

Flood Resilience Text Amendment



INTRODUCTION

Context

January 31, 2013: Mayor's Emergency Executive Order

- Interim emergency measure to temporarily suspend certain zoning provisions in order to enable property owners to make key decisions about rebuilding
- Must be followed by a zoning text amendment

Purpose

This text amendment codifies many provisions of the EO and introduces new provisions to:

- Enable buildings in flood zones to be built to FEMA flood resilient standards
- Reduce vulnerability to future flooding
- Protect against future increases in flood insurance premiums
- In coordination with other planning efforts, give owners more choices for ways to rebuild and support the recovery of neighborhoods

Applicability

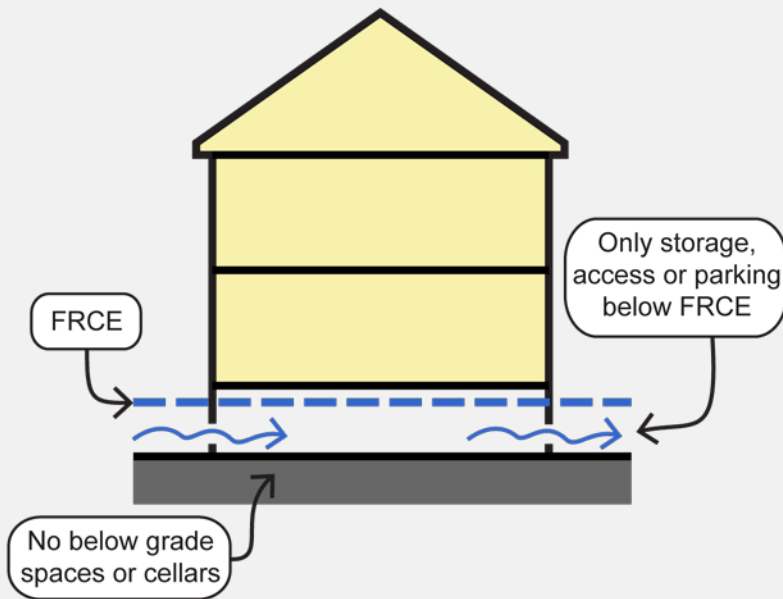
- Applies only within FEMA 100-year flood zones

Emergency Nature of this Action

- Address urgent needs to recover from the storm and rebuild to the best available flood-resistant standards
- Further text amendments expected to address more complex issues associated with buildings in flood zones
- Additional local planning will be needed in severely affected areas

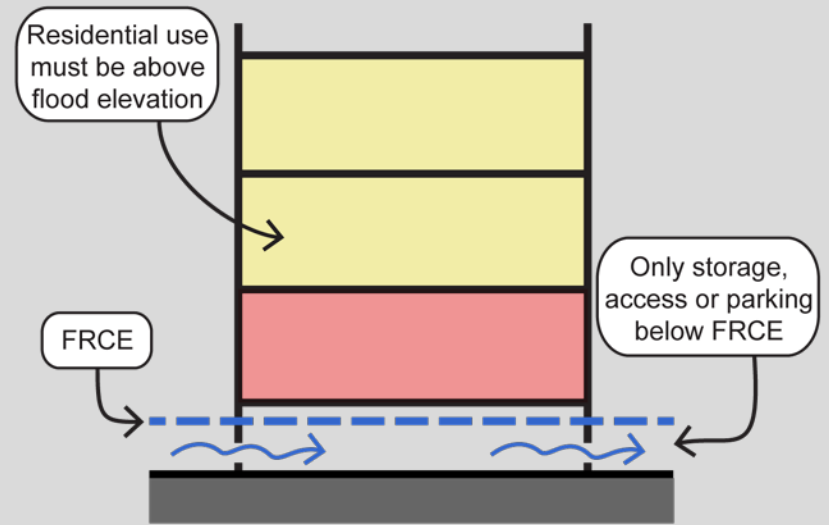
FEMA: FLOOD ZONE CONSTRUCTION STANDARDS

Residential buildings

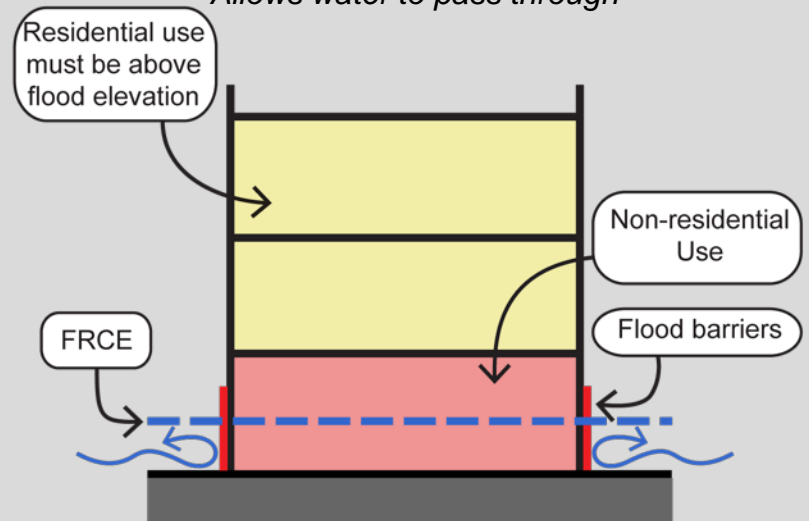


ELEVATED / WET FLOOD-PROOFED
Allows water to pass through

Non-residential and mixed-use

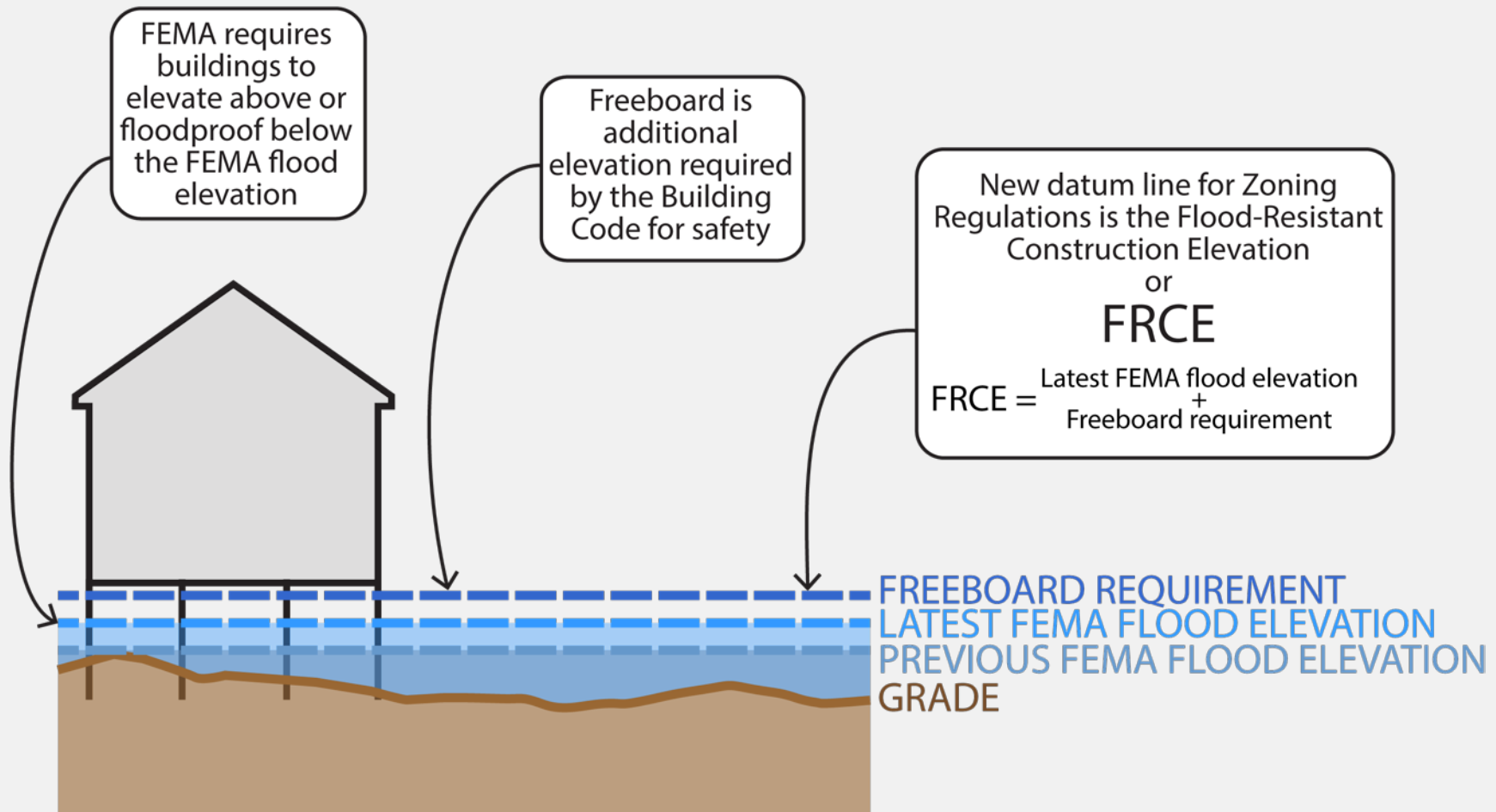


ELEVATED / WET FLOOD-PROOFED
Allows water to pass through

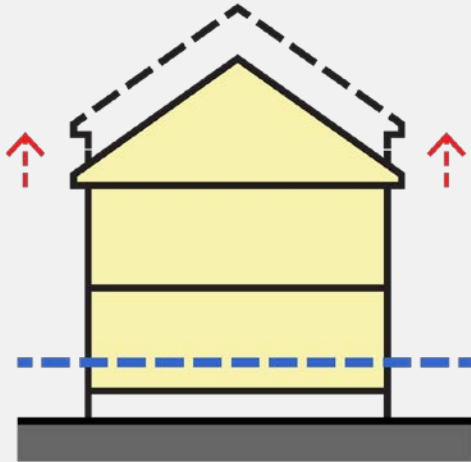


AT GRADE / DRY FLOOD-PROOFED
Keeps water out

BUILDING CODE – FREEBOARD REQUIREMENTS

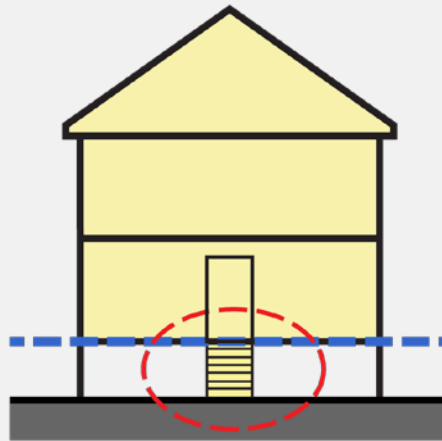


ZONING ISSUES RESULTING FROM FEMA RULES



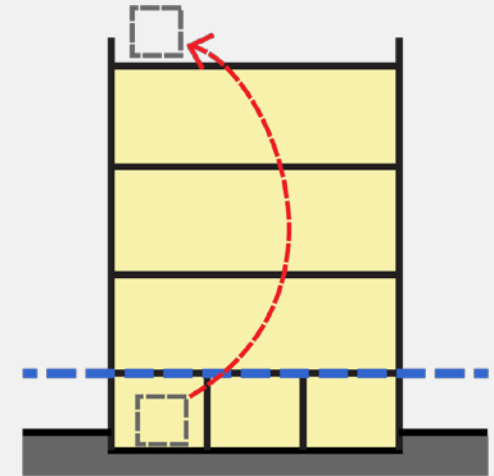
HEIGHT

must recognize elevation requirements in flood zones



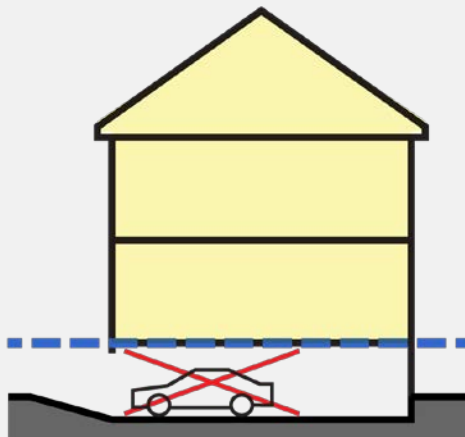
ACCESS

need for stairs or ramps requires imaginative solutions



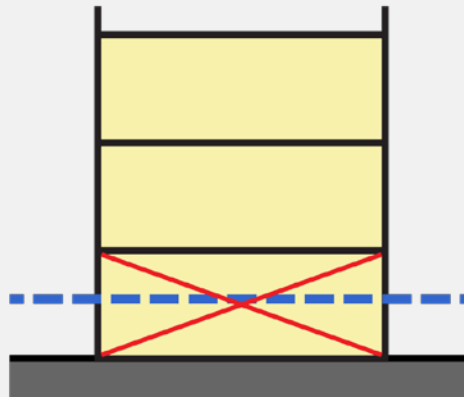
MECHANICAL SYSTEMS

must allow relocation out of flood-prone areas



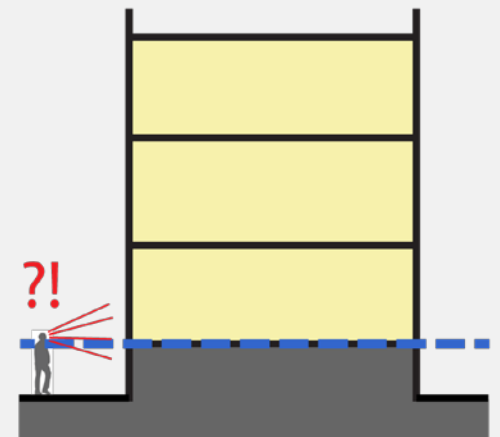
PARKING

may not be possible below ground



GROUND FLOOR USE

buildings may be allowed only limited use of ground floors



STREETSCAPE

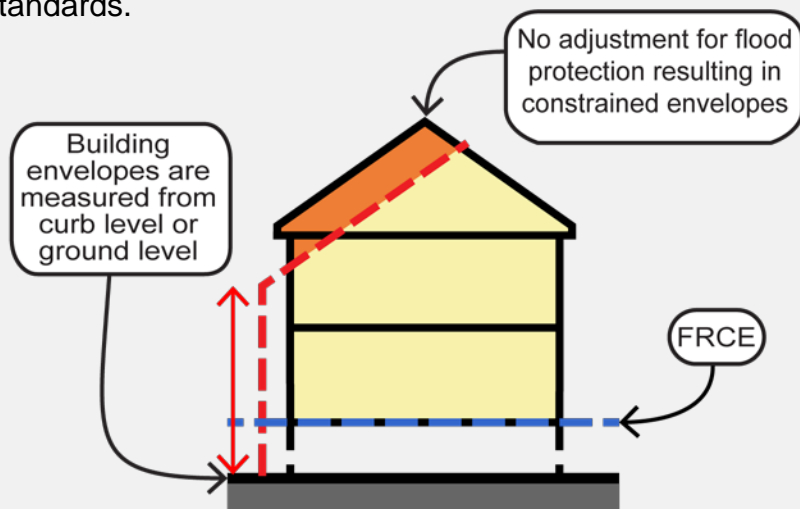
limit negative effect of blank walls on streetscape

MEASURING BUILDING HEIGHT

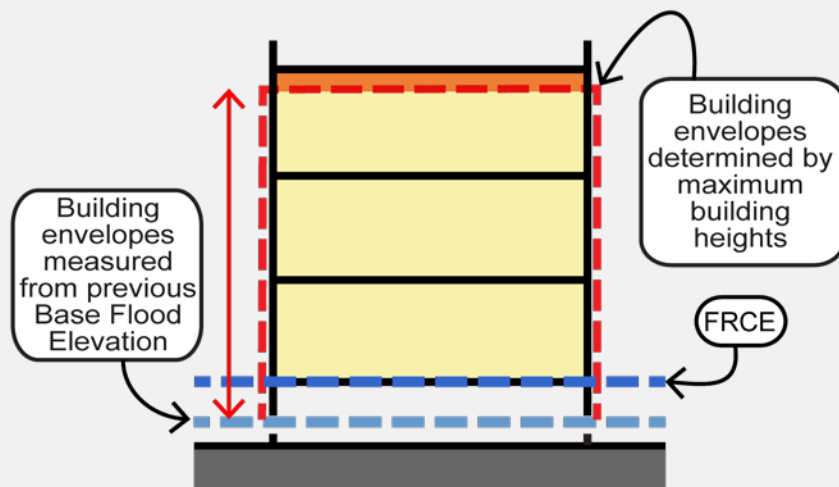
NEW REFERENCE POINT

Issue

Existing rules are not based on current flood-resistant standards.



