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(code referenced only)

DRAFT

ADU SCENARIOS
Fire and Building Code

Send feedback by November 25, 2023 to Marcy.Ostberg@boston.gov or by anonymous google form here

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What is in this document?

This document is meant to explain visually and in plain language common building code and fire code requirements that impact design and construction of attached and detached ADUs. If you are considering building an ADU this information may help you understand what type of ADU can work best on your property.

This is not a comprehensive list of all fire and building codes. We recommended that you hire a design professional to advise you further. You can find the full code books below:

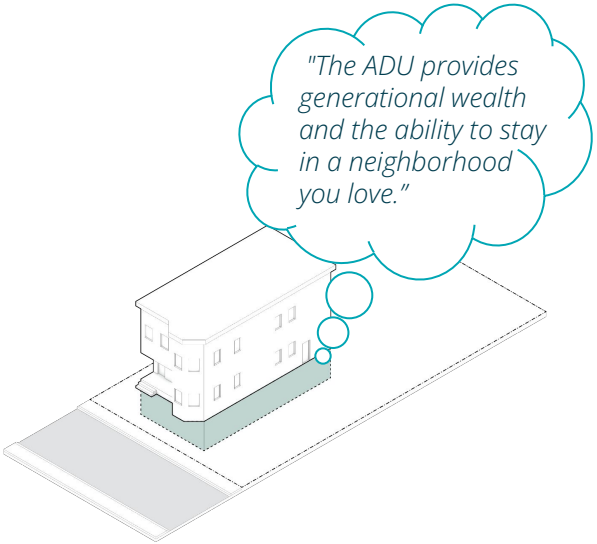
- Massachusetts Comprehensive Fire and Safety Code (527 CMR 1.00)
- Massachusetts State Building Code (780 CMR)

TABLE OF CONTENTS

CONTEXT

What type of ADUs are there and what types of ADUs do these guidelines cover?

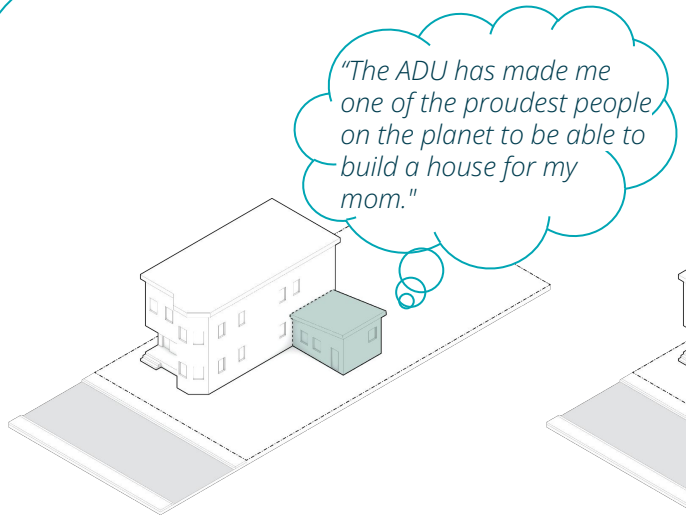
THIS DOCUMENT PROVIDES GUIDANCE ON EXTERNAL ADUs



Internal ADU

Internal ADUs are built inside the existing footprint of a home. Usually, this will look like an attic or a basement that is renovated and outfitted as a separate dwelling unit.

For more information on internal ADUs see: boston.gov/adu-toolkit



Attached ADU

Attached ADUs are separate structures that are built as attachments to the main home, sometimes with a shared doorway or corridor linking them.

Detached ADU

Detached ADUs are totally separate dwelling units that are built on the same lot as the main home, often in the backyard.

FIRE ACCESS ROAD

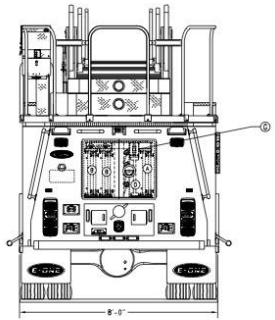
What is a Fire Access Road and how are distances from a Fire Access Road measured?

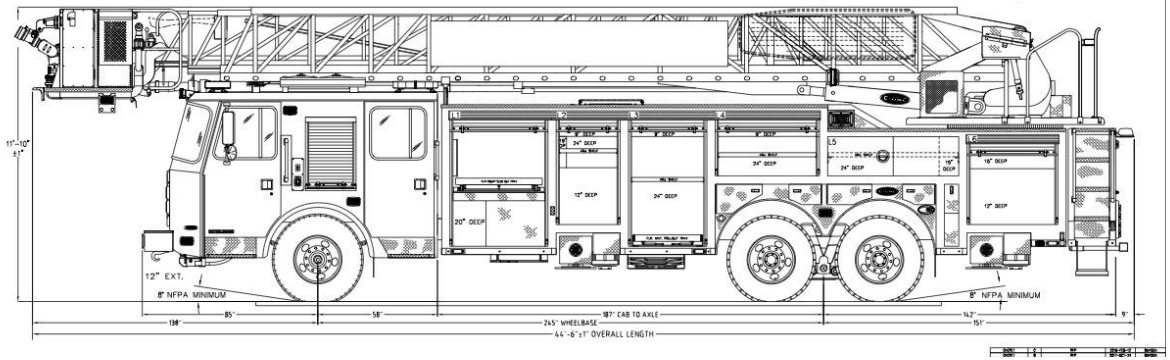
BOSTON FIRE APPARATUS SPECIFICATIONS

COMPT.	OPENING		INTERIOR DIMENSION		
L1/R1	45W	55H	47W 47W	40H 27H	92D UPPER/ NOTED LOWER
L2	29W	45H	31W	54H	NOTED
R2	31W	19H	31W	19H	12D
L3	36W	55H	38W	64H	NOTED
R3	38W	30H	38W	30H	24D
L4	48W	21H	50W	30H	NOTED
R4	44W	19H	44W	19H	12D
L5	63W	19H	63W	19H	NOTED
L6	42W	33H	44W 44W	19H 27H	15D UPPER/ 12D LOWER

GROUND LADDERS

ITEM	LADDER LENGTH	MODEL NUMBER	QTY	
A	40' 2-SECT.	TEL-40	1	
B	35' 2-SECT.	TEL-35	2	
C	28' 2-SECT.	TEL-28	1	
D	20' ROOF	TRL-20	1	
E	16' ROOF	PRL-16	1	
F	12' ROOF	PRL-12	1	ON AERIAL
G	10' FOLDING	FL-10	1	
H	LITTLE GIANT	MODEL 17	1	





Fire department access roads must be provided for ALL buildings constructed.

All buildings are required to have fire department access roads within specified distance of the building.

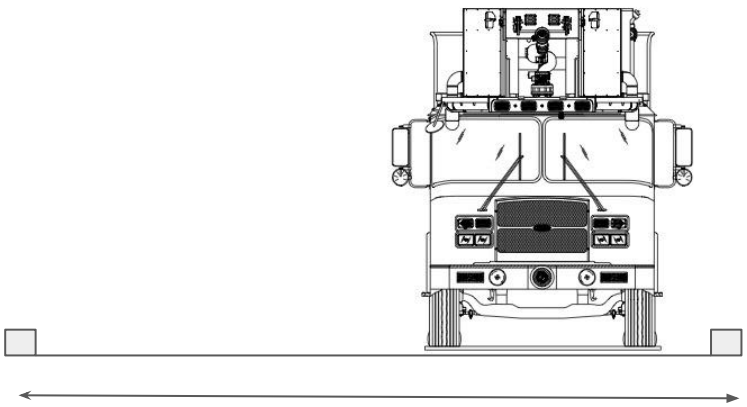
These access roads make it possible for emergency vehicles and fire apparatus to access the building in case of emergency.

