



**RESILIENT NEIGHBORHOODS
INITIATIVE: CANARSIE**

March 2nd, 2017





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

#ONENYC

This requires **multiple lines of defense:**

- infrastructure hardening where feasible,
- emergency preparedness, and
- **utilizing building code and zoning** as tools so buildings are protected from future flooding due to sea level rise.

Ensuring that zoning reflects the varied flood risks across the City by enabling resilient buildings and reducing vulnerability in the most at-risk neighborhoods.

After Sandy: Zoning for Recovery

2013: Allow storm-damaged and new buildings to comply with higher flood elevations and resilient construction requirements by **removing zoning barriers**

2015: Accelerate post-Sandy recovery in certain areas by **simplifying documentation requirements** and removing disincentives to resiliency investments

Looking ahead: Zoning for Resiliency

Since Sandy, DCP has studied unique residential, retail, and industrial areas in all five boroughs and learned that **most areas in the floodplain can be made more resilient** so zoning should allow for building elevations and other retrofitting strategies

Resilient Neighborhoods Initiative

Reduce flood risks

Develop zoning strategies and other tools to advance short-term, cost-effective investments that can make New York City's building stock more resilient to severe storms and better protect our coastline.

Plan for adaptation over time

Climate change will increase coastal risks over time, including more tidal flooding in some areas. It is important to take measures to reduce the long-term vulnerabilities that neighborhoods will face over time.

Ensure neighborhoods are both resilient and vibrant

Encourage high-quality development that is both resilient and respects each neighborhood's built environment, such as by limiting building height and improving public space.