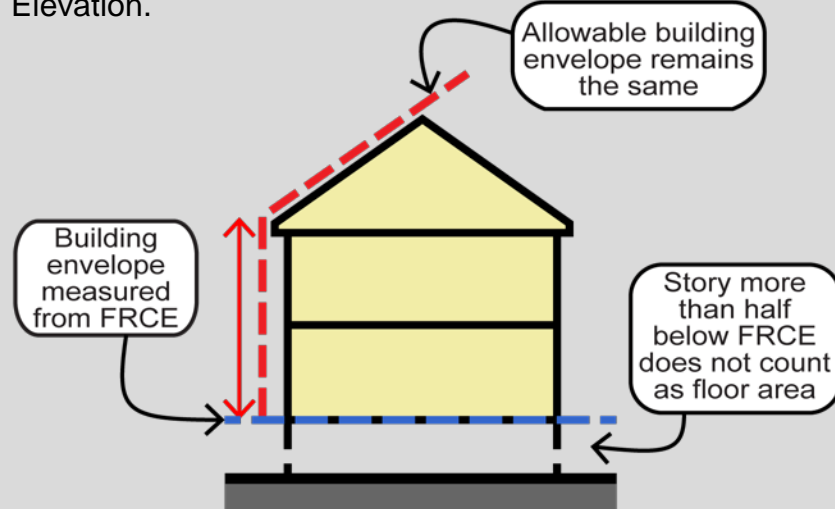
Sky exposure plane districts



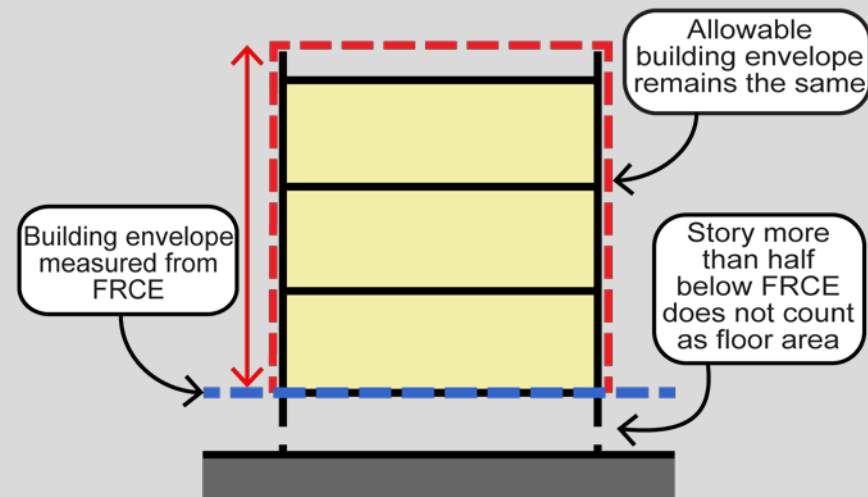
Base plane districts

Solution

Measure all buildings from Flood Resistant Construction Elevation.



Sky exposure plane districts

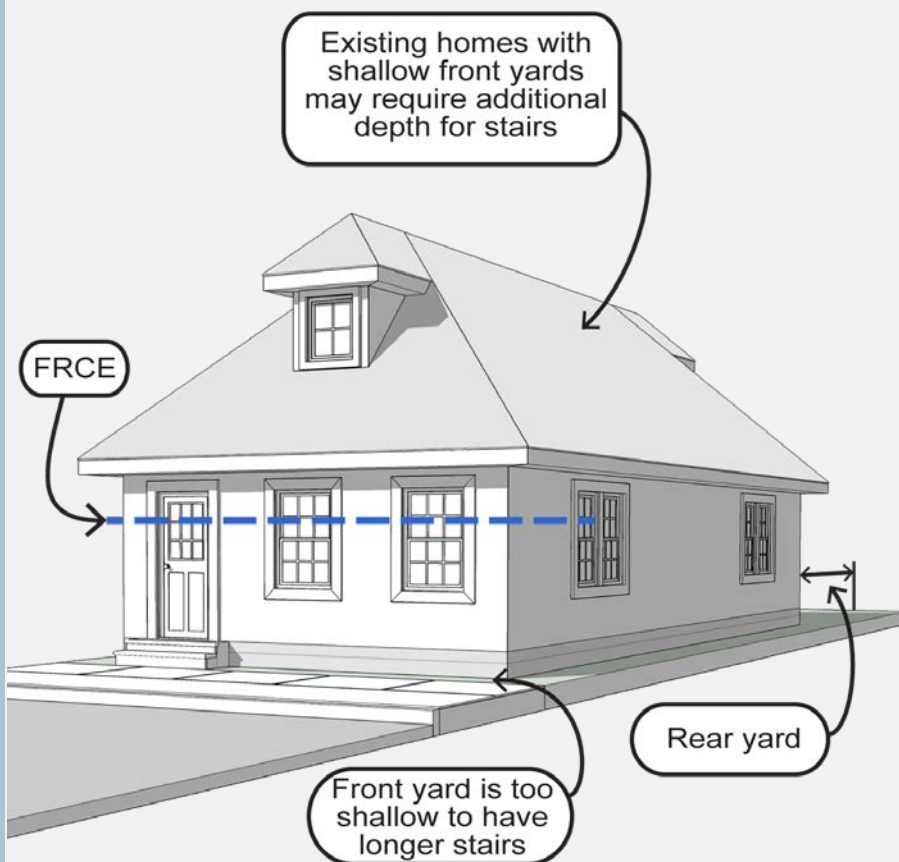


Base plane districts

REPOSITIONING OF EXISTING 1 & 2 FAMILY HOMES TO ACCOMMODATE LONGER STAIRS

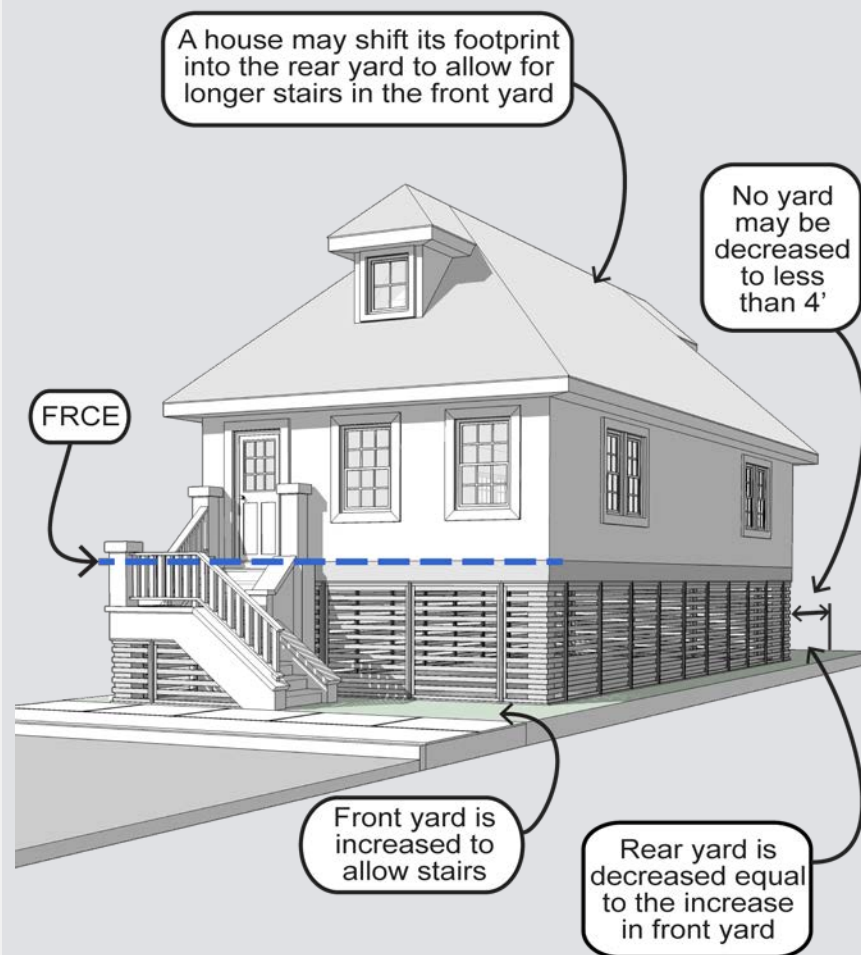
Issue

Existing homes may need to be elevated, but new, longer stairs may not fit within the existing front yard.



Solution

To accommodate a front stair, allow existing one or two-family homes that are elevated to encroach into a rear yard by an equal amount that the front yard is increased.



ACCOMMODATE INTERIOR STAIRS IN 1 & 2 FAMILY HOMES

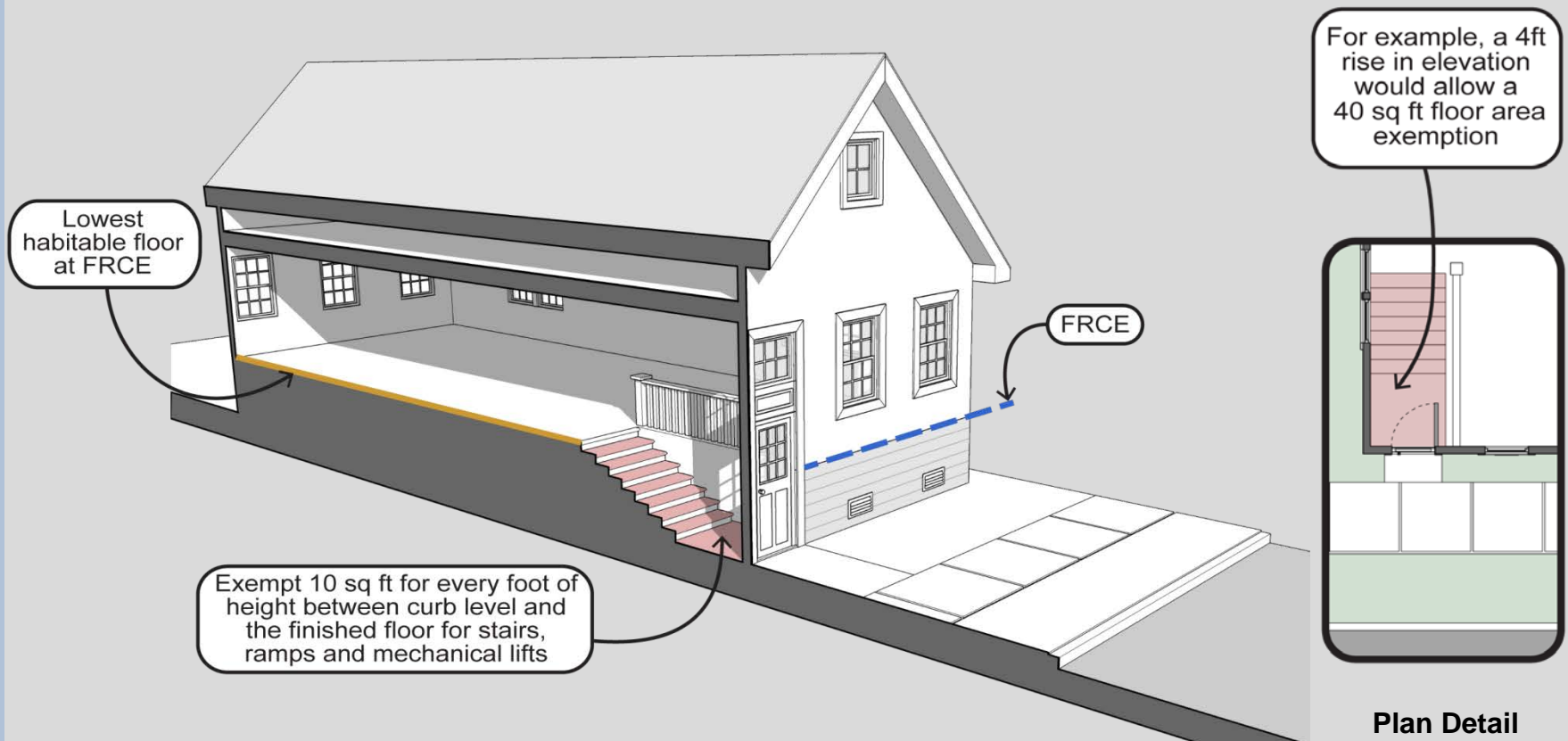
Issue

An alternative to repositioning a home may be to provide stairs inside the front door rather than in the front yard, for weather protection or because shifting the foundation would be difficult.

In this situation, counting enclosed entryways as “floor area” would reduce the amount of living space allowed within the home.

Solution

For all 1 and 2 family homes, exempt enclosed entryways that access the first habitable floor from floor area calculations, with a cap based on the elevation of the lowest floor.



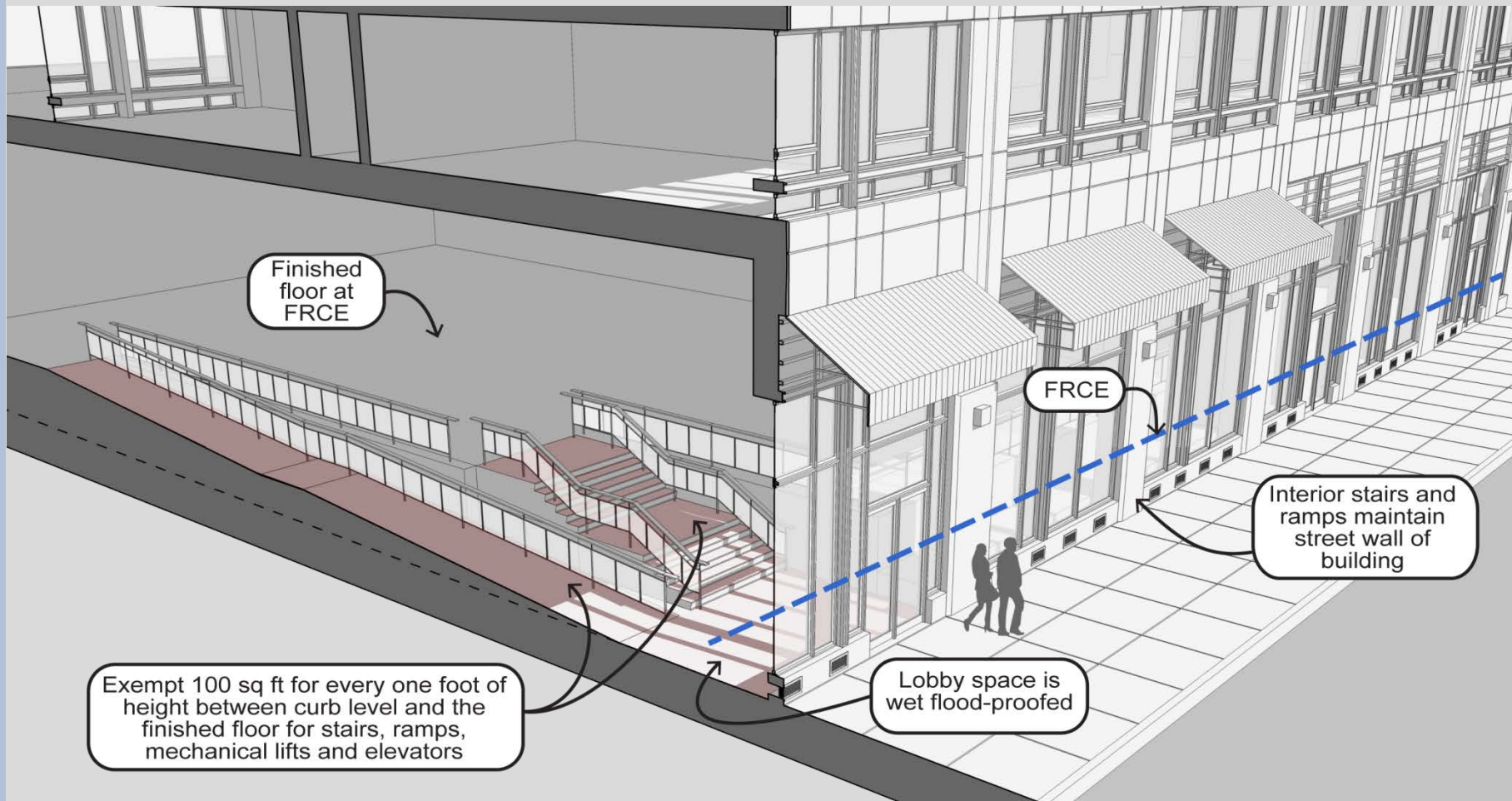
ACCOMMODATE INTERIOR ACCESS TO FIRST FLOOR

Issue

Interior stairs and ramps (required for buildings other than 1- and 2-family homes) may be preferable to exterior stairs and ramps, but require large amounts of floor space.