The image on the left shows specifications for Boston's Fire Apparatus. More detailed specifications are in the appendix.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.1.1 Fire Department Access Roads
18.2.3.1.2 Type of lane
FIRE APPARATUS
For more details on Boston Fire Apparatus specifications see Appendix A.

FIRE DEPARTMENT ACCESS ROAD



GENERAL APPARATUS ACCESS
Minimum 20’ feet

Fire Department Access Roads specifications ensure they can transport fire trucks to an emergency.

Some specifications include:

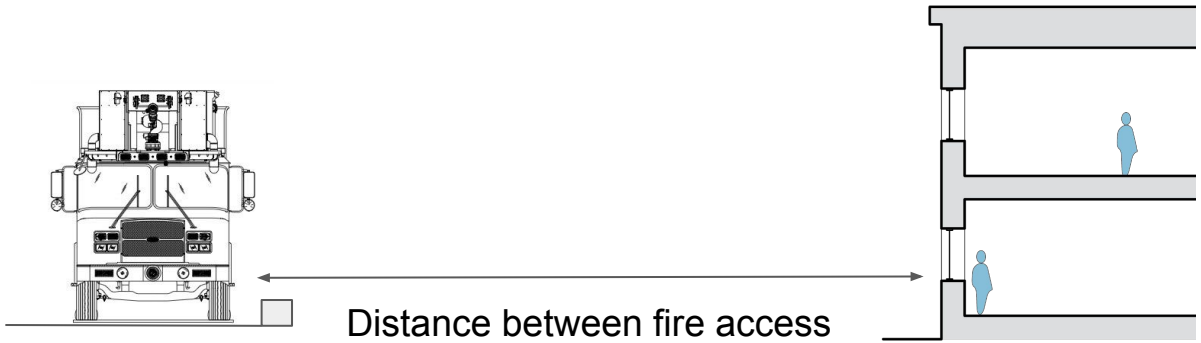
- Minimum of 20 feet wide
- Vertical clearance at least 13 ft 6 in
- Surface capable of supporting load
- Grade not exceeding 10%
- Turn radius simulation to ensure fire apparatus navigation
- Not obstructed by anything, including parking

The image shows a fire truck on a road with a minimum clearance of 20 feet.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.5.1.1 Width of 20ft
18.2.3.5.1.2 Height at least 13 ft 6 in
18.2.3.5.2 Surface
18.2.3.5.2 Permeable Surface
18.2.3.5.3.3 Curb Cut
18.2.3.5.6.1 Gradient less than 10%
18.2.4.1.1 No parking

DISTANCE FROM ONE EXTERIOR DOOR



Note: The curb should be used, not the lot line, when measuring fire apparatus location on access road.

Allowable distance from an ADU door to the access road.

There are two key measurements when determining allowable distance from the fire access road. The first is the distance from the access road to one exterior door. The list below shows allowable distances:

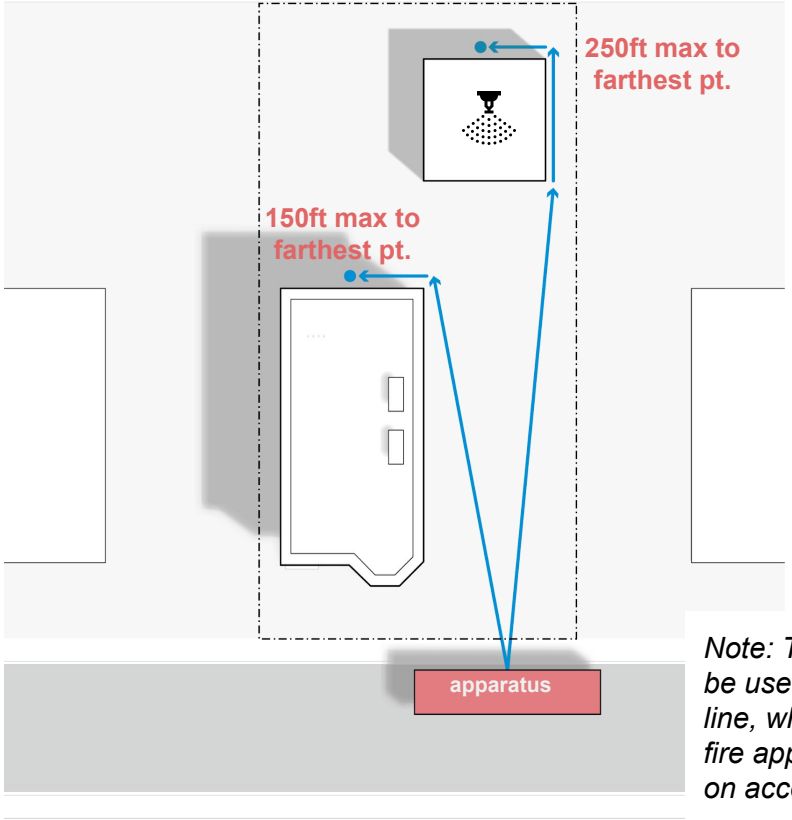
- 50 feet or less if no sprinkler in the building
- 150 feet or less with sprinkler
- 25 feet or less if the ADU is behind a building and does not have adequate frontage of 20 feet

The image shows how the distance to the door should be measured.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.2 Access to Building and Facilities
18.2.3.2.1 Door <50 ft
18.2.3.2.1.1 Door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind no frontage
18.2.3.2.1.1.2 Distance to door <150ft of townhouse w/sprinkler

DISTANCE FROM ANY PORTION OF THE FIRST FLOOR EXTERIOR WALL



Note: The curb should be used, not the lot line, when measuring fire apparatus location on access road.

Allowable distance from the exterior wall of the ADU to the access road.

The second measurement is the distance from the access road to any portion of the first floor exterior wall of the ADU. The list below shows allowable distances:

- 150 feet or less if no sprinkler in the building
- 250 feet or less with sprinkler
- No increase with addition of a sprinkler if the ADU is behind a building and does not have adequate frontage of 20 feet

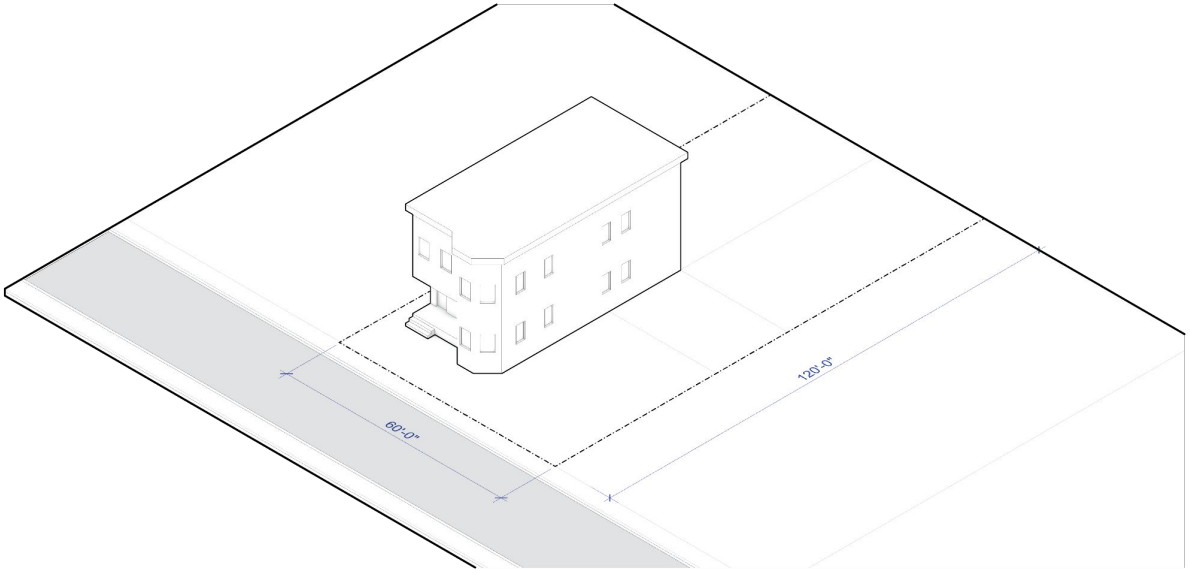
The image shows how the distance should be measured.