Canarsie's Changing Shoreline



1924 Aerial of Jamaica Bay

Canarsie's Changing Shoreline



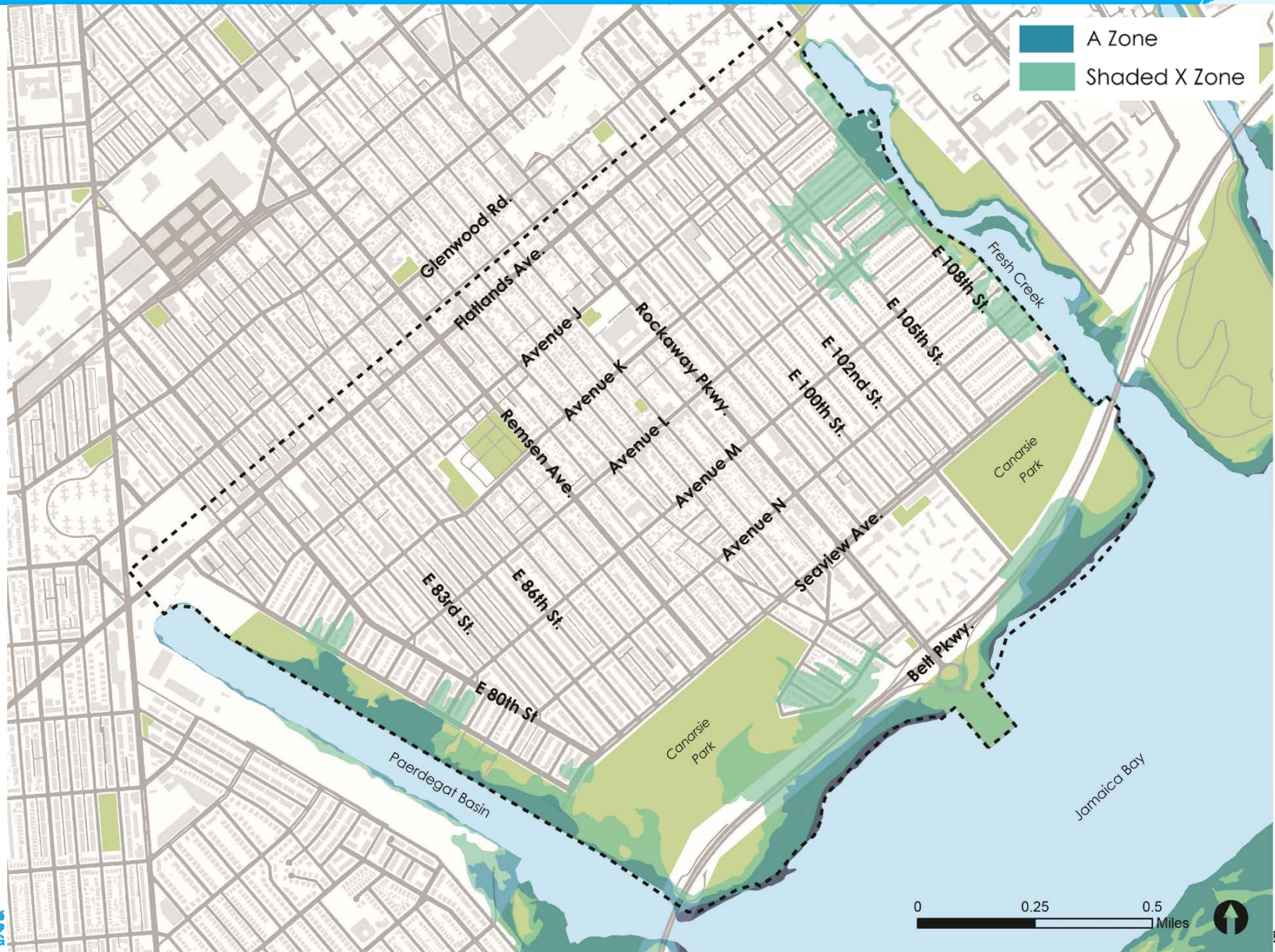
1924 Shoreline

Canarsie's Changing Shoreline



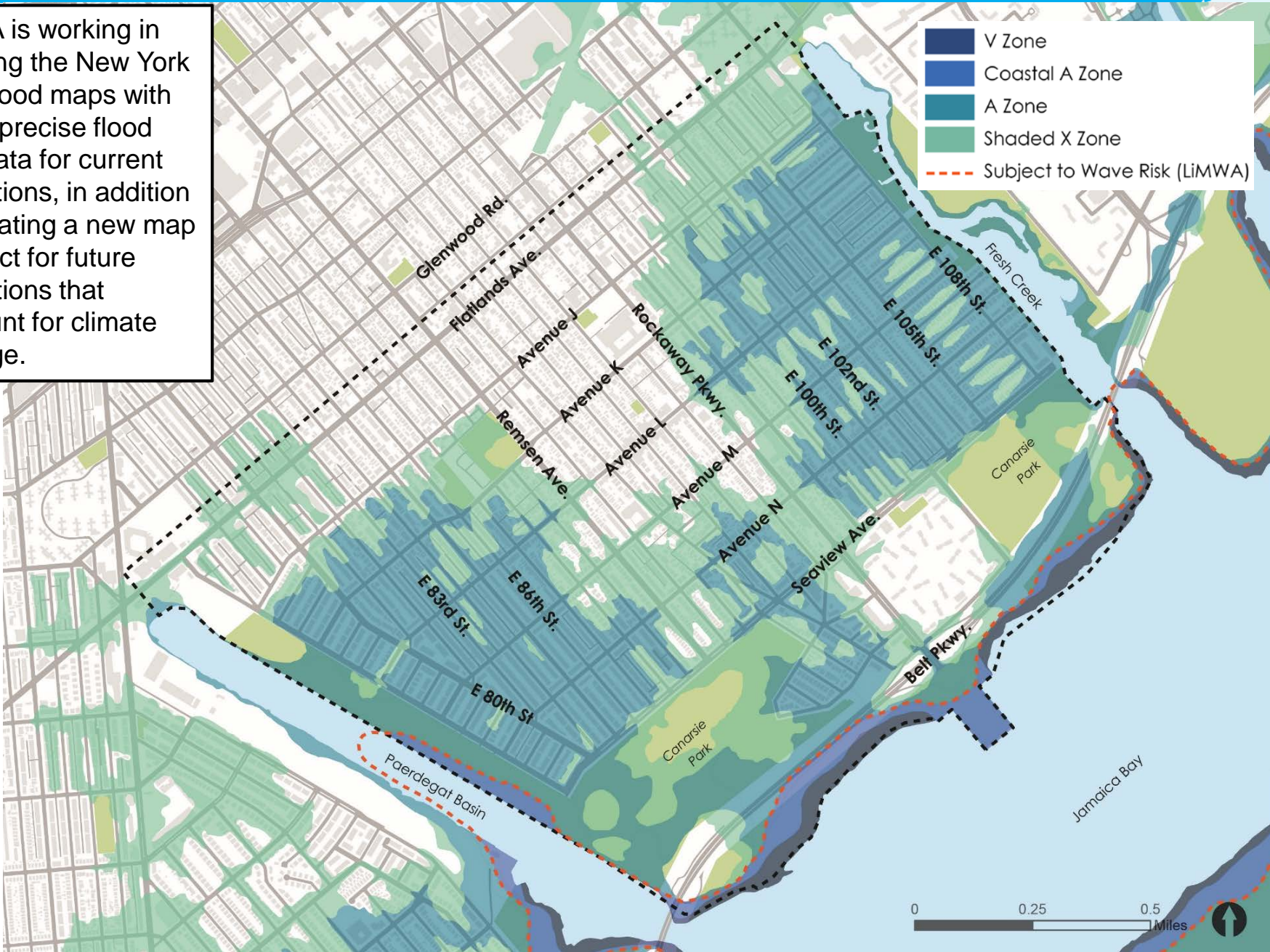
Today's Shoreline

2007 Flood Insurance Rate Map



2015 Preliminary Flood Insurance Rate Map

FEMA is working in revising the New York City flood maps with more precise flood risk data for current conditions, in addition to creating a new map product for future conditions that account for climate change.