Proposal

Exempt interior stairs, ramps and elevators from floor area, with a cap based on the elevation of the lowest floor.



FLOOD PANELS IN YARDS, COURTS, AND OTHER OPEN AREAS

Issue

Certain flood protection features are not allowed in yards, courts, and other open areas.

Solution

Allow deployable flood panels within yards, courts and other open areas as permitted obstructions.



Image courtesy of www.floodpanel.com



PERMITTED OBSTRUCTIONS : LIFTS

Issue

Certain access features, such as lifts for persons with disabilities are not allowed in required yards, courts or other open areas.

Solution

Allow lifts in required yards, open areas, and courts as permitted obstructions.



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MECHANICAL SYSTEMS

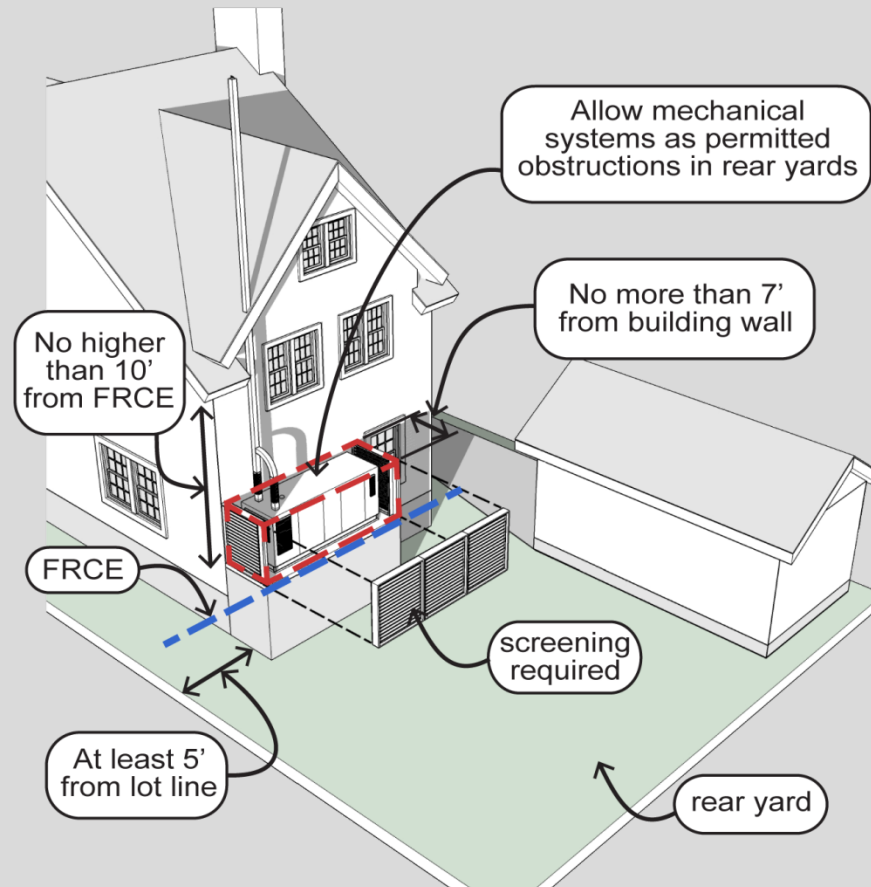
ALLOW IN YARDS FOR EXISTING 1 & 2 FAMILY HOMES

Issue

Existing homes may need to safeguard their mechanical equipment by removing it from below-grade spaces, but there may be no place to put the equipment within the home.

Solution

Allow alternative locations for mechanical equipment for existing one- and two-family homes, such as rear and side yards.



ALLOW ABOVE DETACHED GARAGES FOR EXISTING 1 & 2 FAMILY HOMES

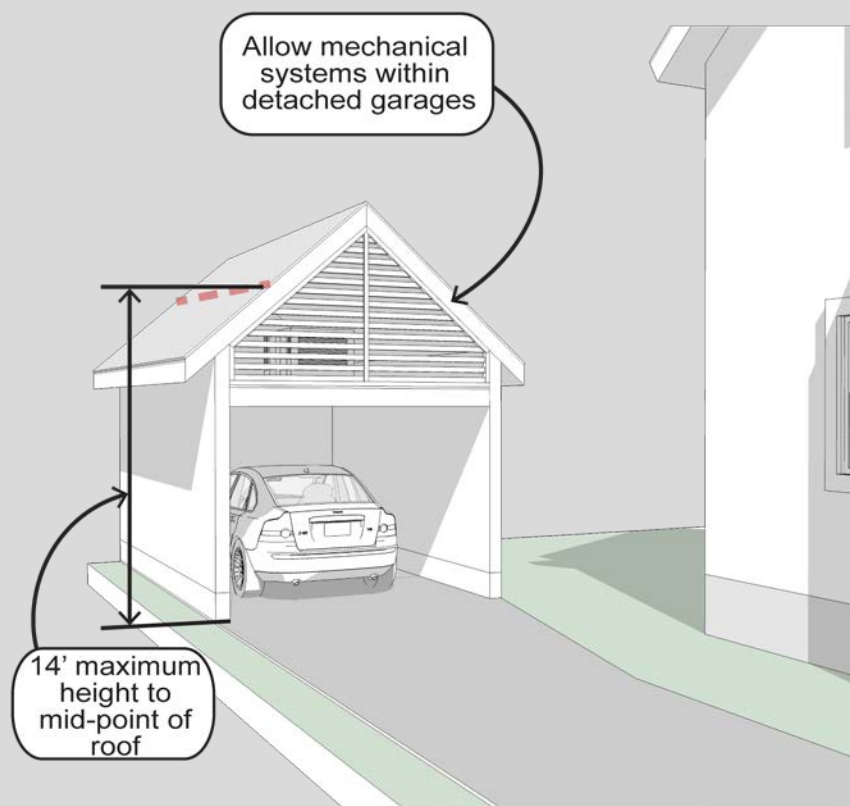
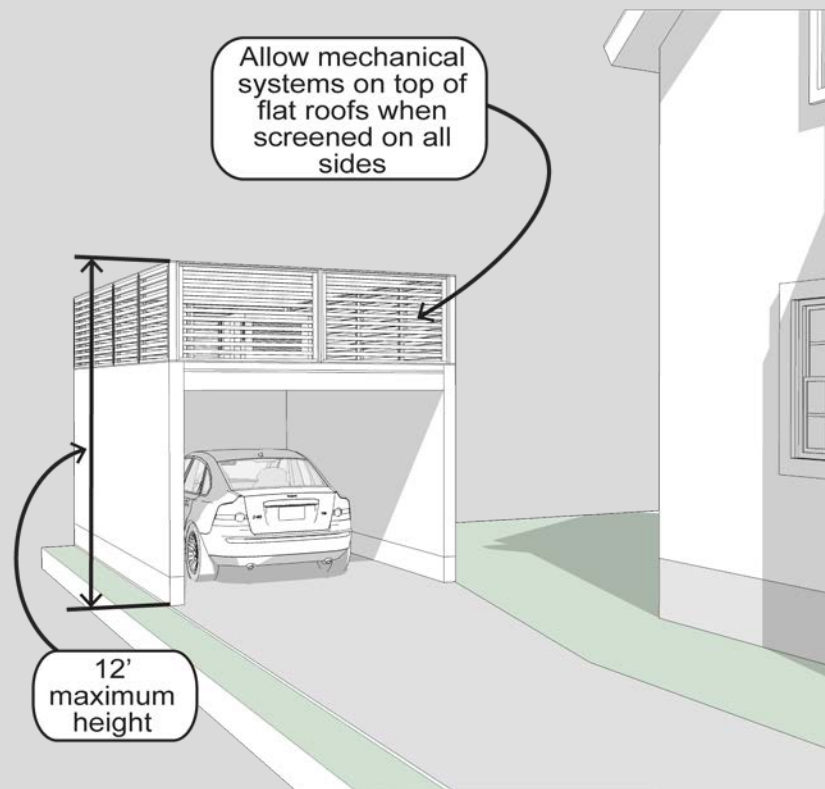
Issue

Existing homes may need to safeguard their mechanical equipment by removing it from below-grade spaces, but there may be no place to put the equipment within the home.

Solution

Additionally, allow accessory mechanical equipment on flat roofed accessory structures, when:

- Equipment is screened on all sides
- Does not exceed 12 feet in height for shallow-pitch or flat roofs
- Does not exceed 14 feet to the mid-point of the roof for steep-pitch roofs



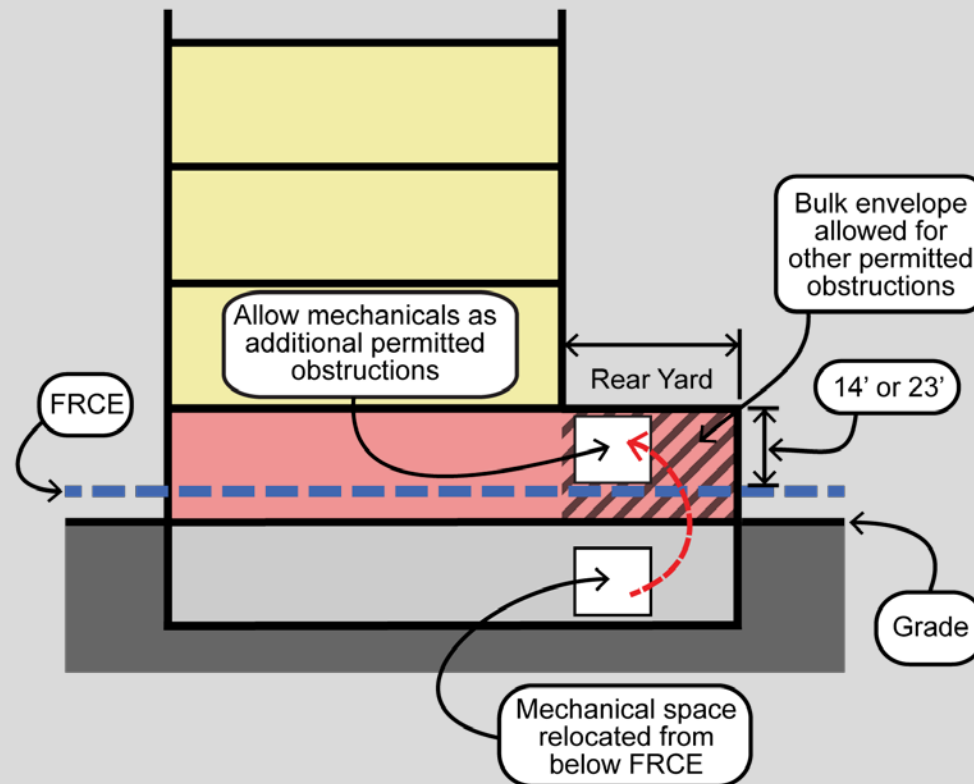
ALLOW MECHANICAL SYSTEMS IN YARDS

Issue

Many buildings have mechanical systems located below-grade. In order to comply with flood-resistant standards, these mechanical systems may need to be relocated above the FRCE.

Solution

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).



MECHANICAL SPACE IN LOW DENSITY DISTRICTS

Issue

In low density districts, there are caps on the amount of mechanical space that can be exempt from floor area calculations. These caps conflict with the need to locate mechanical systems above the FRCE in flood zones.

Solution

For all buildings in flood zones, in low density districts, remove caps and exempt mechanical space from floor area calculations in the same way it is exempt in all other districts.

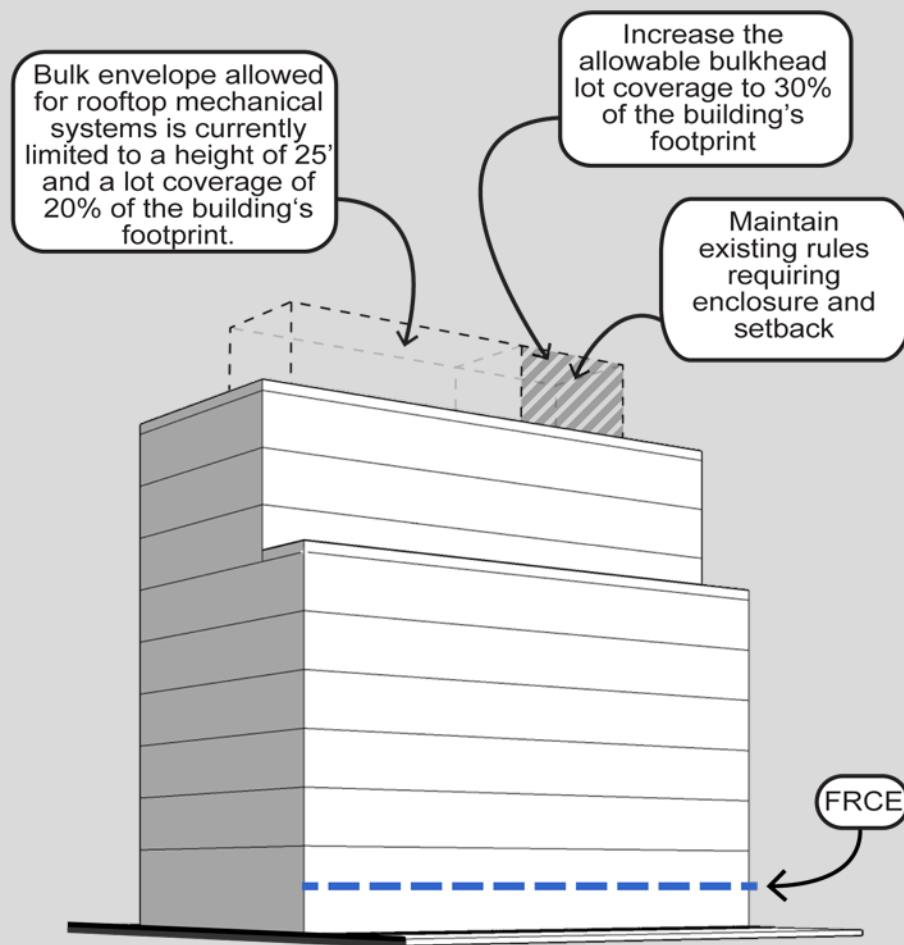
ROOFTOP MECHANICAL FOR BUILDINGS IN R5 – R10

Issue

Mechanical systems in flood zones generally need to be located above the FRCE to comply with the Building Code's flood-resistant standards, but in many cases, there may not be enough space within the allowed envelope.