APPLICABLE CODE (527 CMR Chapter 18)
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increase if behind + no frontage

FIRE CODE
COMMON DEFINITIONS

What are common definitions necessary to interpret fire code?

EXISTING STRUCTURE



The existing structure complies with fire access road requirements.

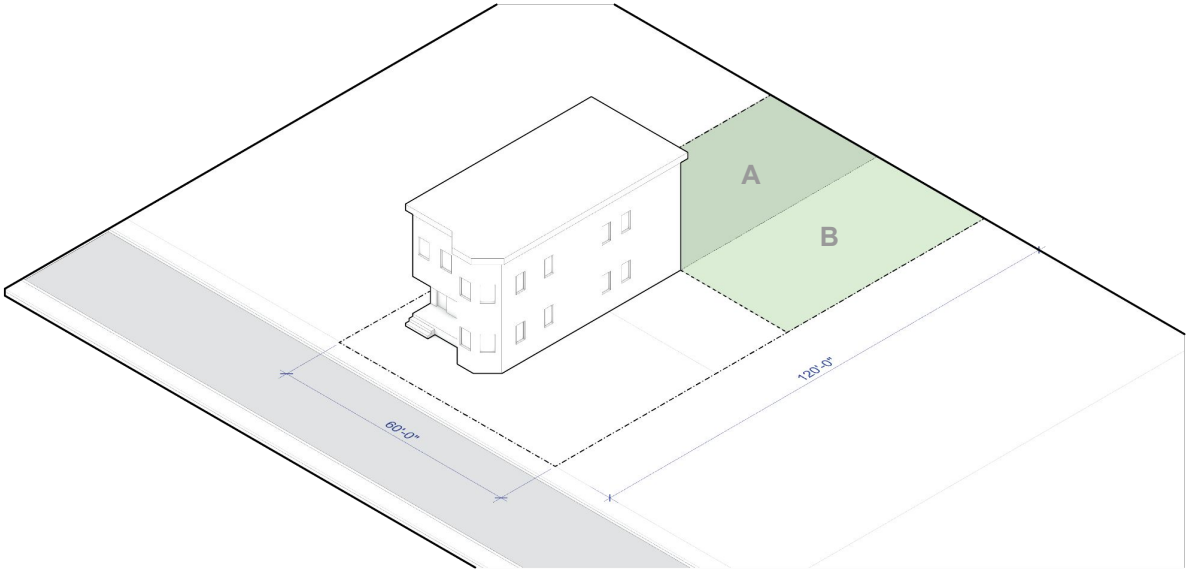
All buildings must have fire department access roads. Existing structures have complied with the regulation to have a door within 50 feet and any portion of the building within 150 feet. With an automatic sprinkler these numbers increase to 150 feet and 250 feet respectively.

The image shows an existing structure on a lot 60 feet wide and 120 feet deep. The fire department access road is the street in grey abutting the lot.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.1.1 Access road for every building
18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler

COMMON DEFINITION: **BEHIND**



Understanding when an ADU is behind a building

When a building is **behind an existing building** and does not have adequate frontage the allowable distance from the access lane reduces to 25 feet. Common definition 1 will be used to determine if an ADU is behind.

The image shows the portion of the lot considered behind in dark green (section A) using the common definition.

COMMON DEFINITION

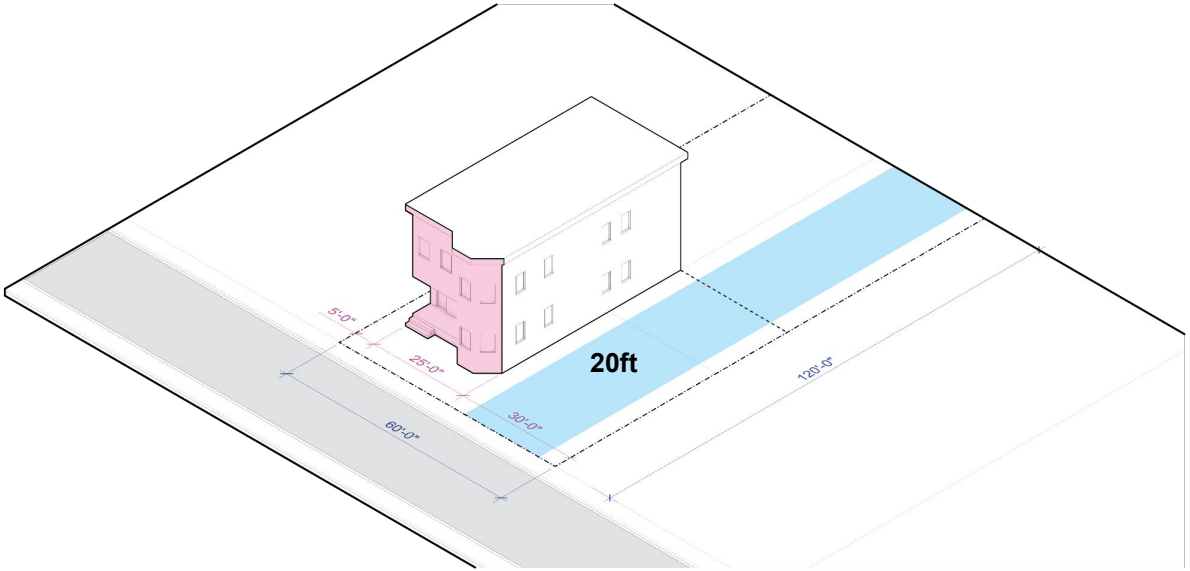
Behind

1. at or to the far side of (something), typically so as to be hidden by it. **(section A)**
2. in a line or procession, following or further back than (another member of the line or procession). **(section A and B)**

APPLICABLE CODE (527 CMR Chapter 18)

18.1.1.3 New 1F or 2F behind and no frontage
18.1.1.3.1 Exempt if not behind

COMMON DEFINITION: **FRONTAGE**



Understanding adequate frontage

When a building is behind an existing building and **does not have adequate frontage** the allowable distance from the access lane reduces to 25 feet. The fire code defines frontage as “at least 20 feet or more abutting a public way.”

The image shows a blue strip representing 20 feet of adequate frontage.

COMMON DEFINITION

Frontage

1. the facade of a building.
2. a strip or extent of land abutting on a street or water.