Canarsie's Building Types



easier to retrofit

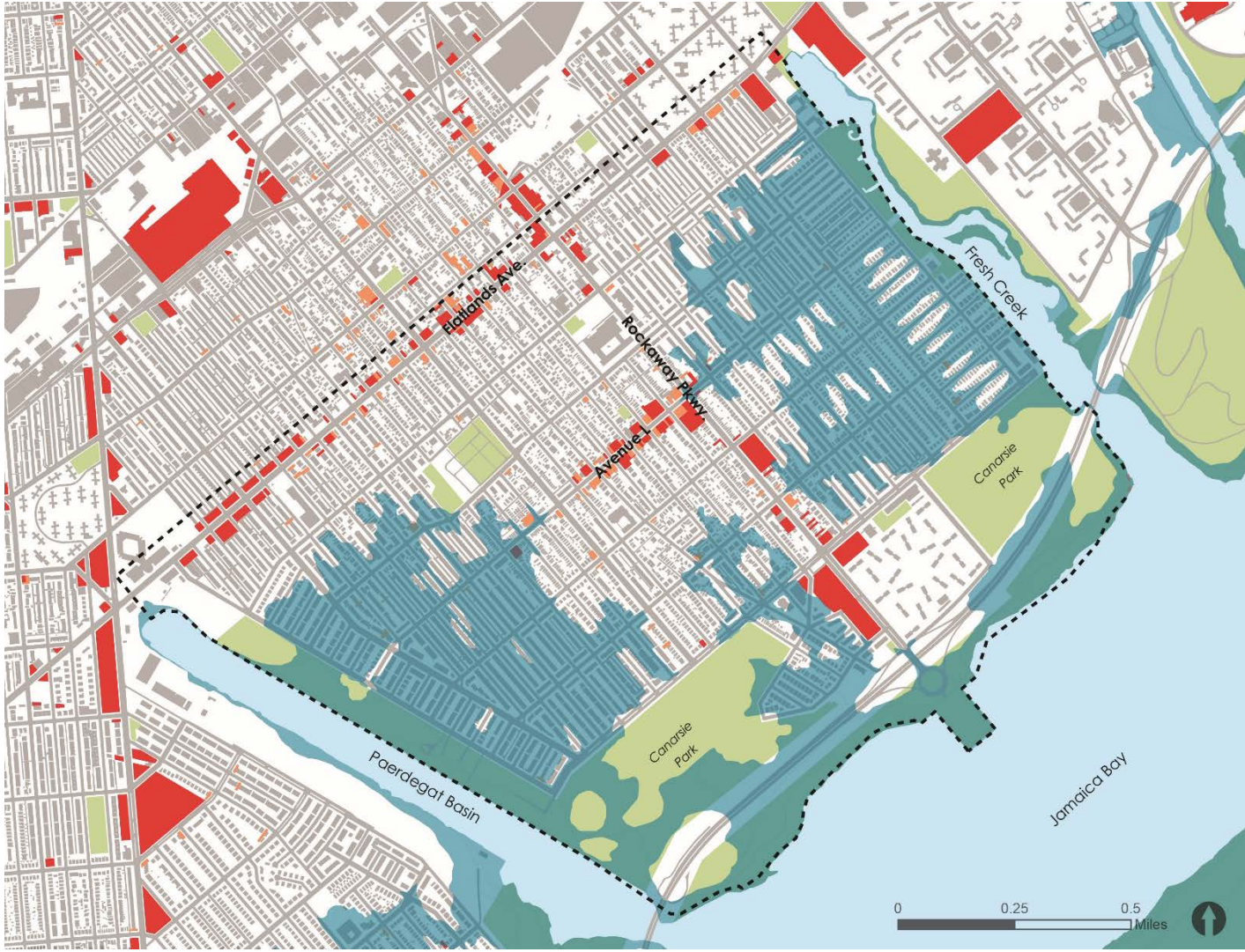


harder to retrofit



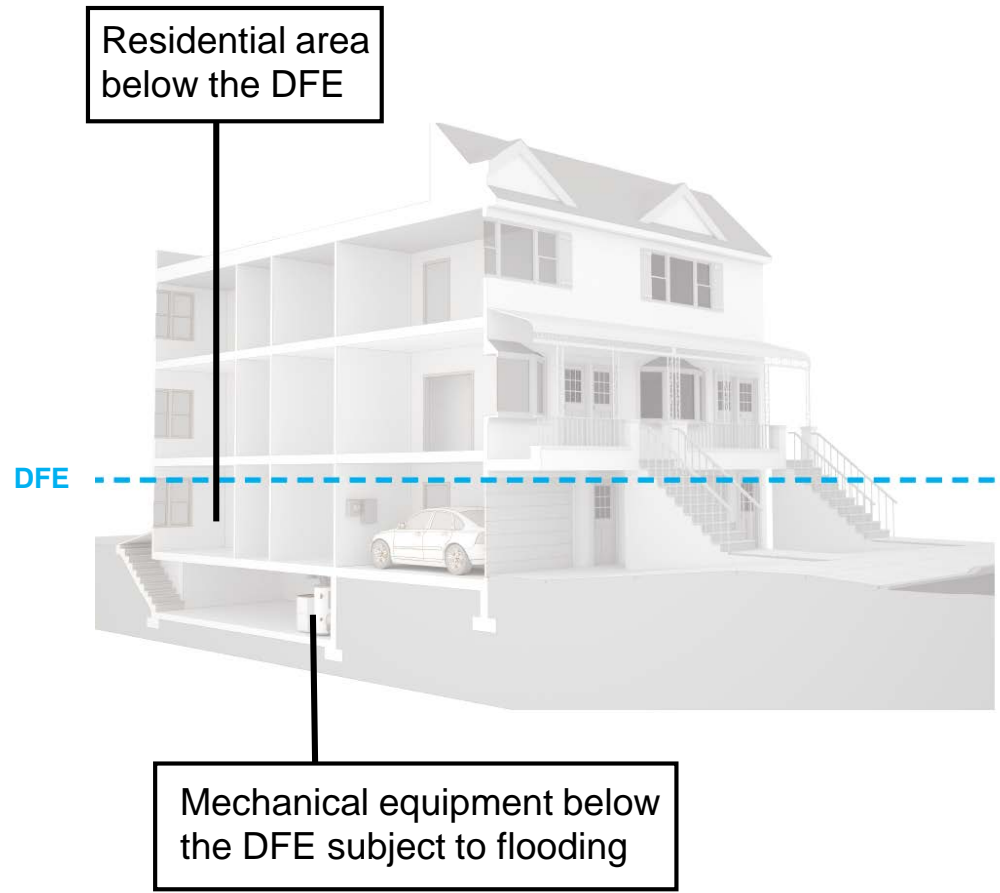
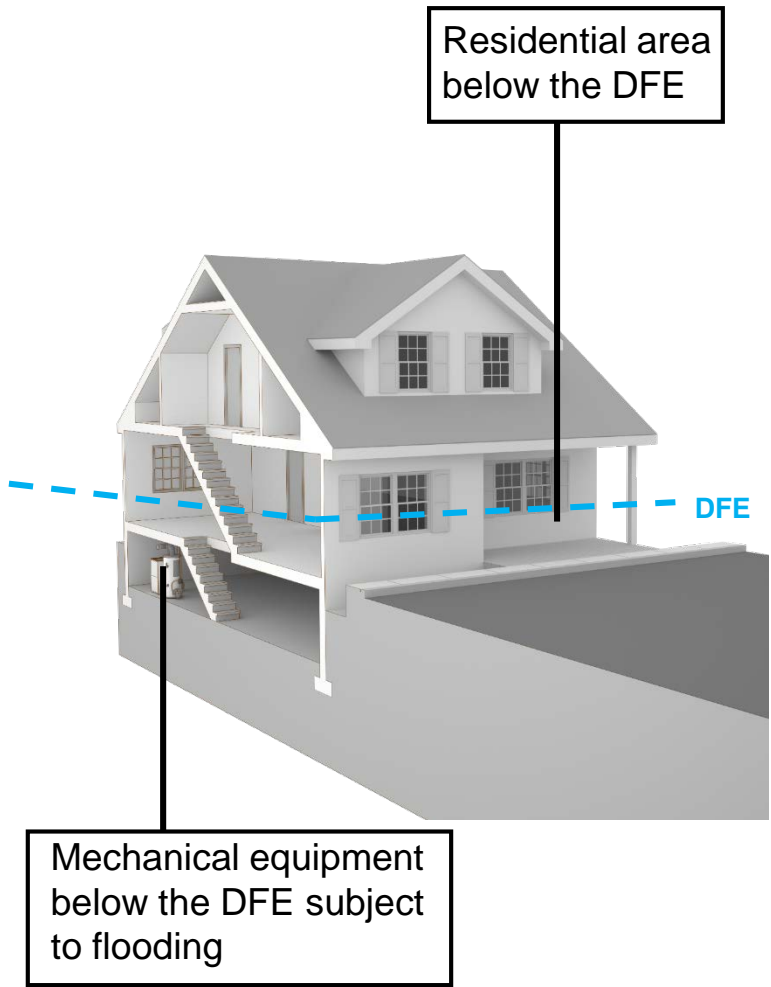
- Dense residential area of over **83,000 residents and 17,900 residential units**
- **80% of units are in attached or semi-detached buildings**
- **86% of homeowners have mortgages**
- Many homes in Canarsie have **critical systems such as heaters in cellars and basements that are below the DFE and subject to flooding**
- Some homeowners have converted garages and storage spaces to residential areas such as dens or separate residential units