Solution

Enlarge envelope for permitted obstructions on roofs to accommodate mechanical space that would have been located in cellars.



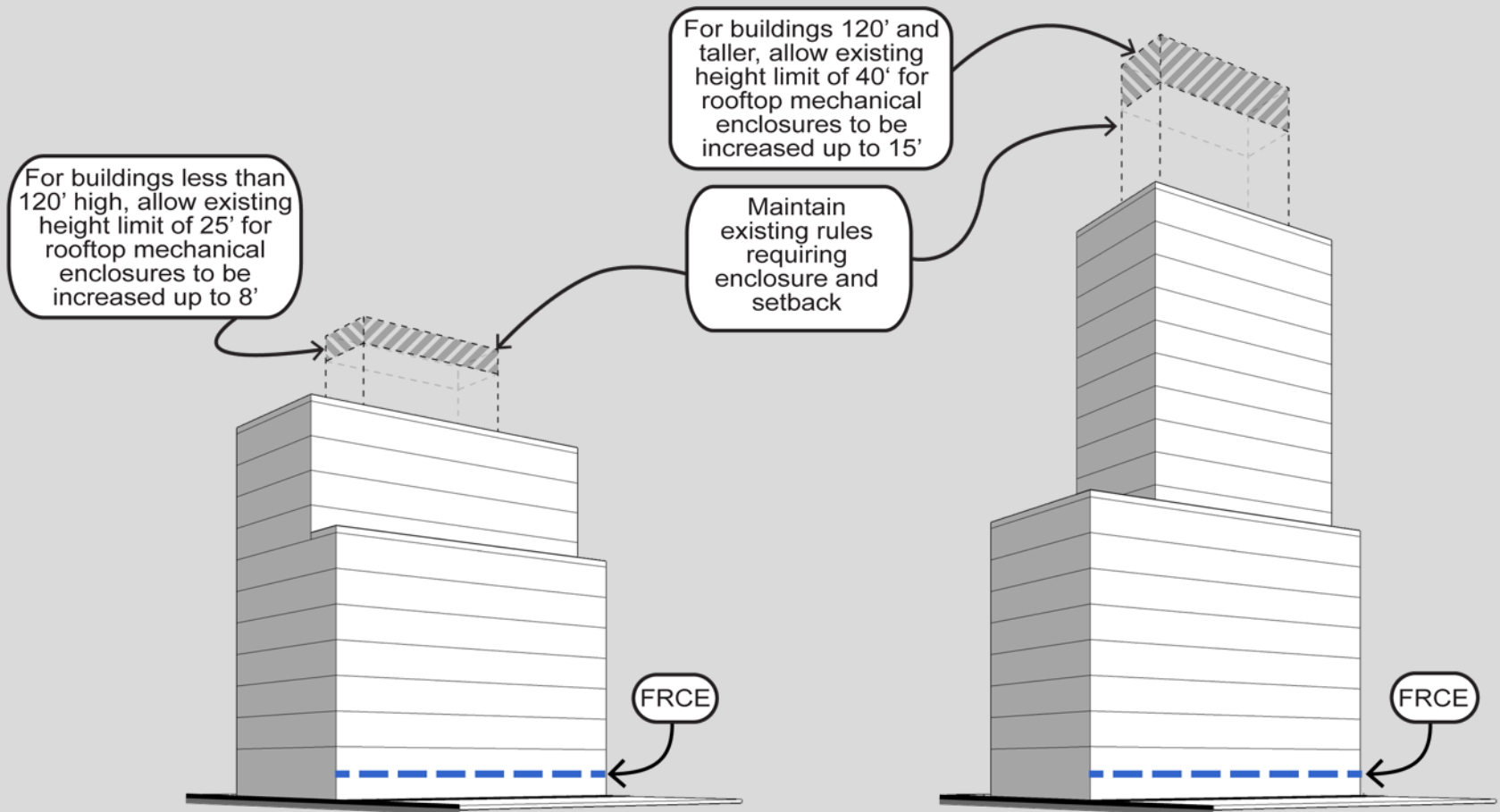
ROOFTOP MECHANICAL FOR EXISTING BUILDINGS IN R5 – R10

Issue

The rooftops of existing buildings are often not engineered to sustain the weight of wider mechanical bulkheads, making it difficult to relocate mechanical space from cellars.

Solution

For existing buildings, allow an alternative solution that maintains the maximum 20% lot coverage, but allows greater height.



PARKING

LOSS OF BELOW-GRADE PARKING SPACES

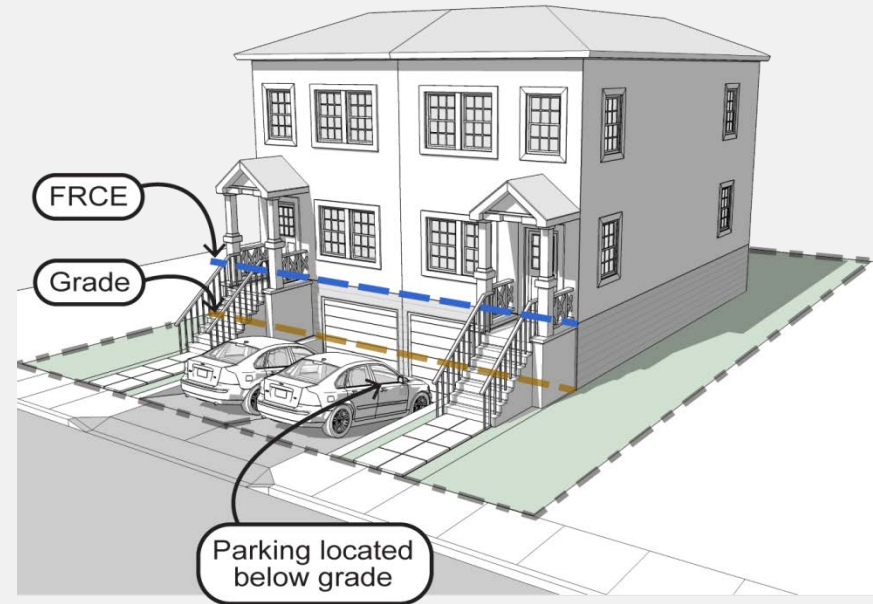
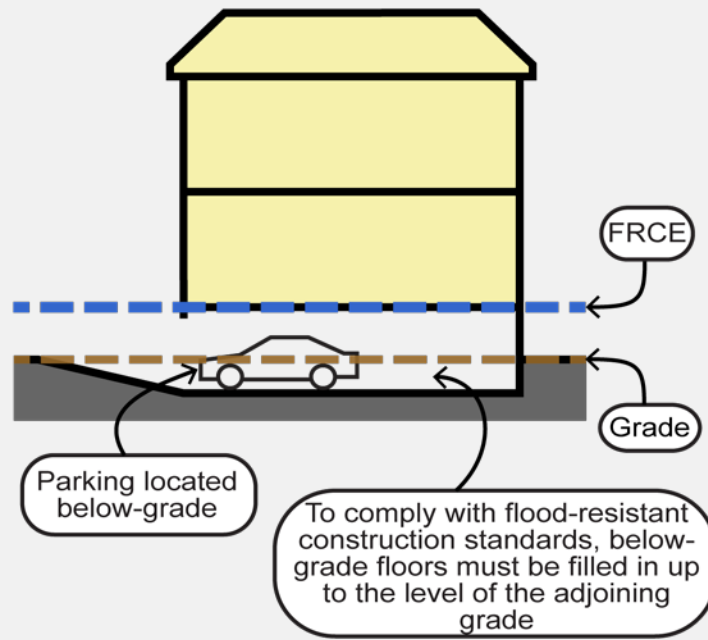
Issue

Many existing homes have parking garages that are below-grade.

Severely damaged homes must be rebuilt to comply with the Building Code's flood-resistant standards, which prohibit below-grade floors in residential buildings.

A home owner whose house is not severely damaged may elect to comply with the flood-resistant standards to lower their flood insurance premiums.

In either case, compliance with the flood-resistant standards will result in the loss of parking spaces.



Prior to Compliance with Building Code's Flood-Resistant Standards

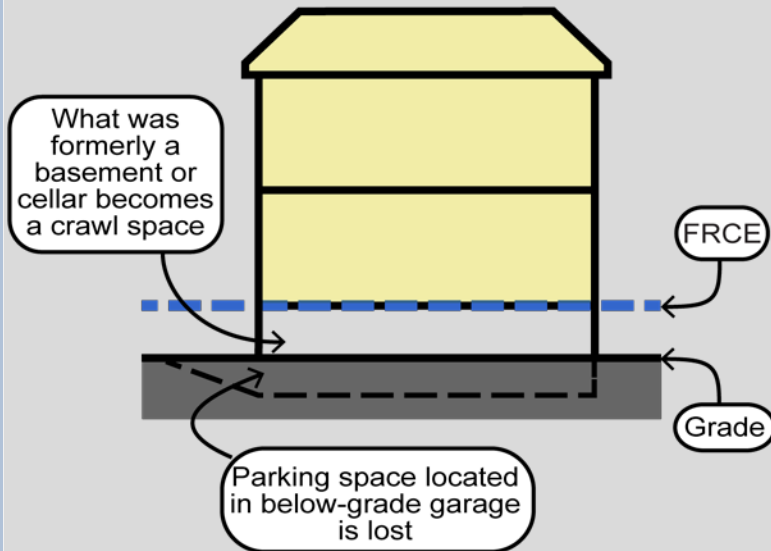
LOSS OF BELOW-GRADE PARKING SPACES

Solution

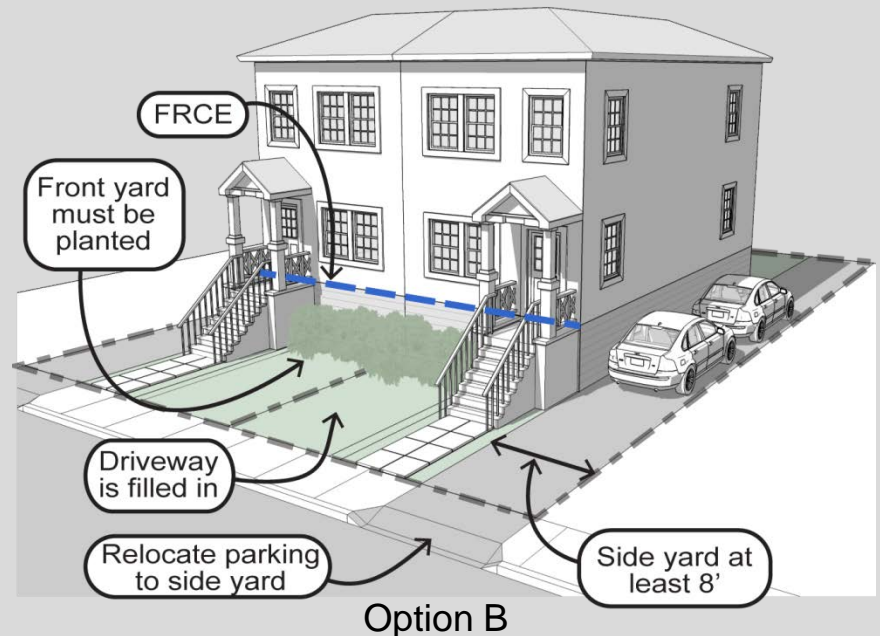
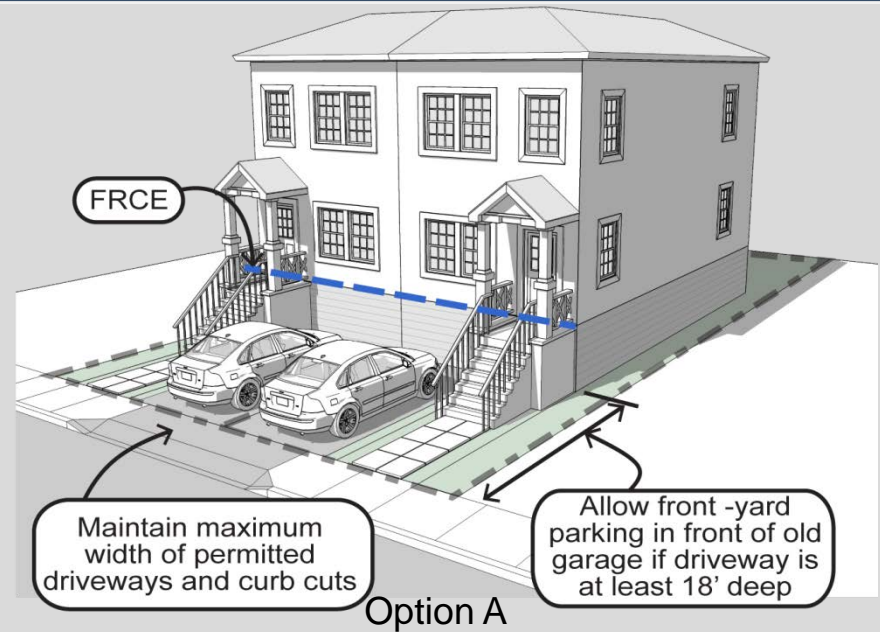
Provide alternatives for existing homes that must relocate their parking spaces.

Allow the Buildings Commissioner to waive required parking if there is no feasible way to provide parking on-site.

- Not applicable in R4B and R5B districts



After Compliance with Building Code's Flood-Resistant Standards



RELAX CURB CUT RULES IN R1 – R5 DISTRICTS

Issue

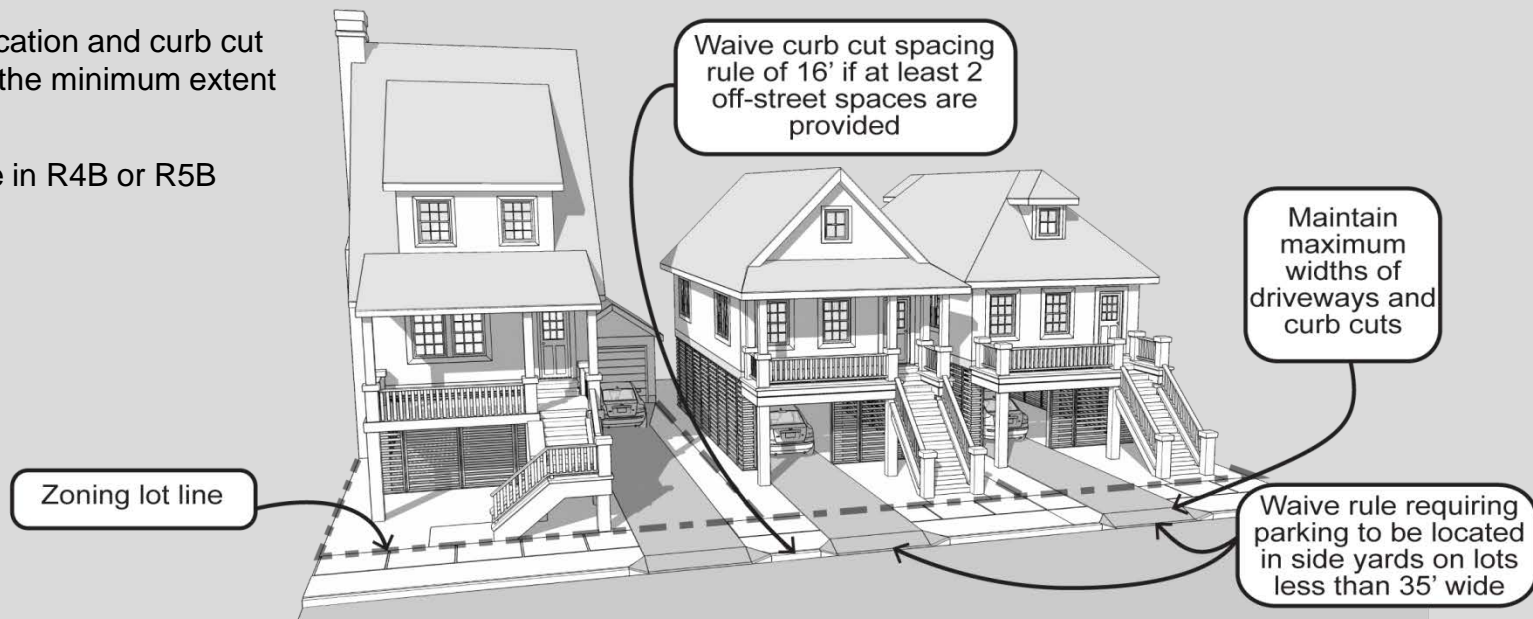
Existing curb cut spacing rules may prevent elevated or rebuilt homes from providing off-street parking spaces.