APPLICABLE CODE (527 CMR Chapter 18)

18.1.1.3 New 1F or 2F behind and no frontage

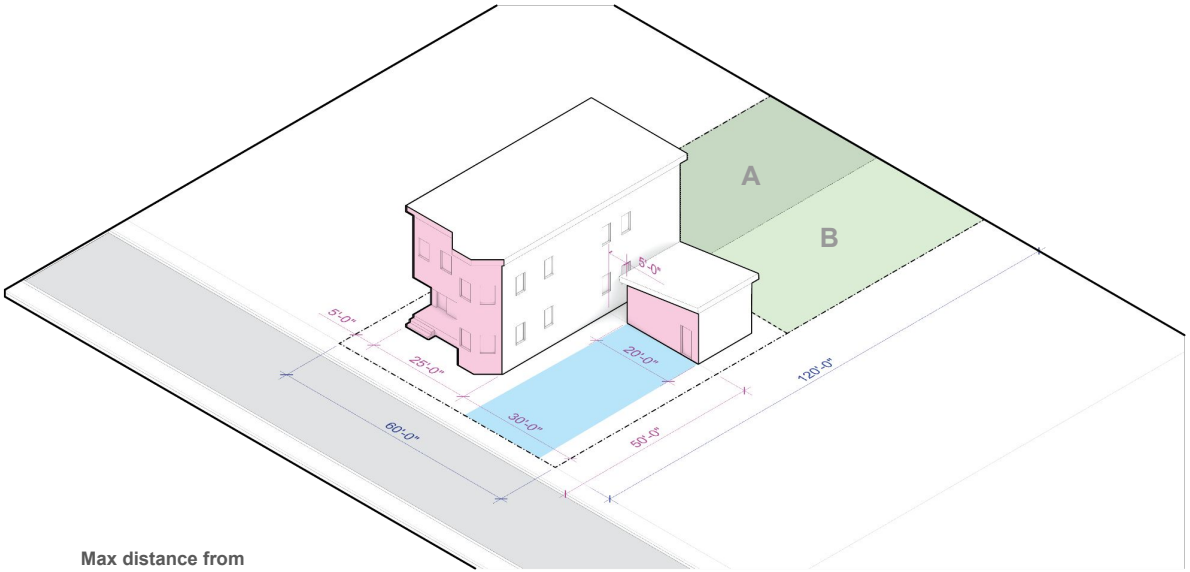
18.1.1.3.1 Exempt if not behind

SCENARIOS:

DETACHED ADUs + FIRE ACCESS ROAD

How does the fire access road requirement apply to common detached ADU scenarios?

DETACHED ADU: **SIDE**



Max distance from door to Fire Access Road

50/150
Door/Wall

Detached ADU within 50 feet of access lane doesn't require a sprinkler

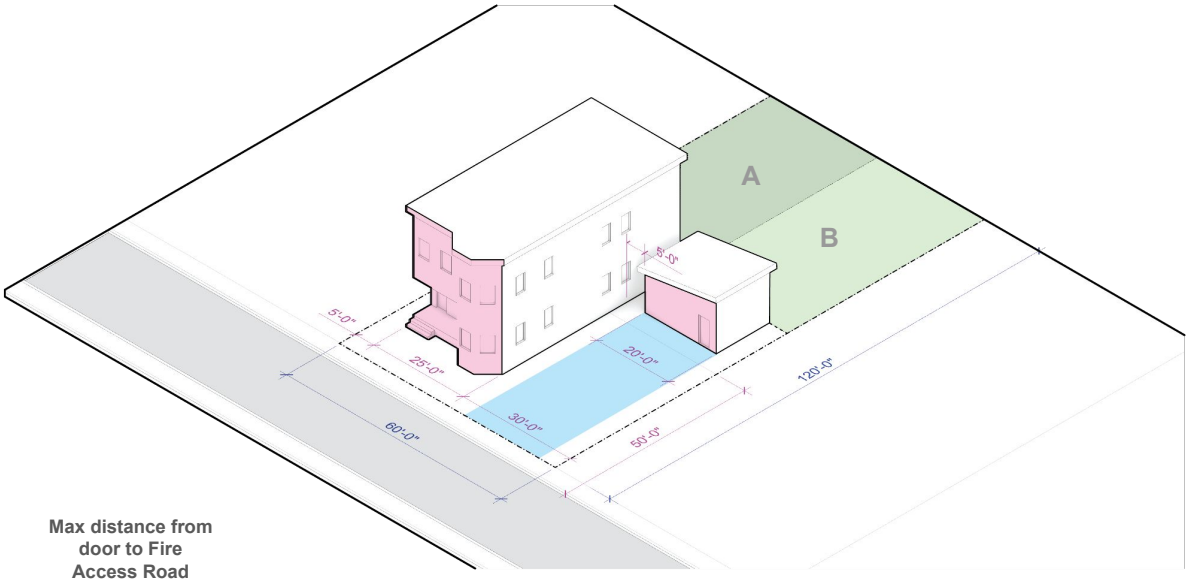
This scenario shows a detached ADU with a door within 50 feet of the fire access lane and less than 150 feet from any portion of the first floor exterior wall.

Therefore, a sprinkler will not be required to meet the fire access lane distances.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

DETACHED ADU: **SIDE MORE THAN 50 FEET**



Max distance from door to Fire Access Road

150/250
Door/Wall

Detached side yard ADU more than 50 feet back requires sprinkler

This scenario shows a detached ADU with adequate frontage but more than 50 feet from the fire access lane.

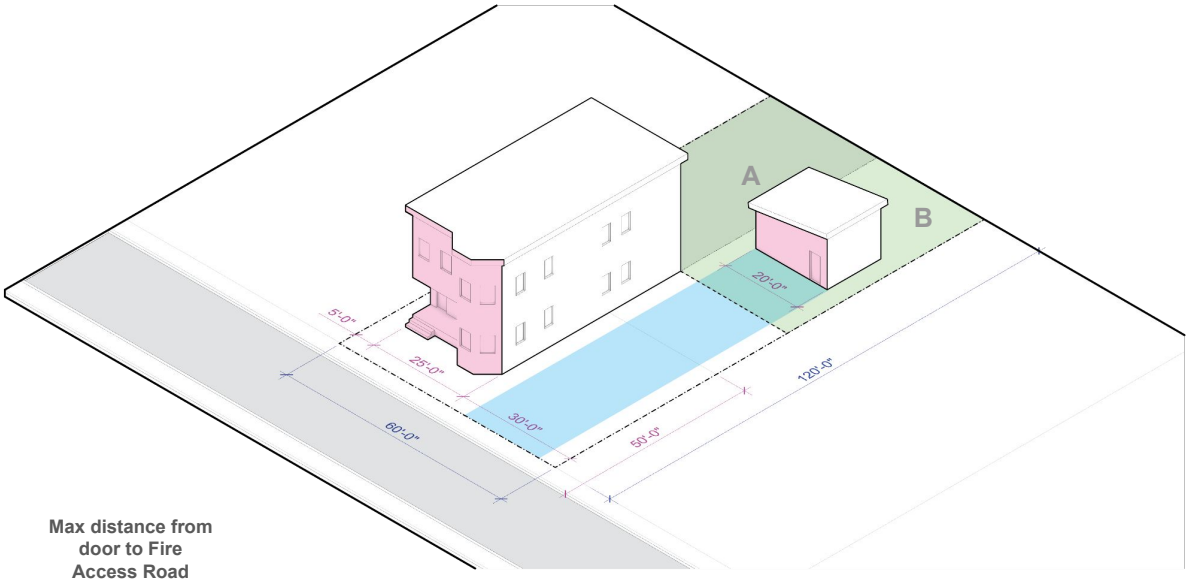
Therefore, a sprinkler is required to increase the fire access lane distances to 150 feet from a door and 250 feet from any portion of the exterior wall.