Canarsie's Retail Corridors



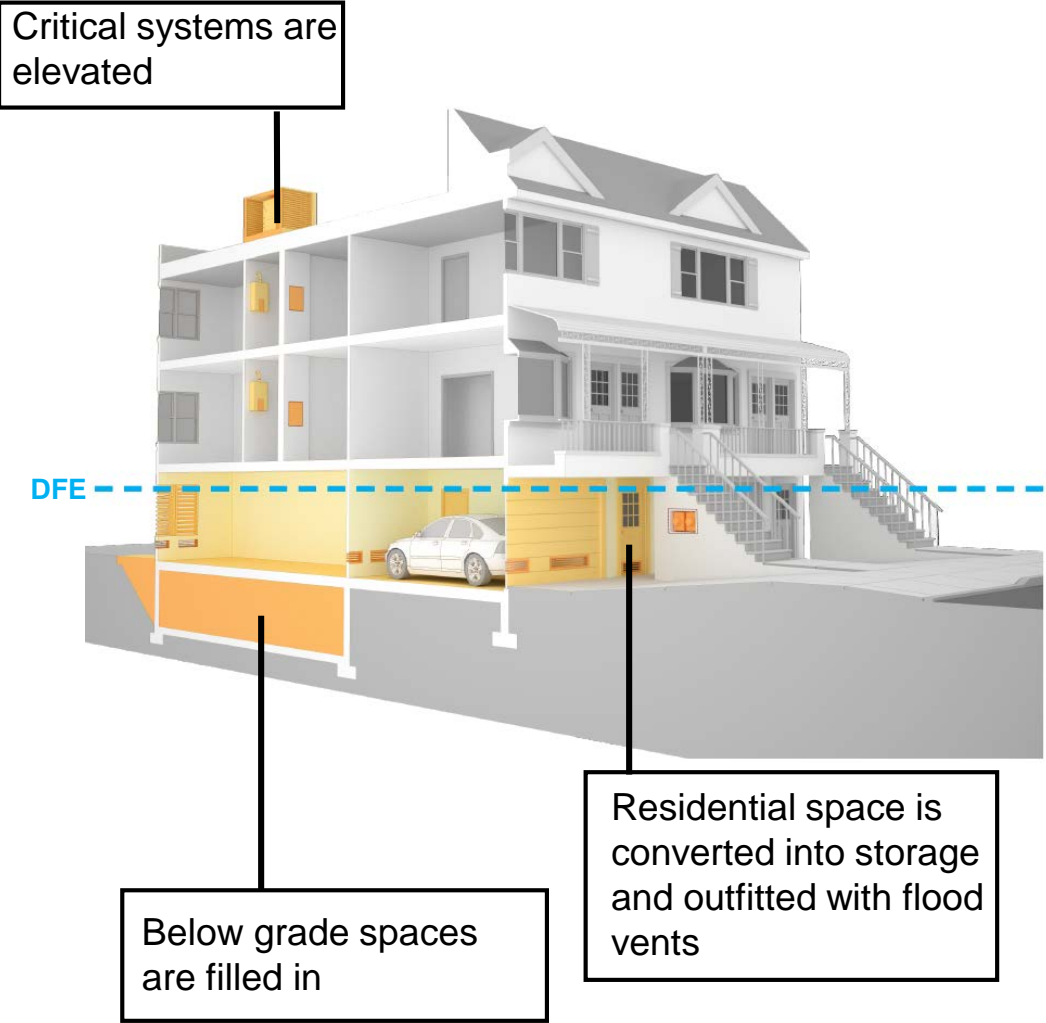
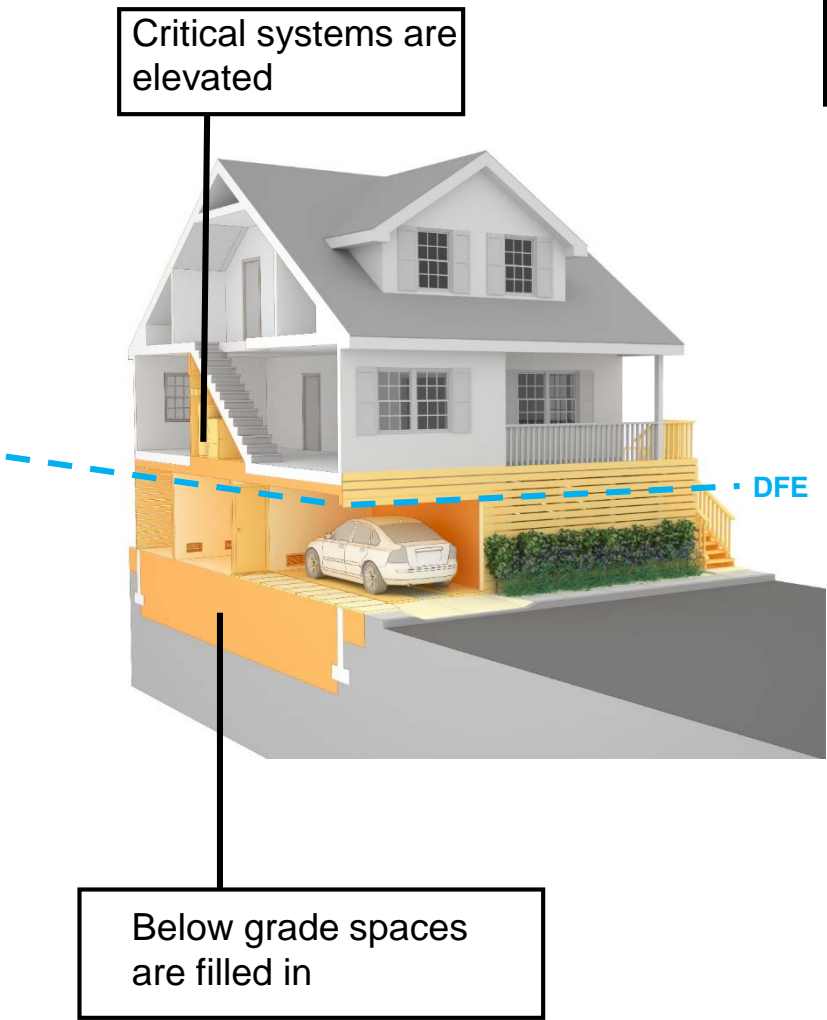
- Commercial Uses**
- Mixed Commercial/Residential
 - Commercial/Office
 - PFIRM 1% Annual Chance Floodplain