Solution

Relax parking location and curb cut spacing rules to the minimum extent necessary.

- Not applicable in R4B or R5B Districts

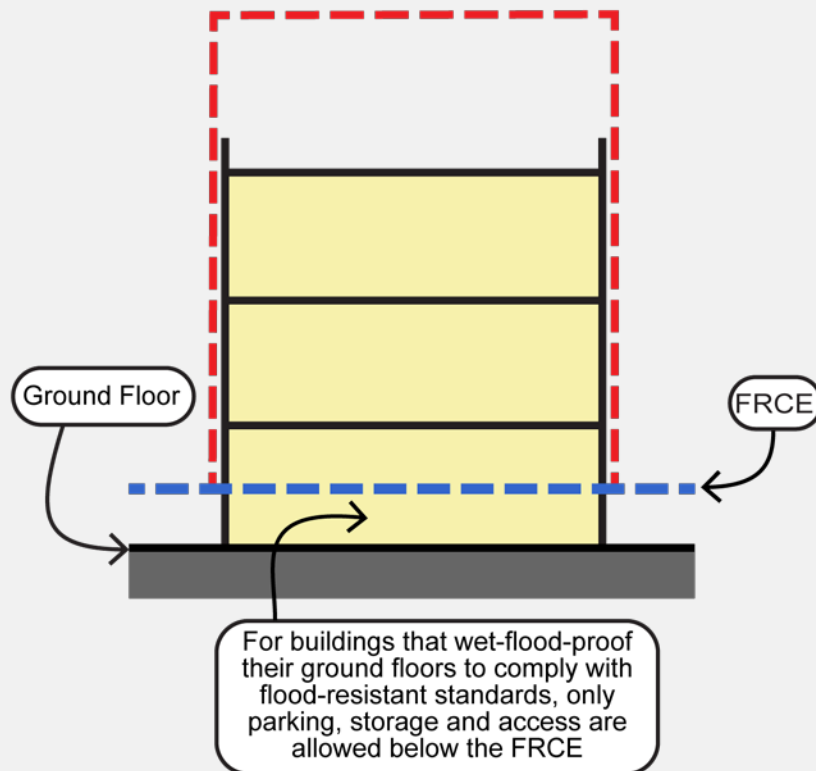


GROUND FLOOR USE

LOSS OF USABLE SPACE

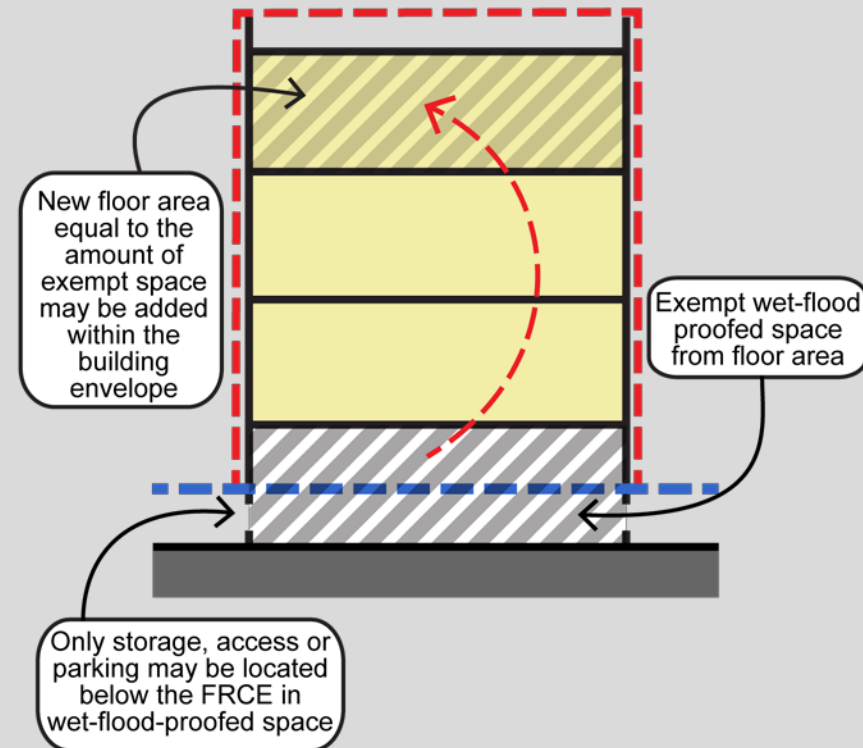
Issue

Compliance with Building Code's flood-resistant standards may result in the loss of useable ground floors for existing buildings.



Solution

Allow building owners to add an equivalent amount of space above the FRCE within the building envelope, where the ground floor is wet-flood-proofed in compliance with the Building Code's flood-resistant standards



MODIFY SPECIAL TRANSPARENCY AND GROUND FLOOR LOCATION RULES

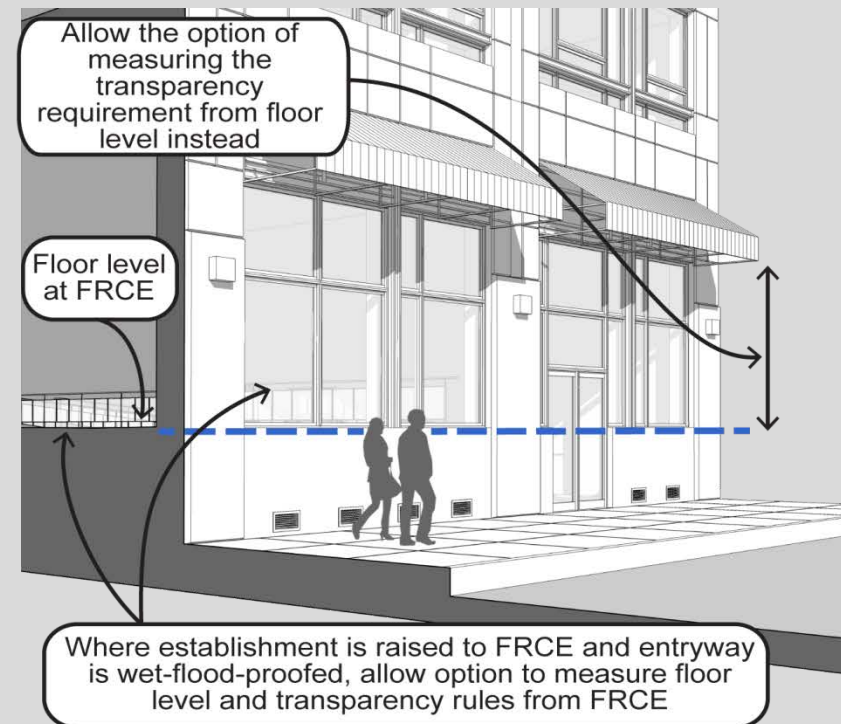
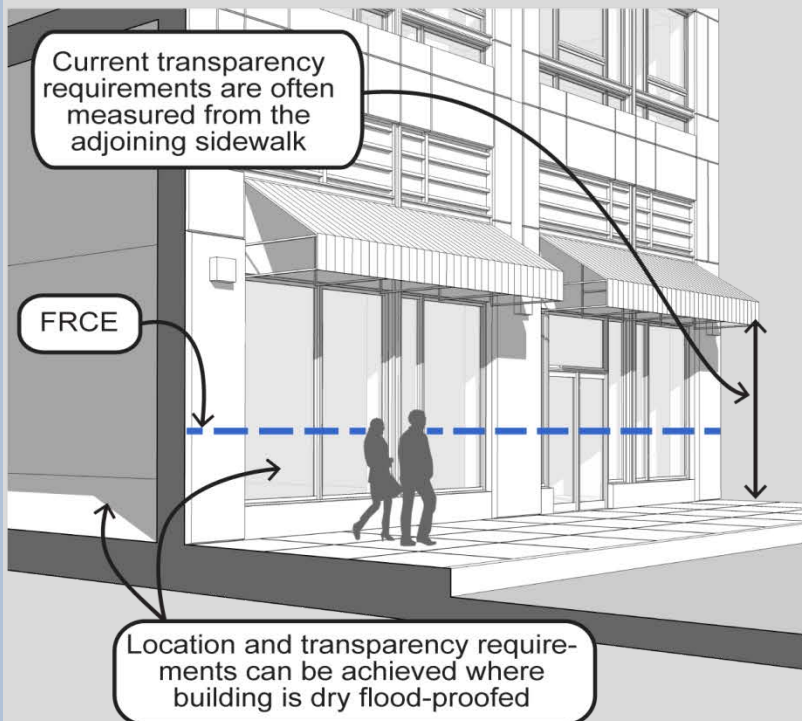
Issue

In some areas of the city, zoning requires commercial or community facility establishments on the ground floor and minimum amounts of transparency in the street wall.

The floor level of the establishment and the amount of transparency is usually measured from the level of the sidewalk. These requirements may become impractical in flood zones, especially where the FRCE is high above the sidewalk.

Solution

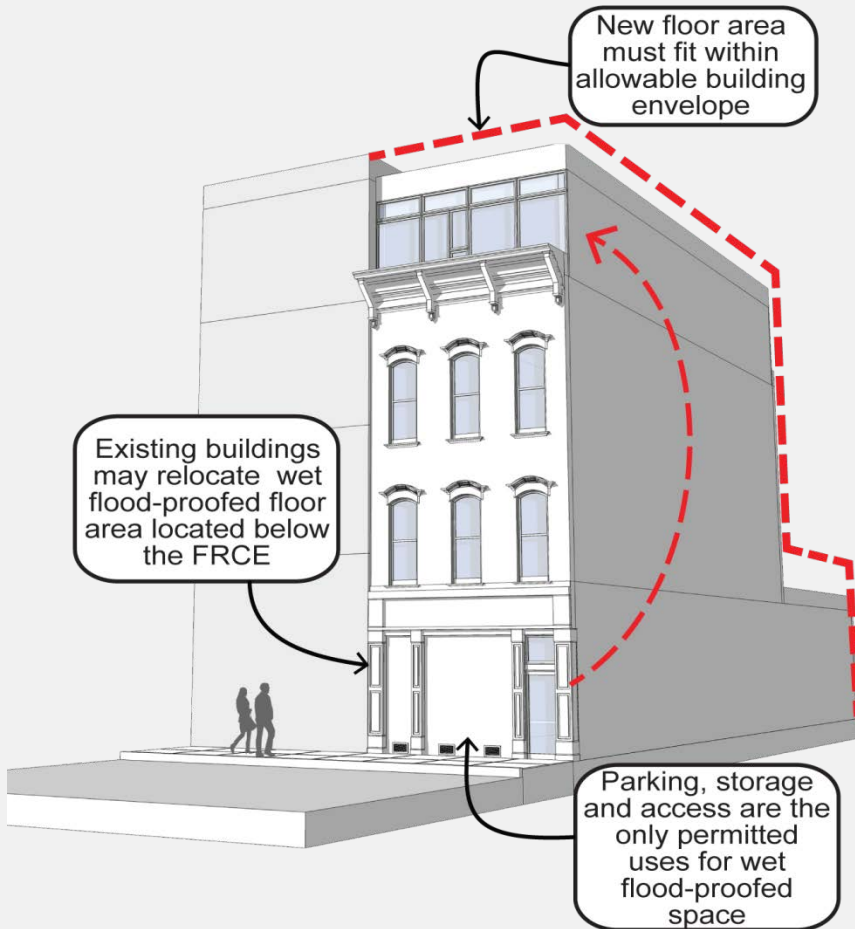
Allow the option of measuring the ground floor location from the FRCE and transparency requirements from the floor level rather than the sidewalk.



LOSS OF USABLE SPACE – LOW DENSITY COMMERCIAL

Wet Flood-proof Option (All Buildings)

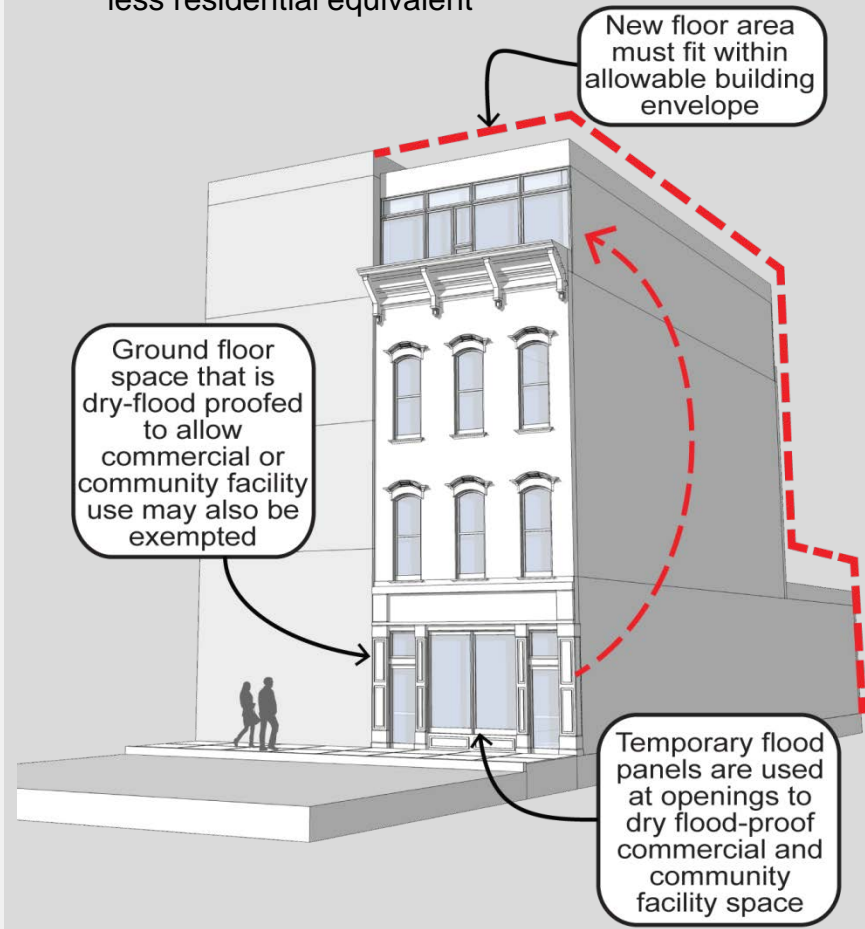
Allow building owners to recapture floor space made unusable due to compliance with the Building Code's wet flood proofing standards.