NOTE: Building code will determine the type of sprinkler system required. See later slides on sprinklers.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

DETACHED ADU: **BACKYARD WITH FRONTAGE**



Max distance from door to Fire Access Road

150/250
Door/Wall

Detached backyard ADU with adequate frontage requires a sprinkler

This scenario shows a detached ADU with adequate frontage but more than 50 feet from the fire access lane.

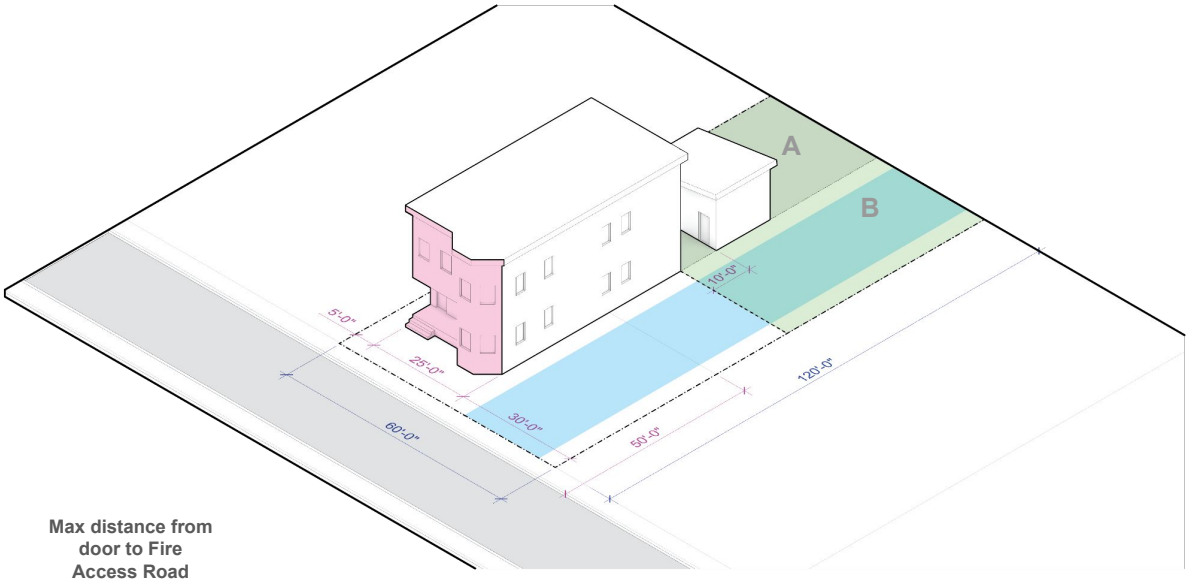
Therefore, a sprinkler is required to increase the fire access lane distances to 150 feet from a door and 250 feet from any portion of the exterior wall.

NOTE: Building code will determine the type of sprinkler system required. See later slides on sprinklers.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

DETACHED ADU: **BEHIND WITH FRONTAGE**



Max distance from door to Fire Access Road

Detached ADU behind with adequate frontage requires a sprinkler

This scenario shows a detached ADU with adequate frontage but more than 50 feet from the fire access lane.

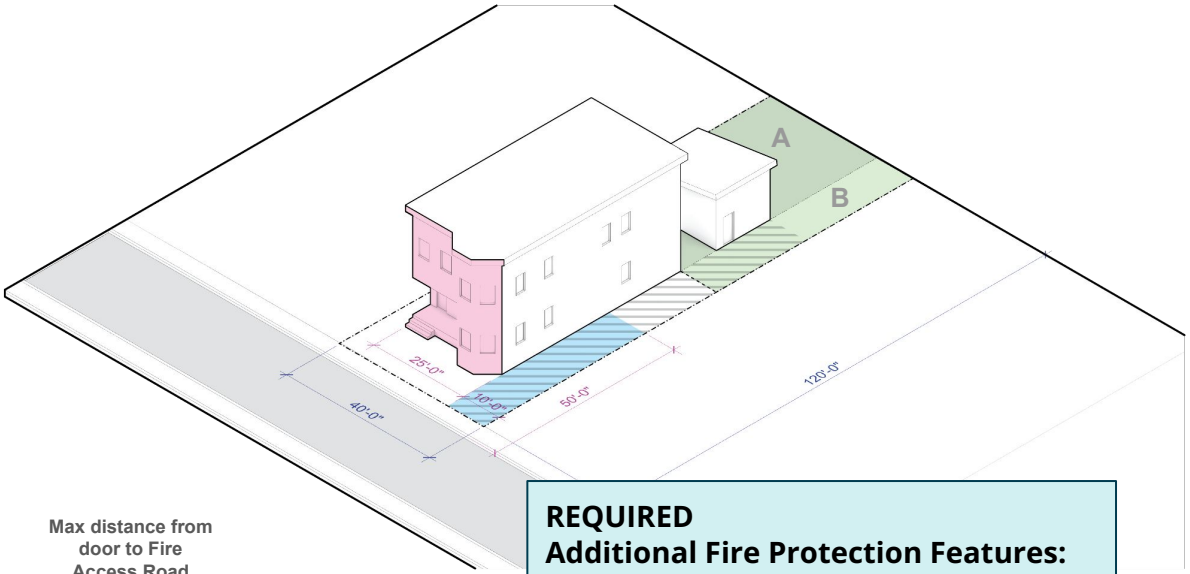
Therefore, a sprinkler is required to increase the fire access lane distances to 150 feet from a door and 250 feet from any portion of the exterior wall.

NOTE: Building code will determine the type of sprinkler system required. See later slides on sprinklers.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

DETACHED ADU: **BACKYARD NO FRONTAGE**



Max distance from door to Fire Access Road

REQUIRED
Additional Fire Protection Features:

- Automatic sprinkler
- Firefighter access path
  - *At least 10 feet wide,*
  - *Free of obstruction*
- Wayfinding
  - *Lighted entryway to ADU*
  - *Clear path to the ADU*

Detached backyard ADU without adequate frontage must have firefighter access path, sprinkler, wayfinding

This scenario shows a detached ADU behind the existing home but with only 10 feet of frontage, not the required 20. This does not meet the requirement for buildings behind buildings, without adequate frontage to have a door within 25 feet from the fire access road.