Existing Conditions

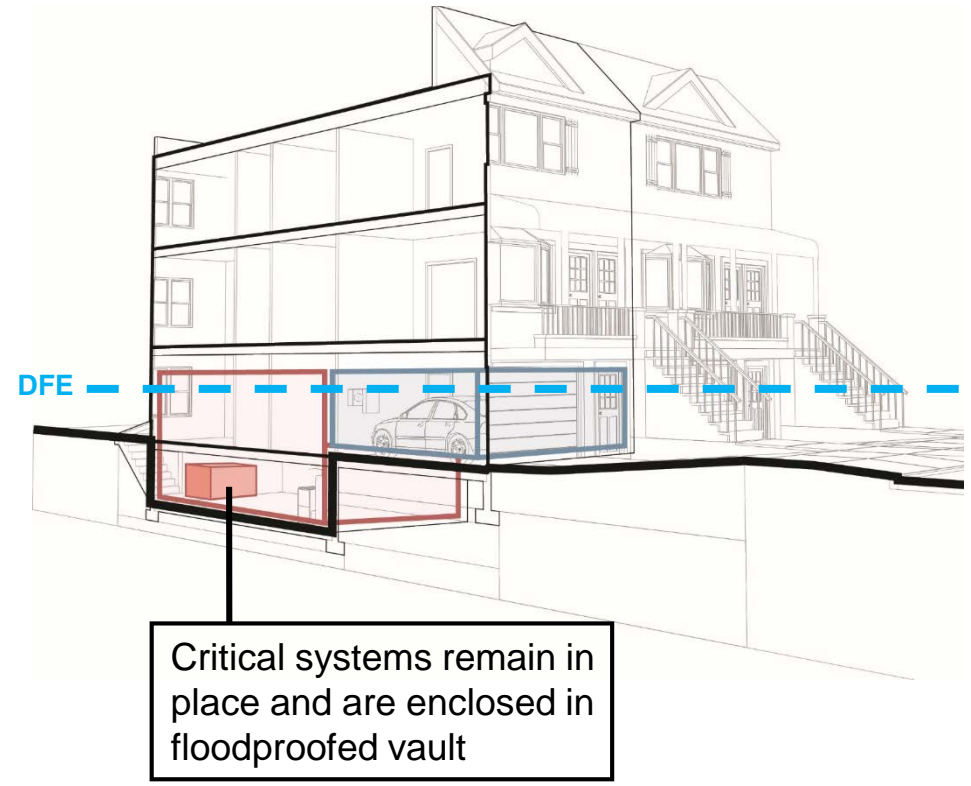
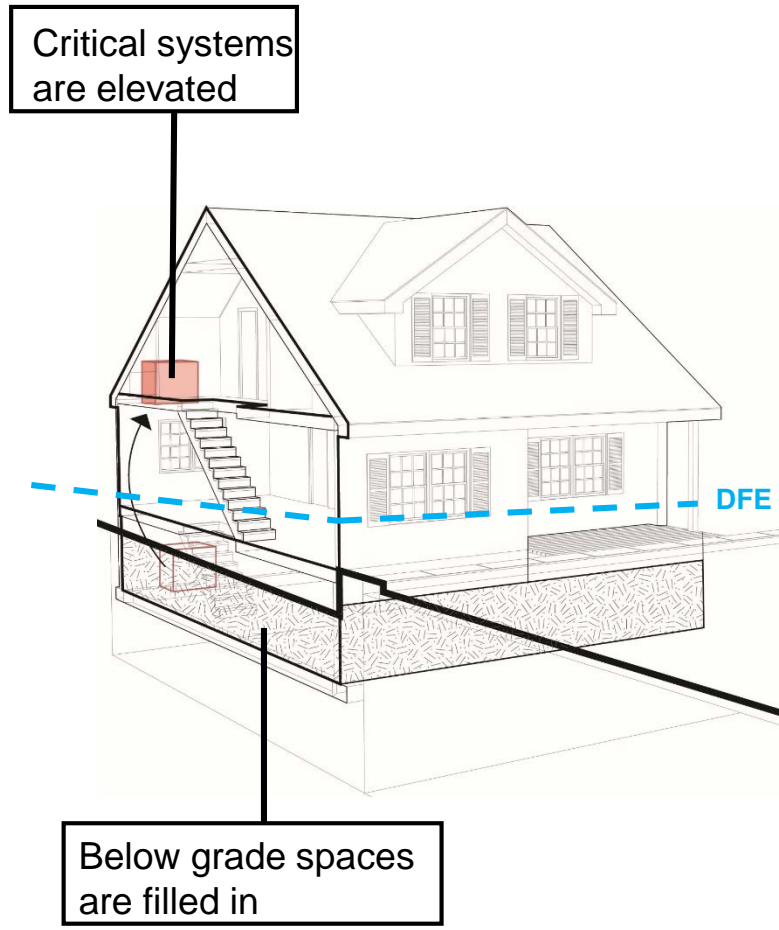


Design Flood Elevation (DFE) = **Base Flood Elevation (BFE)** + **1 to 2 feet to account for future flood risk from sea level rise**
height of flooding from the 1% annual chance flood as shown on FEMA maps

Full FEMA Compliance Retrofit



Alternative Strategies



Note: These strategies do not directly lower flood insurance premiums

Attached Housing/Semi-detached Housing

Identify citywide zoning modifications that make it easier to undergo retrofitting and replace ground flood uses in vertical additions



Detached Housing

Identify citywide zoning modifications that make it easier for detached homes to elevate to a height that allow for use of ground floor for parking and storage



Retail Corridors

The commercial corridors in Canarsie are not in the floodplain. Identify small businesses programs that help build capacity of existing businesses while incentivizing new business development



Coastal Protection Opportunity Areas

Canarsie is surrounded by city and federally owned parkland which could be leveraged to create coastal protection against serious flooding events







Flood risk information and address lookup: [FloodHelpNY.org](https://www.floodhelpny.org)

Flood insurance agent lookup: [floodsmart.gov](https://www.floodsmart.gov)

FEMA Map questions: [1-877-FEMA MAP \(1-877-336-2627\)](tel:1-877-FEMA-MAP)

FEMA Flood Insurance agent referral: [1-888-435-6637](tel:1-888-435-6637)

For more information and updates visit our website:

www.nyc.gov/resilientneighborhoods

or email us:

ResilientNeighborhoods@planning.nyc.gov