Dry Flood-proof Option (Commercial Districts)

To encourage active commercial streets, in low density commercial districts, allow building owners to exempt ground-level commercial or community facility floor area that is dry flood-proofed.

- Available only in commercial districts with an R6 or less residential equivalent

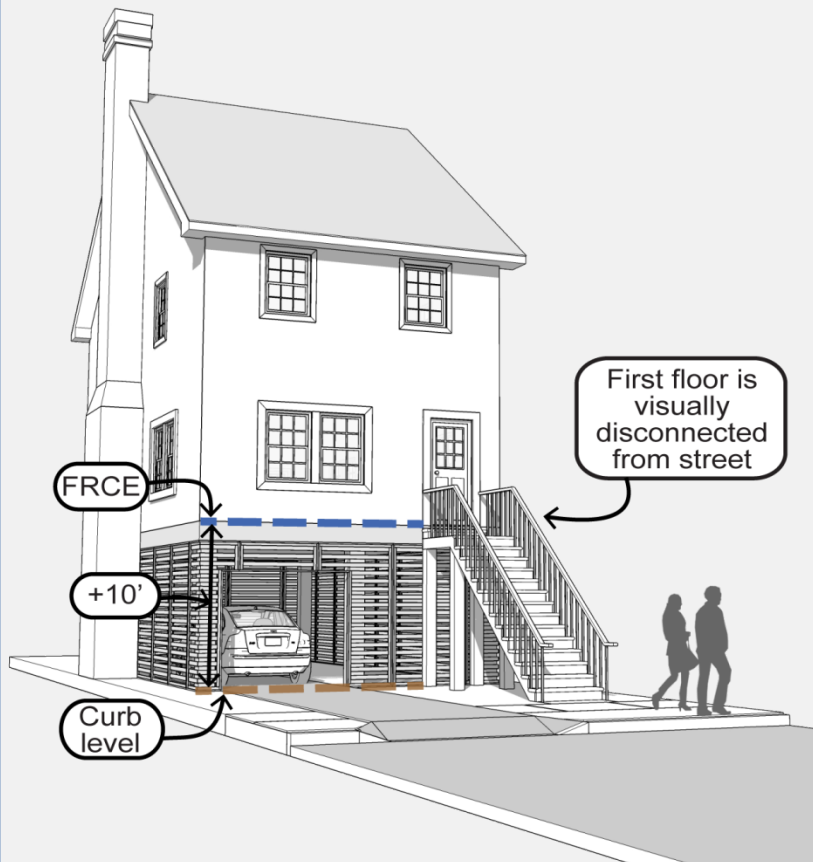


STREETSCAPE STANDARDS

SINGLE- AND TWO-FAMILY HOMES

Issue

When the lowest habitable floor of a house is 5 feet or more above curb level, it can create an unattractive streetscape.

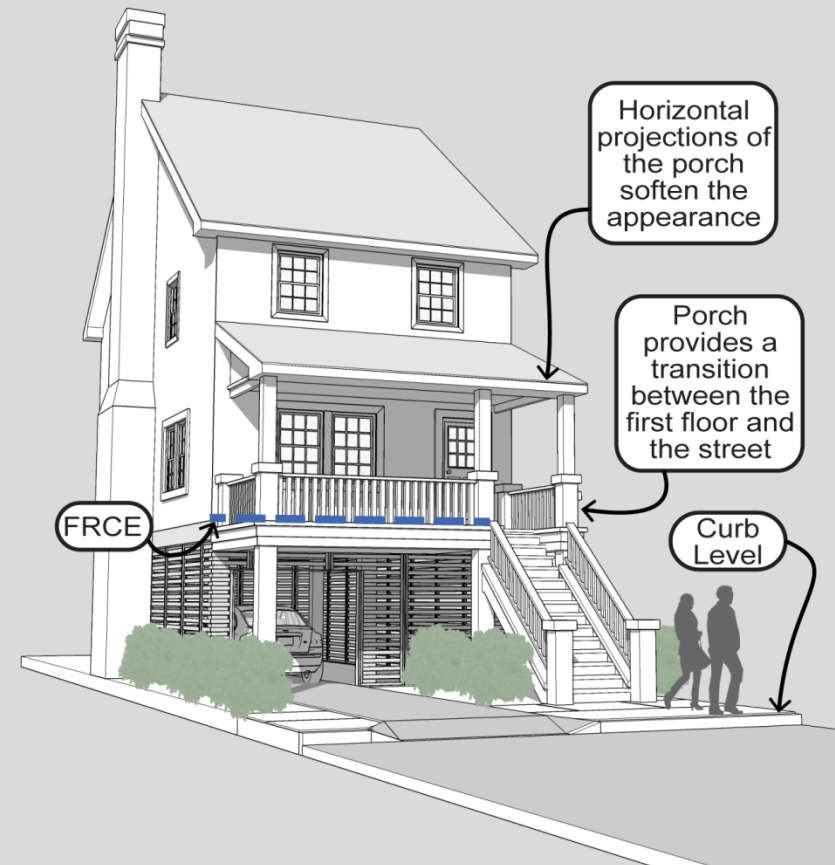


Home without streetscape enhancements

Solution

Establish streetscape requirements to provide a transition between the first floor and curb level when homes are required to be raised 5 feet or more above curb level.

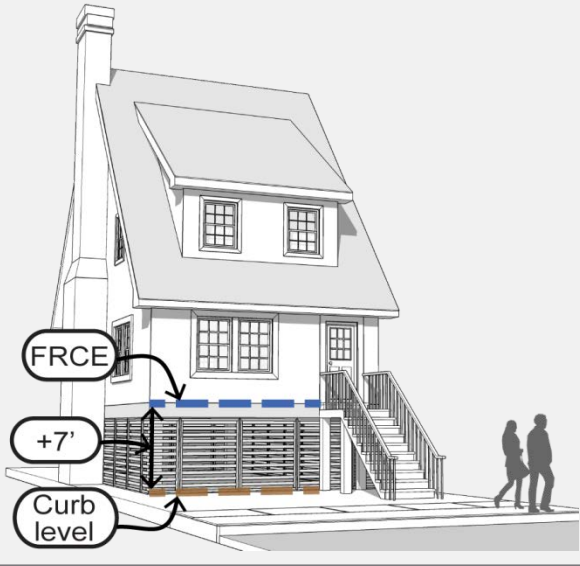
Applies in R1- R5 Districts, and to detached and semi-detached houses in R6 Districts.



Home with roofed porch and planting
Additional options shown on next slide

STREETSCAPE ENHANCEMENTS

Issue: No visual transition



Solution: When lowest floor is located 5–9 feet above curb level, choose 1
When lowest floor is 9 feet or more above curb level, choose 2



Planting



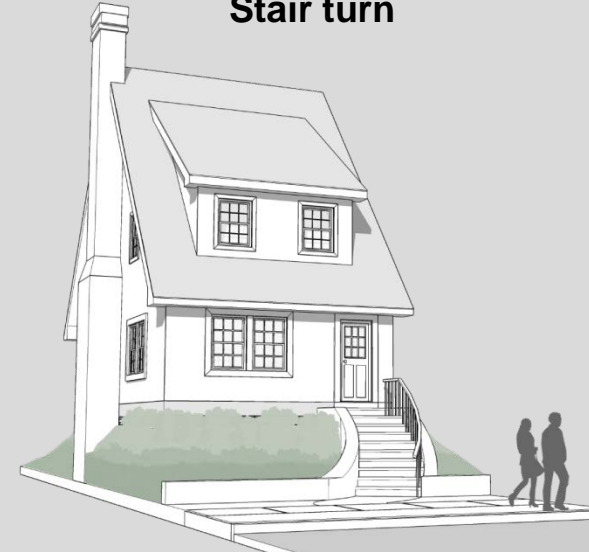
Stair turn



Unenclosed porch



Roofed porch

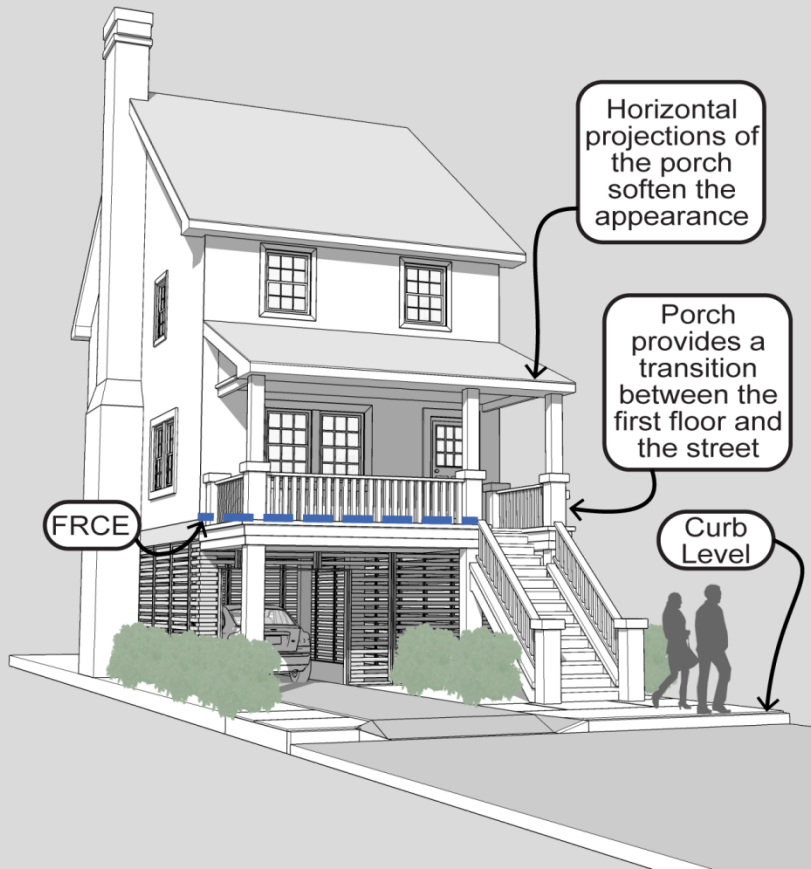


Raised yard

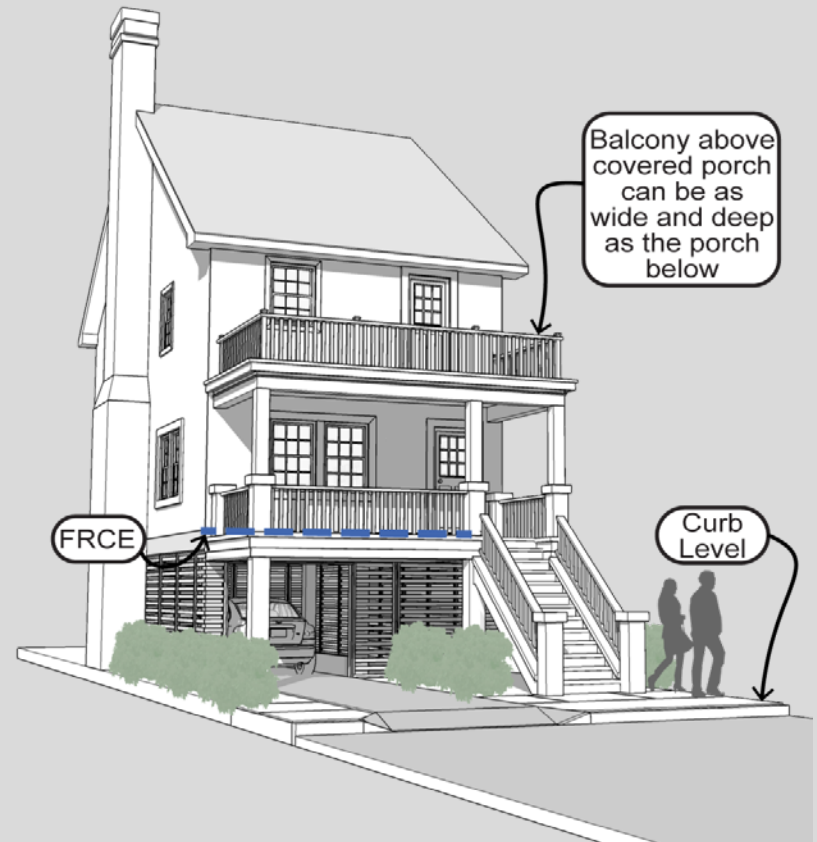
ADDITIONAL STREETSCAPE OPTIONS

Covered Porch Options:

For additional design flexibility, allow trellis roofs to count as covered porches and allow additional width for balconies to extend up to the width and depth of the porch below.



Home with roofed porch and planting
Additional options shown on next slide



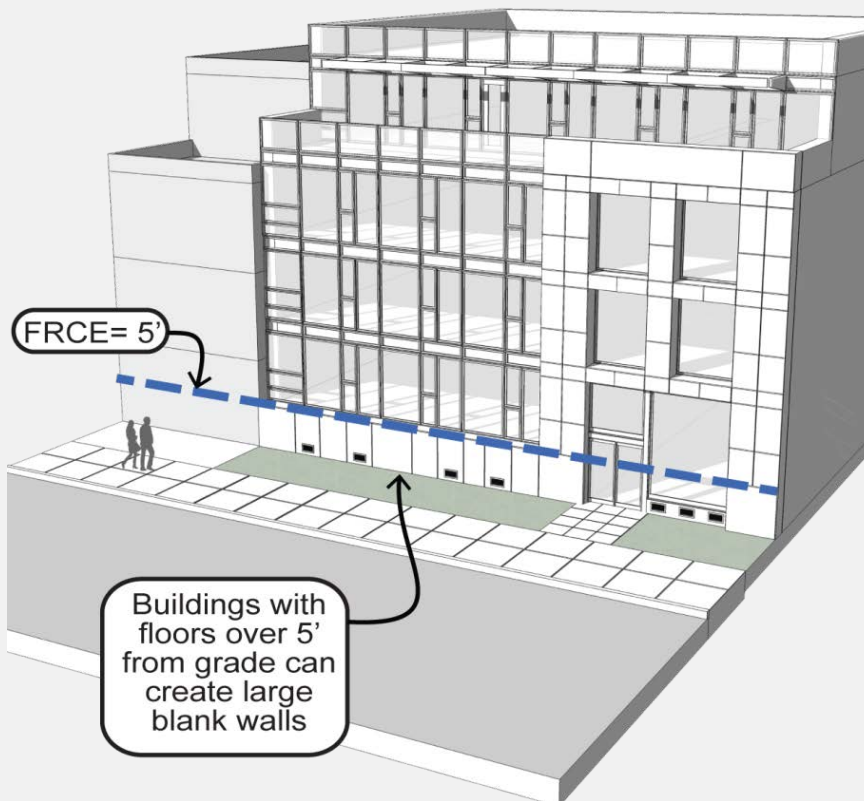
House with flat-roofed porch and
balcony above

PLANTING REQUIREMENT MULTI-FAMILY AND COMMUNITY FACILITY BUILDINGS

Issue

For new buildings where the FRCE is 5 feet or more above grade:

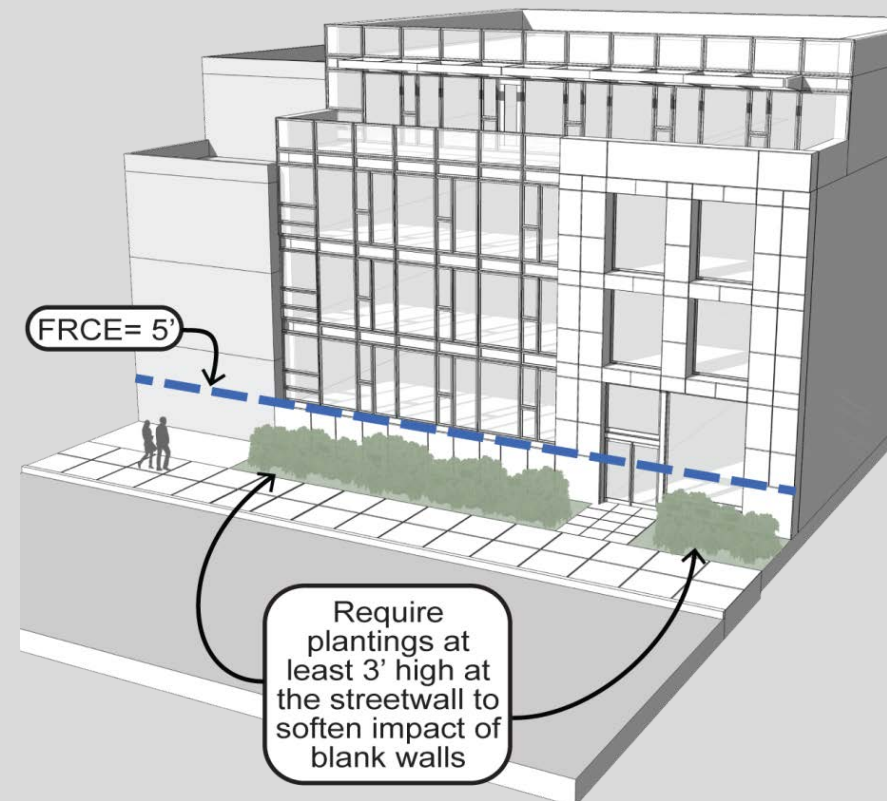
- In many cases, the ground floor can only be used for parking, storage and access.
- This can result in blank walls and an unattractive streetscape.