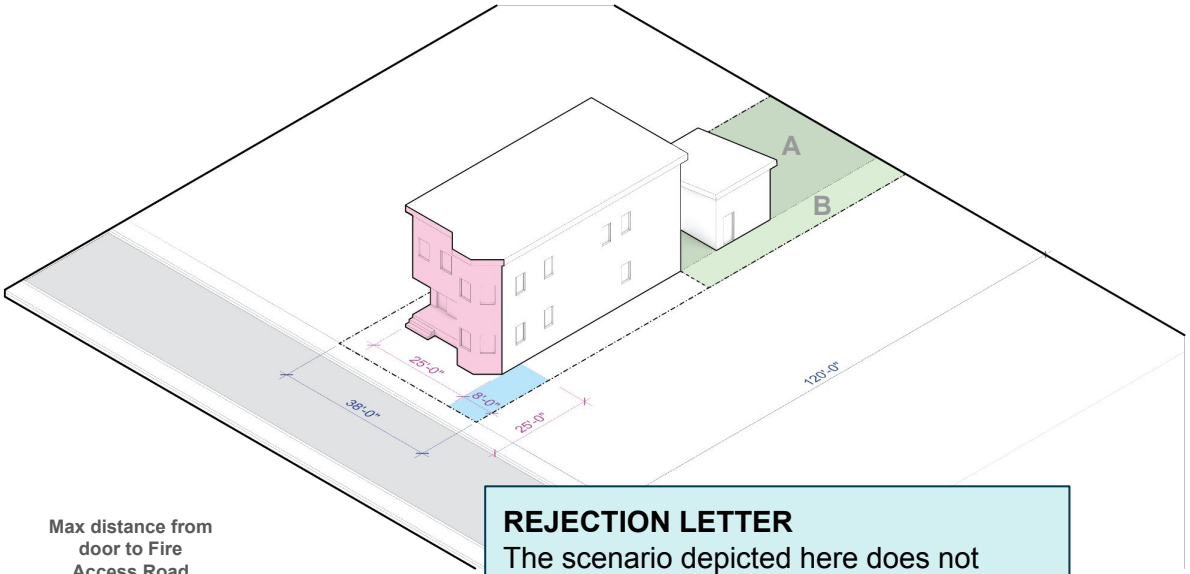
The Fire Department has agreed to accept ADUs with the following additional fire protection features: a firefighter access path, a sprinkler in the ADU, and wayfinding to the ADU.

NOTE: The firefighter access path must be at least 10 feet wide, free of obstruction such as designated parking, and may be unpaved.

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.1.4 AHJ permitted to accept alternatives
18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind

DETACHED ADU: **BEHIND NO FRONTAGE**



Max distance from door to Fire Access Road

25/150
Door/Wall

REJECTION LETTER
The scenario depicted here does not meet the fire department access road requirement and would trigger a rejection letter from the fire department.

Detached ADU behind without adequate frontage doesn't meet fire access requirements

This scenario shows a detached ADU behind the existing structure, but with only 8 feet of frontage, not the required 20.

This scenario would trigger a fire department rejection letter because it does not meet the requirement for the fire access lane to be within 25 feet from a door.

The homeowner may submit an appeal to the MA Fire Prevention Appeals Board.

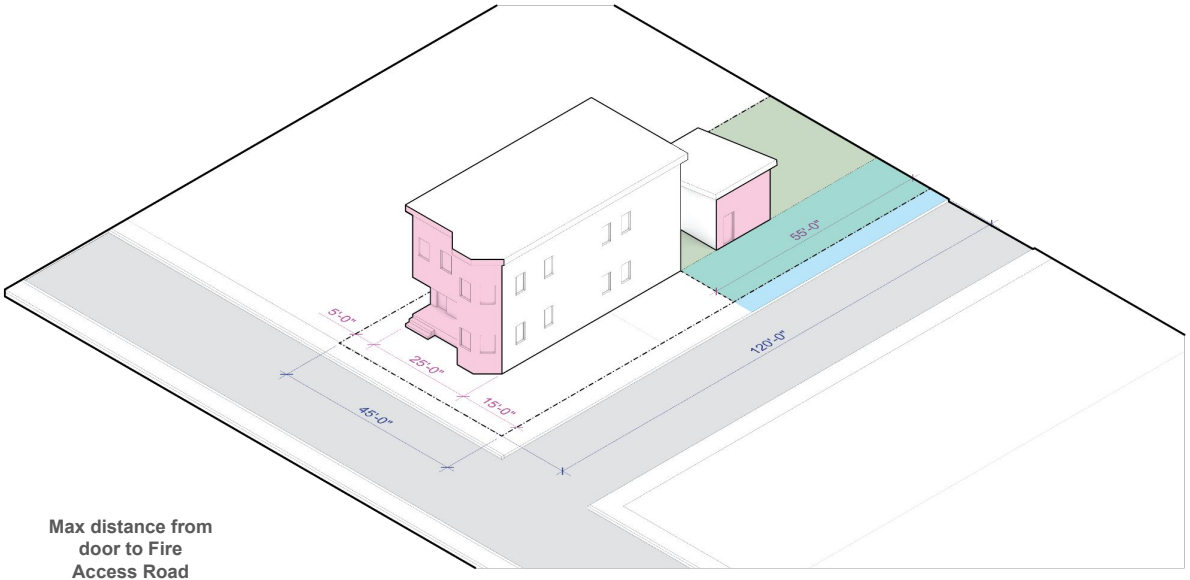
APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.1.4 AHJ permitted to accept alternatives
18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

APPEAL PROCESS

Massachusetts Fire Prevention Appeals Board

DETACHED ADU: **CORNER LOT**



Max distance from door to Fire Access Road

50/150
Door/Wall

Detached ADU on a corner doesn't require a sprinkler

This scenario shows a detached ADU on a corner lot. The ADU door is within 50 feet of the public way and less than 150 from any portion of the first floor exterior wall.

Therefore, a sprinkler will not be required to meet the fire access lane distances.

Note: A private way will require analysis to determine that they meet the specifications of a fire department access road.

APPLICABLE CODE (527 CMR Chapter 18)

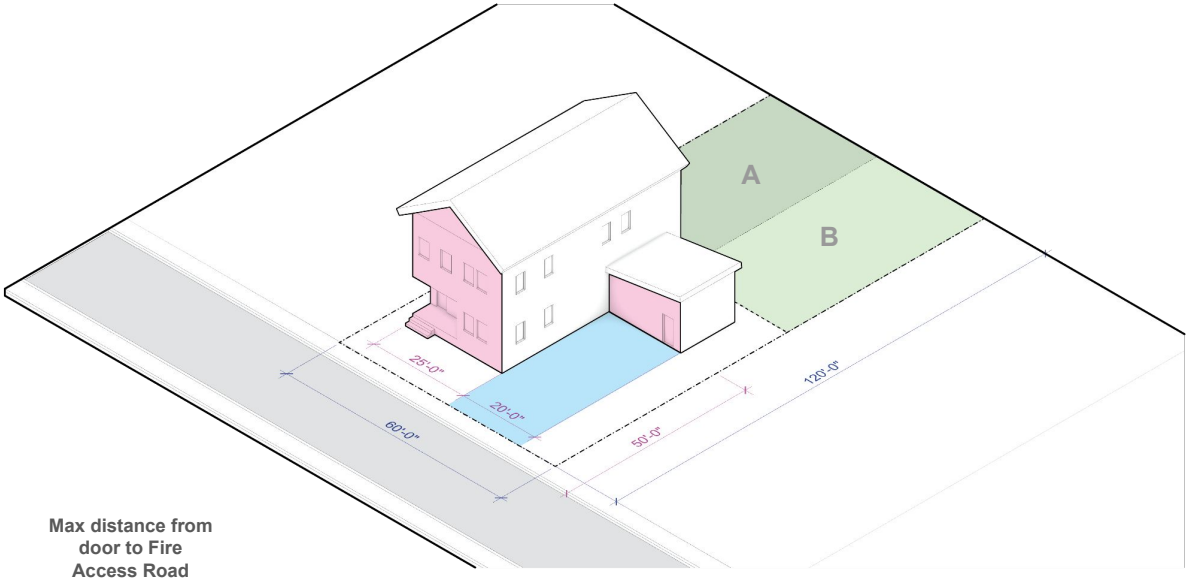
18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

SCENARIOS:

ATTACHED ADUs + FIRE ACCESS ROAD

How does the fire access road requirement apply to common attached ADU scenarios?

