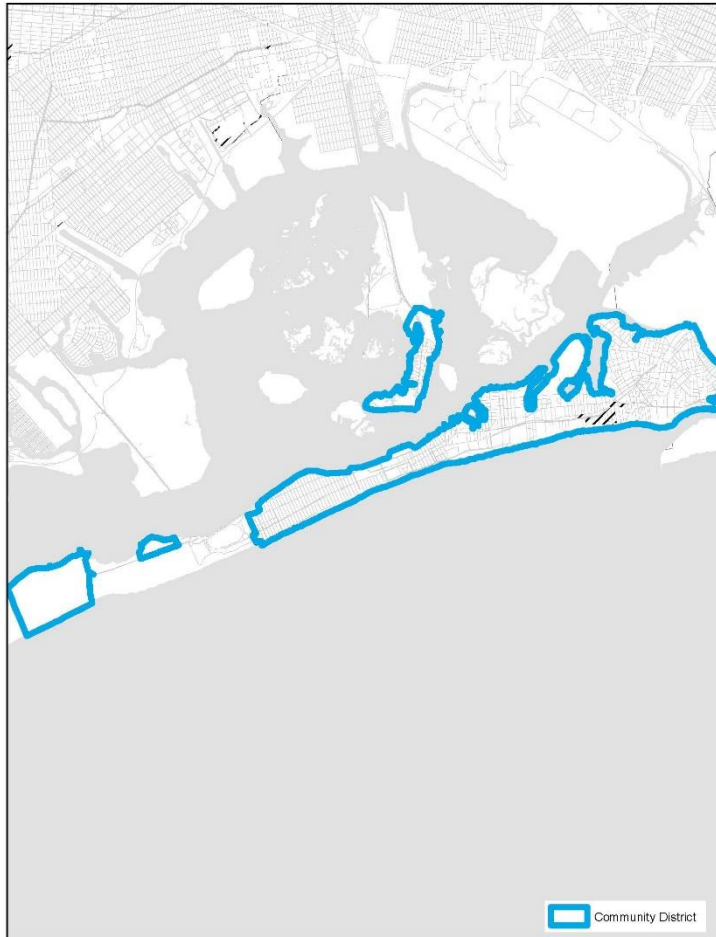
New Item

Building Design

Use Regulation

Applicability in Queens CB 14

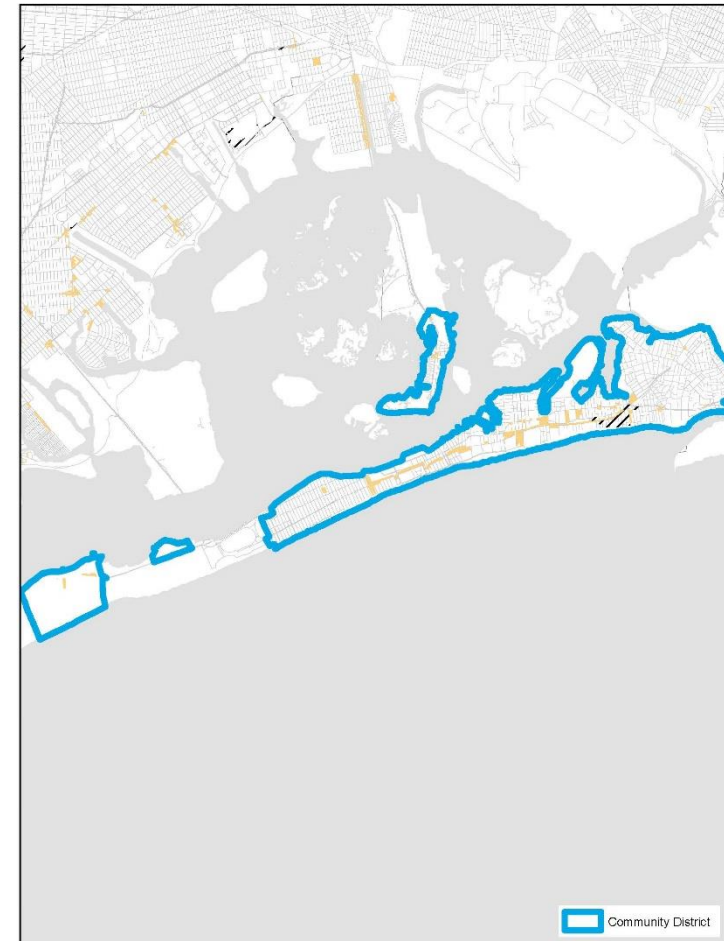
Existing Underlying Rules



▨ 2nd story commercial allowed in C4-C6 and C1&C2 within R9-R10



Proposed Optional Rules

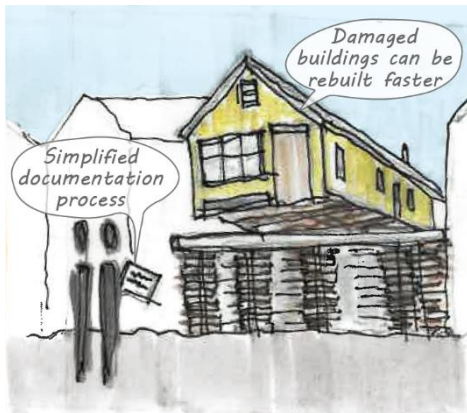


▨ Existing rule ■ 2nd story commercial allowed in C1 & C2 within R1-R10 in the 1% and 0.2% floodplains