Solution

Establish planting requirements where the FRCE is 5 or more feet above grade for all new or elevated multi-family and community facility buildings.

- Does not apply to industrial uses
- Does not apply to buildings that are required to be less than 3 feet from the street line



WIDE LOBBY REQUIREMENT MULTI-FAMILY AND COMMUNITY FACILITY BUILDINGS

Issue

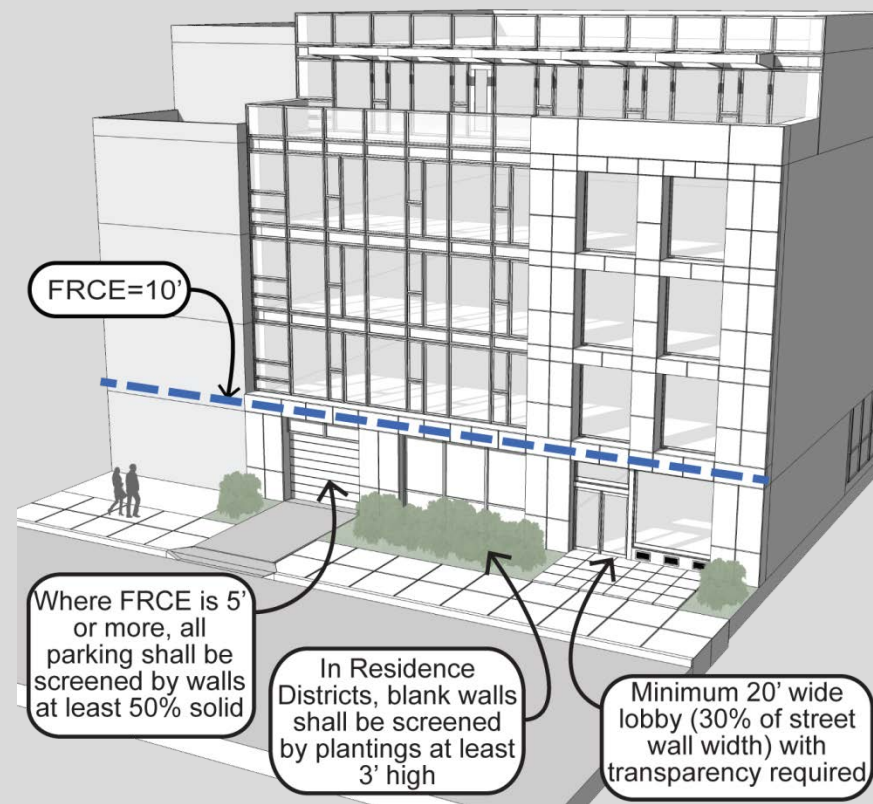
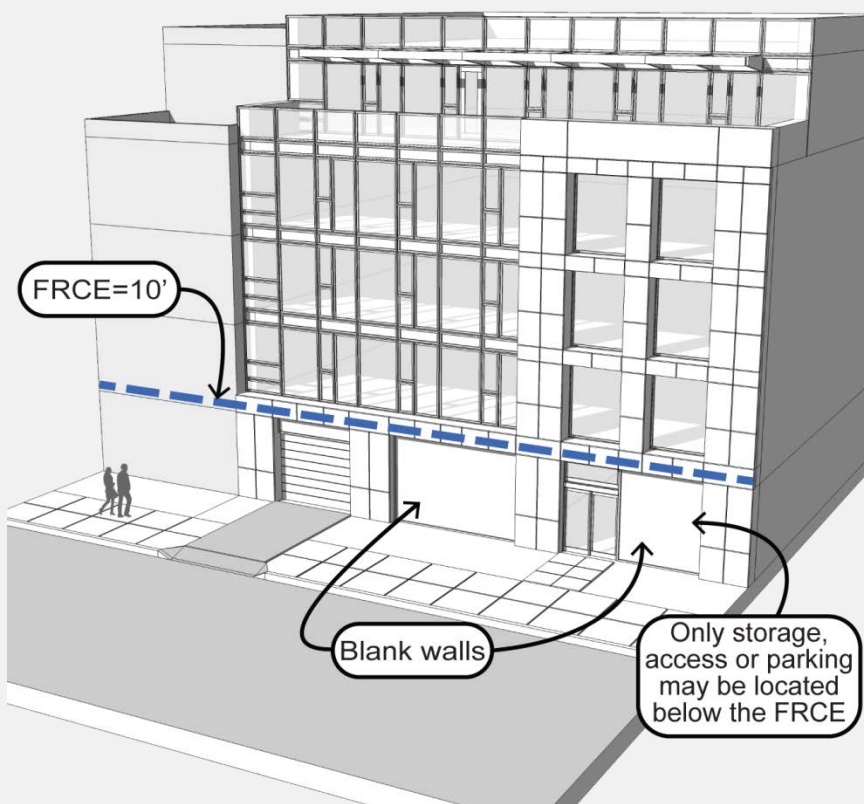
For new buildings where the FRCE is 10 feet or more above grade:

- In many cases, the ground floor can only be used for parking, storage and access.
- This can result in blank walls and an unattractive streetscape.

Solution

Establish enhanced streetscape requirements for all new buildings in flood zones where the FRCE is 10 feet or more above grade.

- Does not apply to light and heavy industrial uses
- Planting requirements do not apply in commercial districts

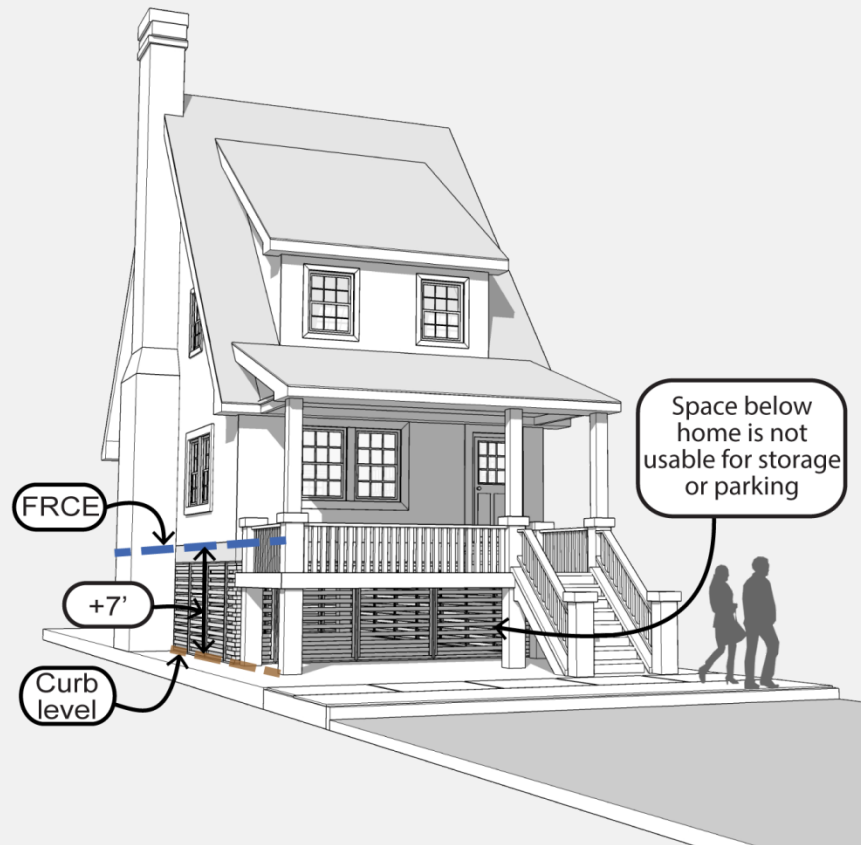


INCENTIVES TO PROMOTE USABLE GROUND FLOORS AND ENHANCE THE STREETScape

STREETSCAPE AND USABLE PRIVATE SPACE

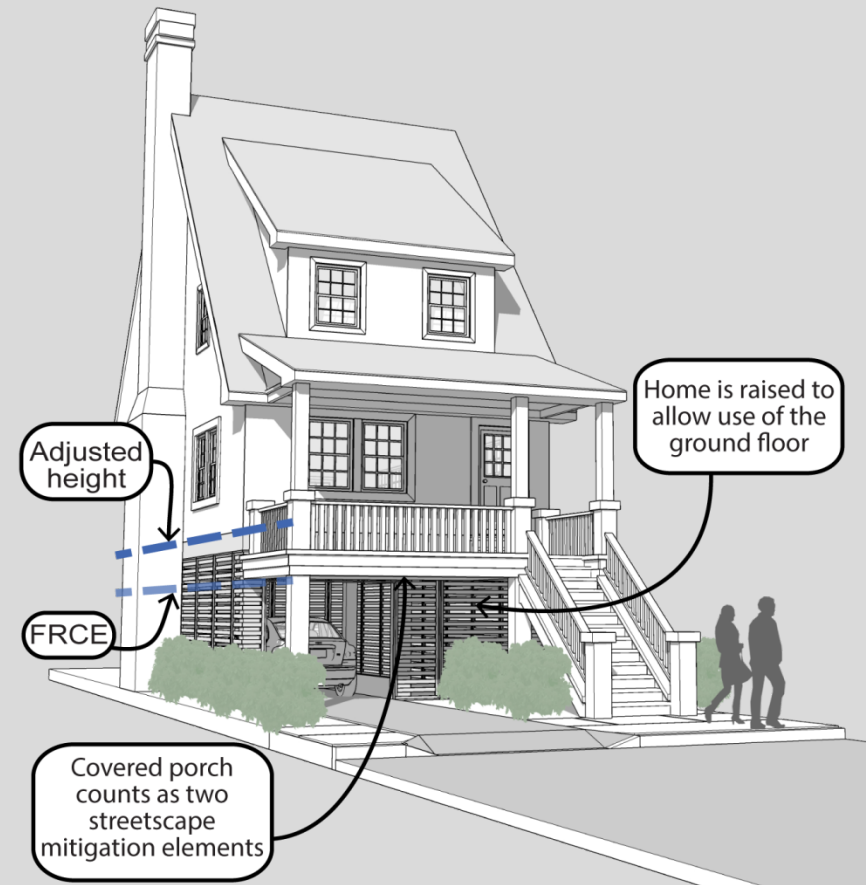
Issue

Where one and two-family homes are required to be raised to a FRCE of between 6 and 8 feet, the area below the home is unusable because of insufficient head room.



Solution

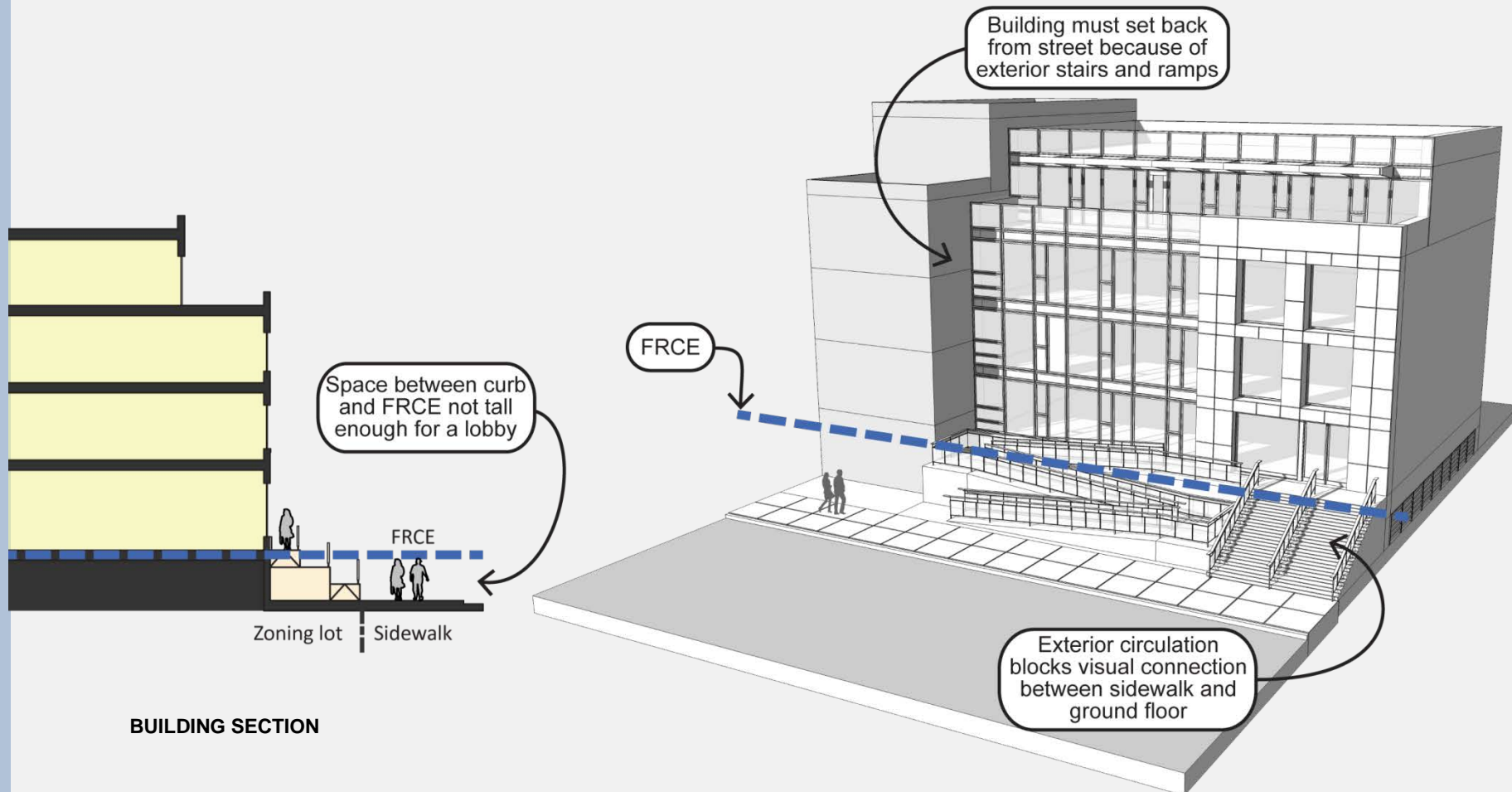
- Where the FRCE is between 6 and 9 feet, allow height to be measured from 9 feet above grade to accommodate parking and storage below the building.
- Where height is measured from 9 feet above grade, two items from the streetscape enhancement list must be provided.