ATTACHED ADU



Max distance from door to Fire Access Road

50/150
Door/Wall

*Attached ADU within 50 feet of access lane doesn't require a sprinkler**

This scenario shows an attached ADU with a door within 50 feet of the fire access lane and less than 150 from any portion of the first floor exterior wall.

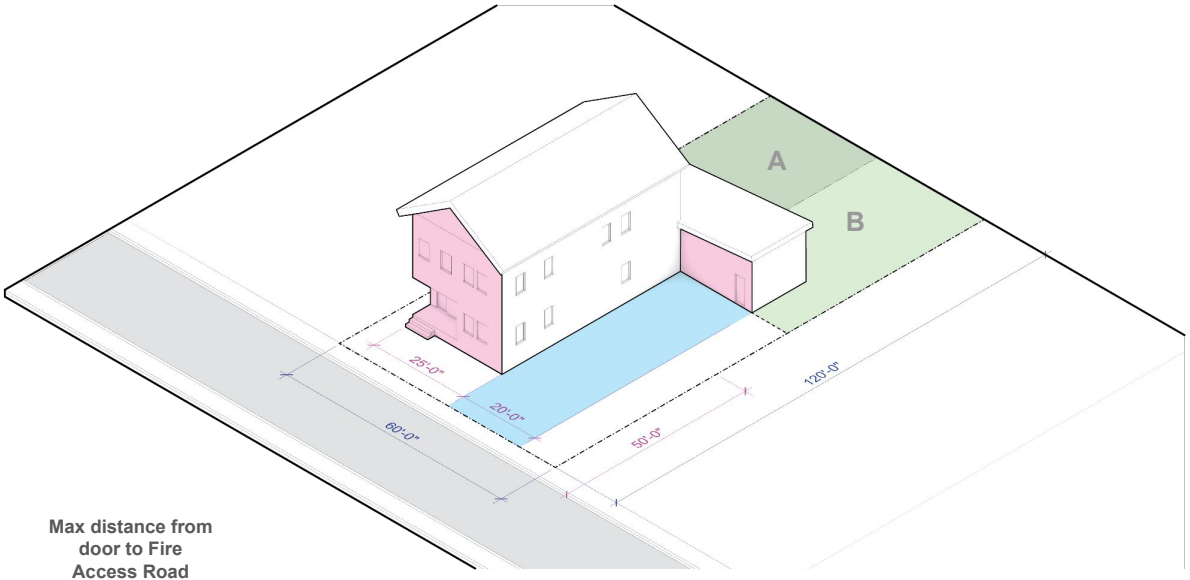
Therefore, a sprinkler will not be required to meet the fire access lane distances.

**Building code may require a sprinkler based on the number of units in the building. See later slides on sprinklers.*

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

ATTACHED ADU



Max distance from door to Fire Access Road

150/250
Door/Wall

Attached ADU more than 50 feet from access lane requires a sprinkler

This scenario shows an attached ADU with adequate frontage but more than 50 feet from the fire access lane.

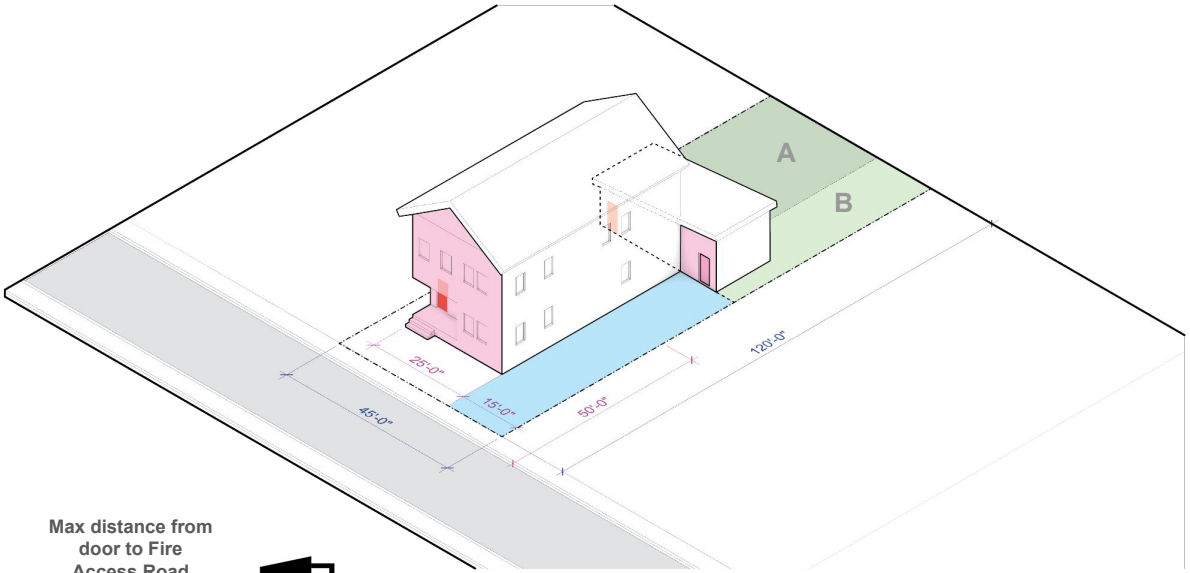
Therefore, a sprinkler is required to meet the fire access lane distances.

NOTE: Building code will determine the type of sprinkler system required based on the number of units in the building. See later slides on sprinklers.

APPLICABLE CODE (527 CMR Chapter 18)

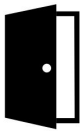
18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

ATTACHED ADU



Max distance from door to Fire Access Road

50/150
Door/Wall



Interior Throughway Req'd

Attached ADU behind the building needs interior throughway

This scenario shows an ADU behind the building, without adequate frontage..

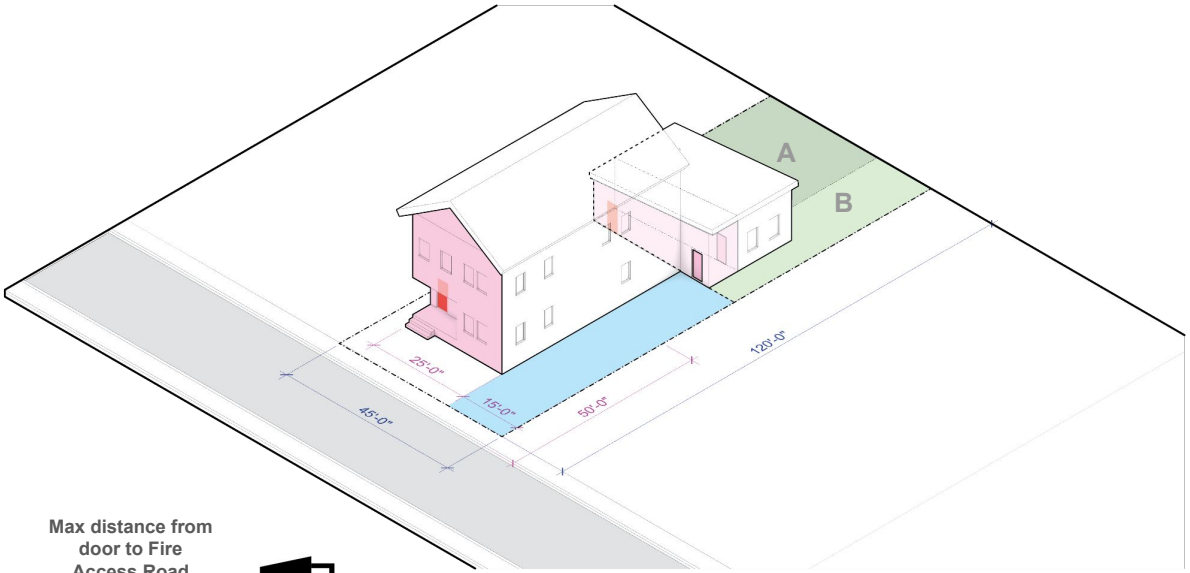
A throughway door connection creates access for the fire department to go from the front door of the main building into the ADU and satisfies the requirement to have "at least one exterior door that can be opened from the outside and that provides access to the interior of the building."