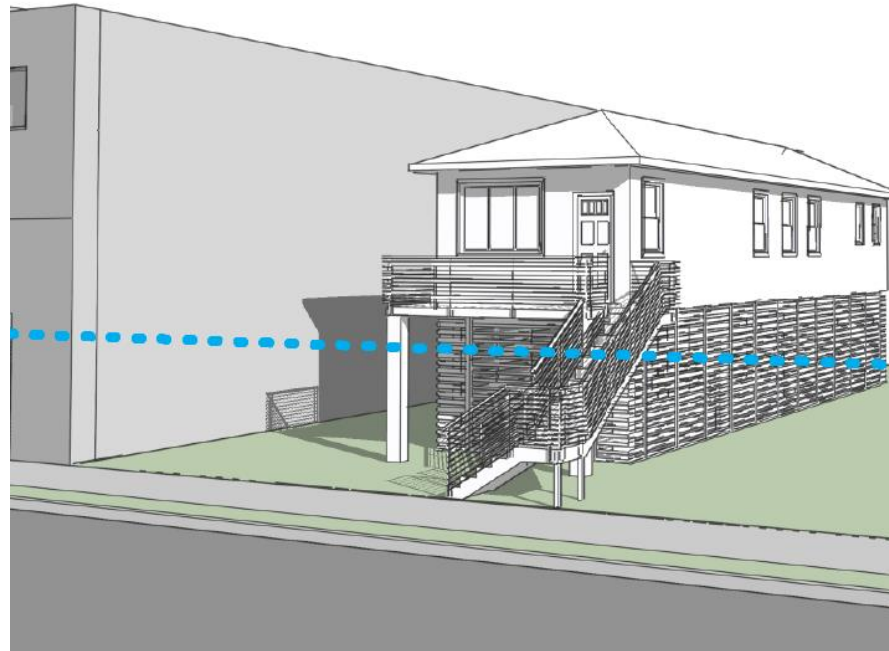
Zoning for Coastal Flood Resiliency

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.

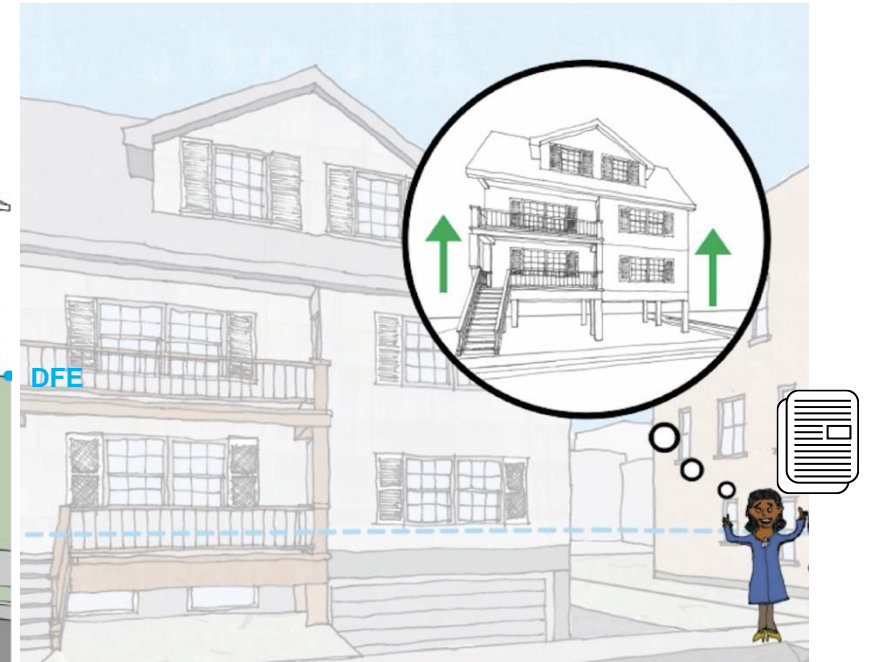


4. Facilitate future storm recovery



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

Zoning for Coastal Flood Resiliency

Project Timeline

* Timeline subject to change