RESIDENCE DISTRICT INCENTIVES: MULTI-FAMILY AND COMMUNITY FACILITY BUILDINGS

Issue

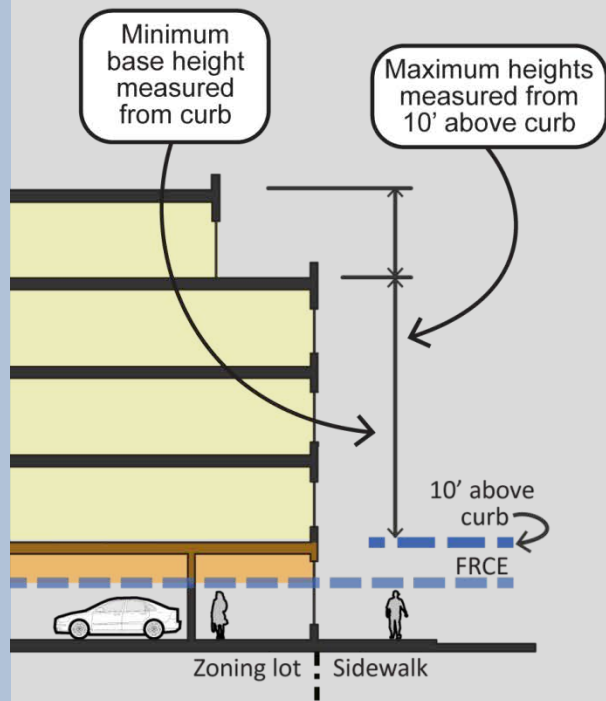
Where the FRCE is 5 feet or more above curb level, access to the buildings lowest occupiable floor becomes difficult and may result in an unattractive streetscape with long ramps and stairs disconnecting the building from the street.



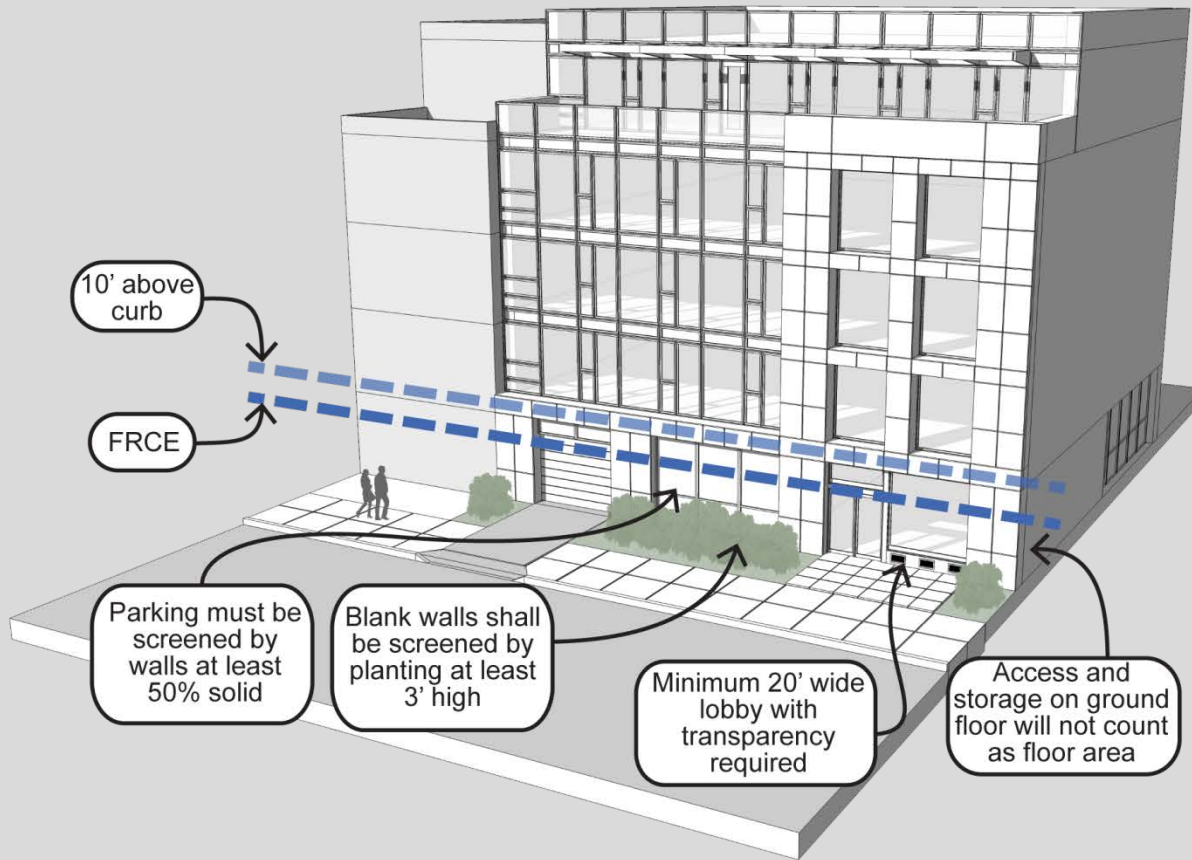
RESIDENCE DISTRICT INCENTIVES: MULTI-FAMILY AND COMMUNITY FACILITY BUILDINGS

Solution

Where the FRCE is 5 feet or more above curb level, allow maximum building heights to be measured from 10' above curb level, to accommodate an entry level story, provided that streetscape standards are met.



BUILDING SECTION



COMMERCIAL DISTRICT STREETScape

Issue

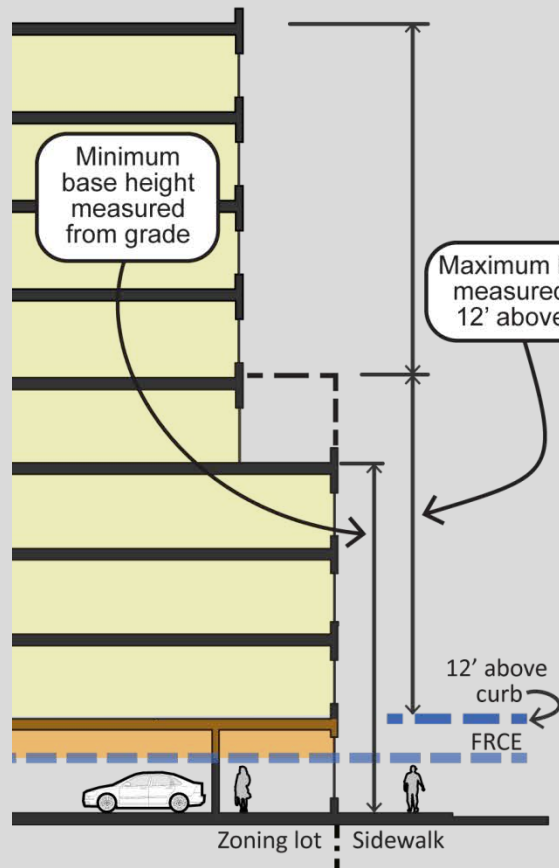
Most commercial areas in flood zones do not have transparency requirements

When the FRCE is located above 5 feet, blank walls are likely

Solution

Encourage transparency by allowing greater building height.

Where FRCE is 5 feet or more above curb level, allow maximum building heights to be measured from 12 feet above curb level, if the street wall is at least 50% transparent between 2 feet above curb and 12 feet above the finished floor level.



Raise the first level above the FRCE

Option 1:
Wet-Flood Proof
portion of
commercial space
exempted from floor
area calculations

Option 2:
Dry-Flood Proof
the commercial
space

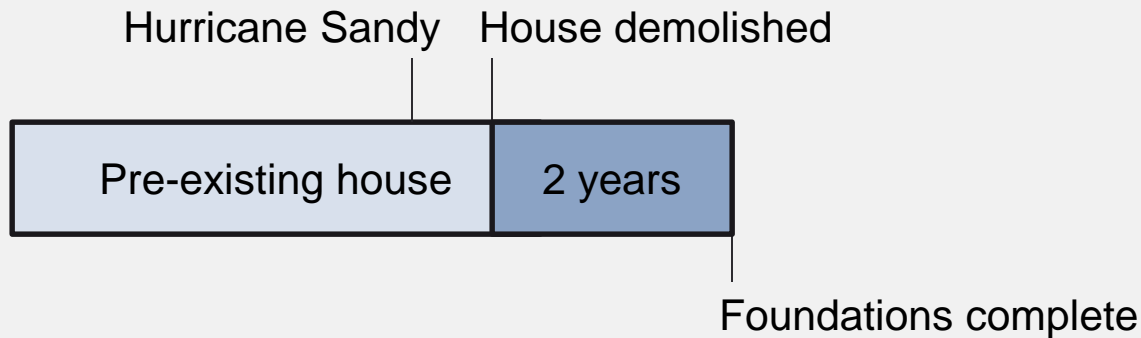


GRANDFATHERING, CERTIFICATIONS AND BSA SPECIAL PERMIT

TIME LIMIT TO REBUILD EXISTING 1 & 2 FAMILY HOUSES

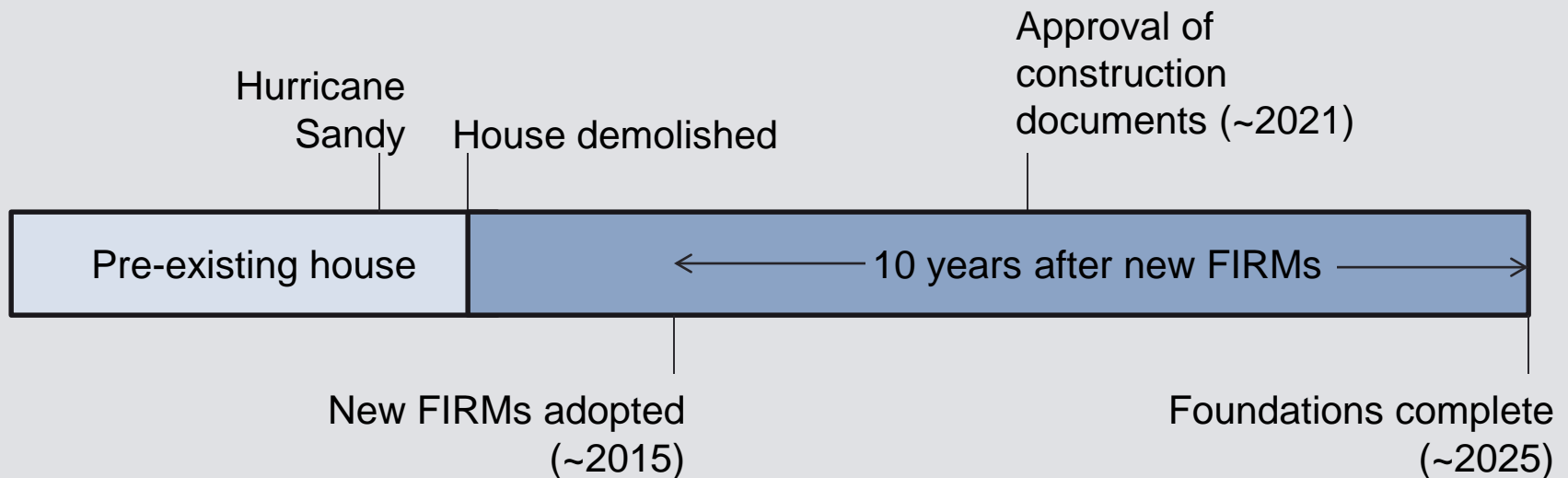
Existing Rules

By interpretation, the Department of Buildings limits the opportunity to vest the replacement of a destroyed single- or two-family building with an equivalent house to two years.



Solution

Within the flood zone, extend the time limit to vest a replacement of a destroyed or demolished single- or two-family building to ten years after the adoption of new FIRMs (ten years after 2015).



NON-CONFORMING USES and NON-COMPLYING BUILDINGS

Issue

Some non-conforming or non-complying buildings damaged or destroyed during the storm cannot be rebuilt because they exceed the threshold for reconstruction under zoning regulations, or because the Building Code's flood-resistant construction standards would create conflicts with zoning.

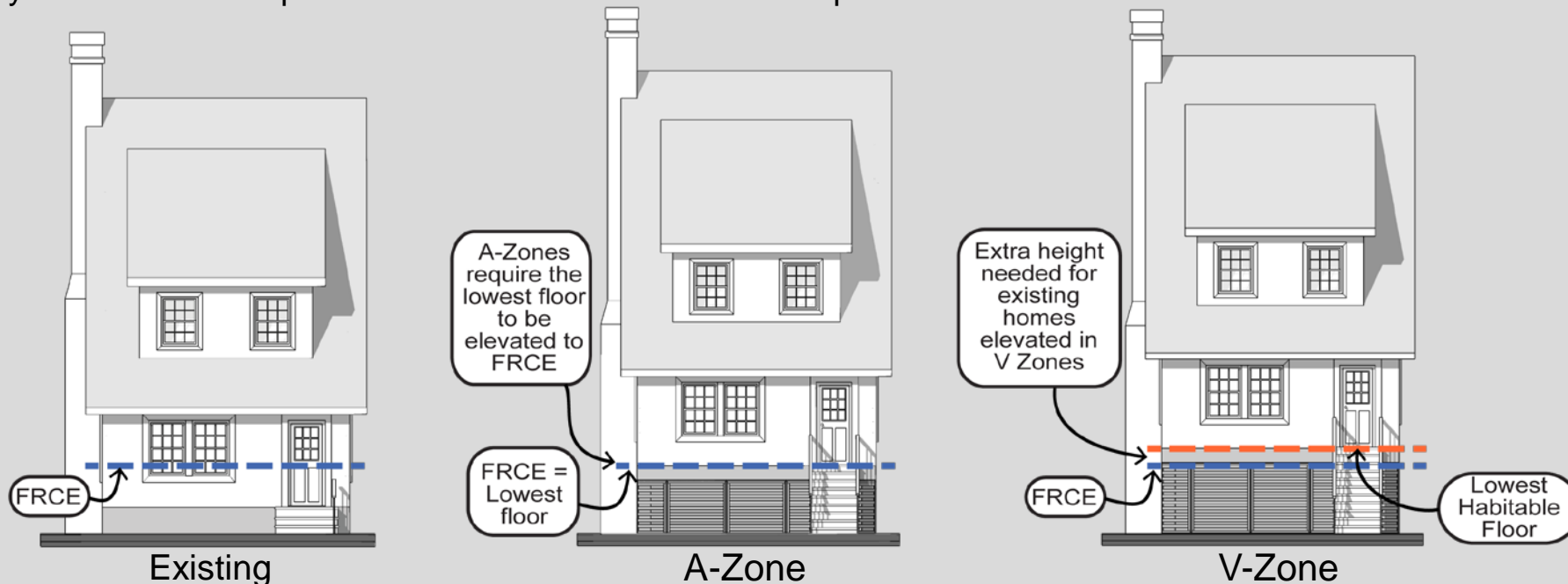
Solution

1 and 2 Family Homes

Allow existing 1 and 2 family homes to create new non-compliances to the extent necessary to elevate the first habitable floor of the home to the FRCE.

All other Buildings

Allow the reactivation of non-conforming uses and the reconstruction of non-complying buildings severely damaged by Hurricane Sandy. Construction pursuant to such approval may continue up to six years after the adoption of new Flood Insurance Rate Maps.



NEW BSA SPECIAL PERMIT

Issue

In flood zones, special circumstances may arise that prevent flood-resistant construction that are not addressed by this text amendment.

Solution

Create a new special permit to be administered by the Board of Standards and Appeals to waive certain bulk regulations (not including floor area) to the minimum extent necessary to comply with the Building Code's flood-resistant standards.