**Building code may require a sprinkler based on the number of units in the building. See later slides on sprinklers.*

APPLICABLE CODE (527 CMR Chapter 18)

18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind

ATTACHED ADU - BREEZEWAY



Attached ADU with breezeway and interior throughway.

This scenario shows an ADU behind the existing building that is attached with a breezeway and includes an interior throughway door. To be considered an attached ADU, the breezeway connection must be an enclosed and conditioned space.

**Building code may require a sprinkler based on the number of units in the building. See later slides on sprinklers.*

APPLICABLE CODE (527 CMR Chapter 18)

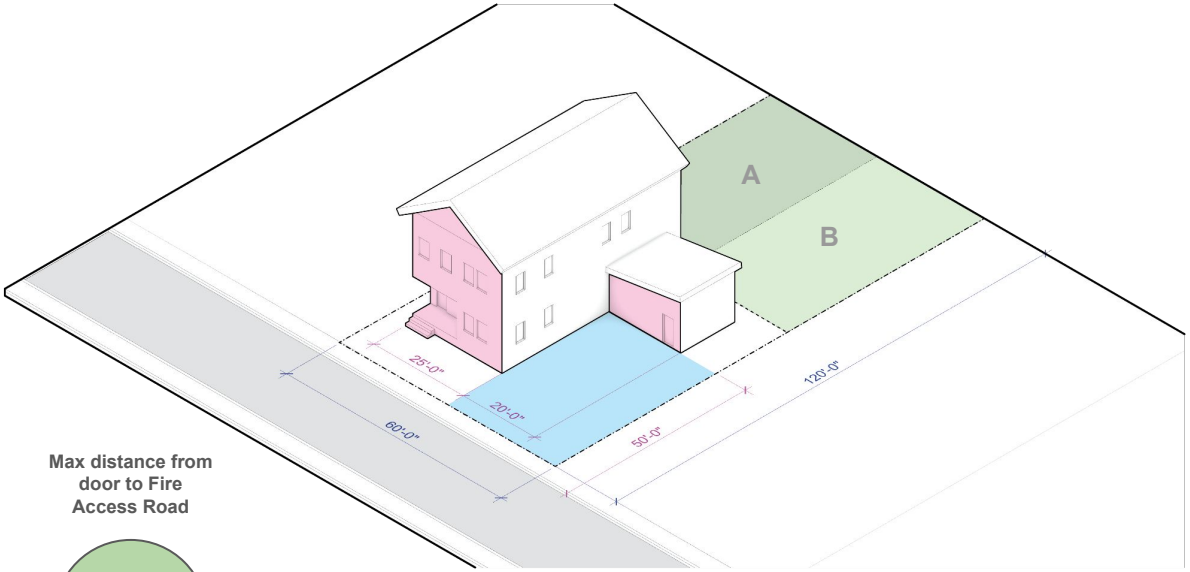
18.2.3.2.1 Distance to door <50 ft
18.2.3.2.1.1 Distance to door <150ft w/sprinkler
18.2.3.2.1.1 Door <25ft if behind and no frontage
18.2.3.2.2 Distance to wall < 150ft
18.2.3.2.2.1 Distance to wall <250ft w/sprinkler
18.2.3.2.2.2 No increased to wall if behind + no frontage

BUILDING CODE:

SPRINKLER REQUIREMENTS

How does the number of units in the building impact the sprinkler requirements?

ATTACHED ADU: **1F + ADU**



Max distance from door to Fire Access Road

50/150*

150' if sprinkler

Single family plus ADU does not require a sprinkler

The building code requires buildings with 3 or more units to add a sprinkler. In this scenario, there is 1 existing unit and the ADU adds a second. Therefore a sprinkler is not required.

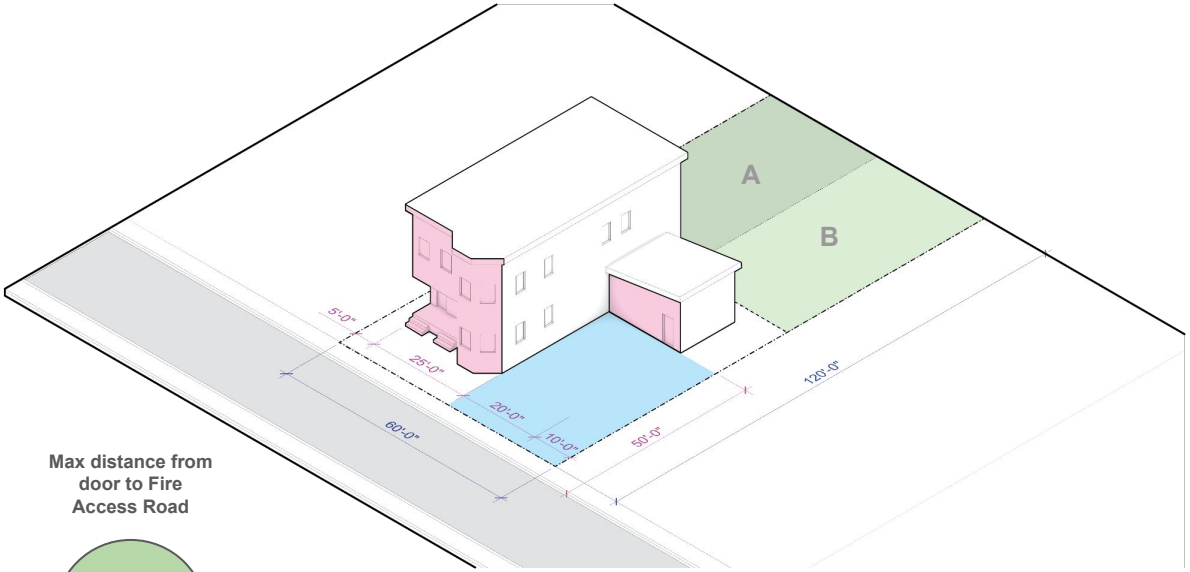
Their must be hard-wired smoke alarms and CO2 detectors in all units including the new ADU.

**Fire code may require a sprinkler based on the location of the ADU on the lot. See earlier slides on attached ADUs for guidance.*

APPLICABLE CODE

IEBC 1012.2.1 Fire sprinkler system
IBC Chapter 9 Fire Protection and Life Safety
IBC 903.2.8 Group R
IBC 903.2.8.1 Group R-3
780 CMR 903.2 Where required
TABLE 903.2 Occupancy automatic sprinkler requirements

ATTACHED ADU: **2F + ADU**



*Two family plus ADU requires sprinkler**

The building code requires buildings with 3 or more units to add a sprinkler. In this scenario, there are 2 existing units and the ADU adds a third. Therefore a sprinkler is required.

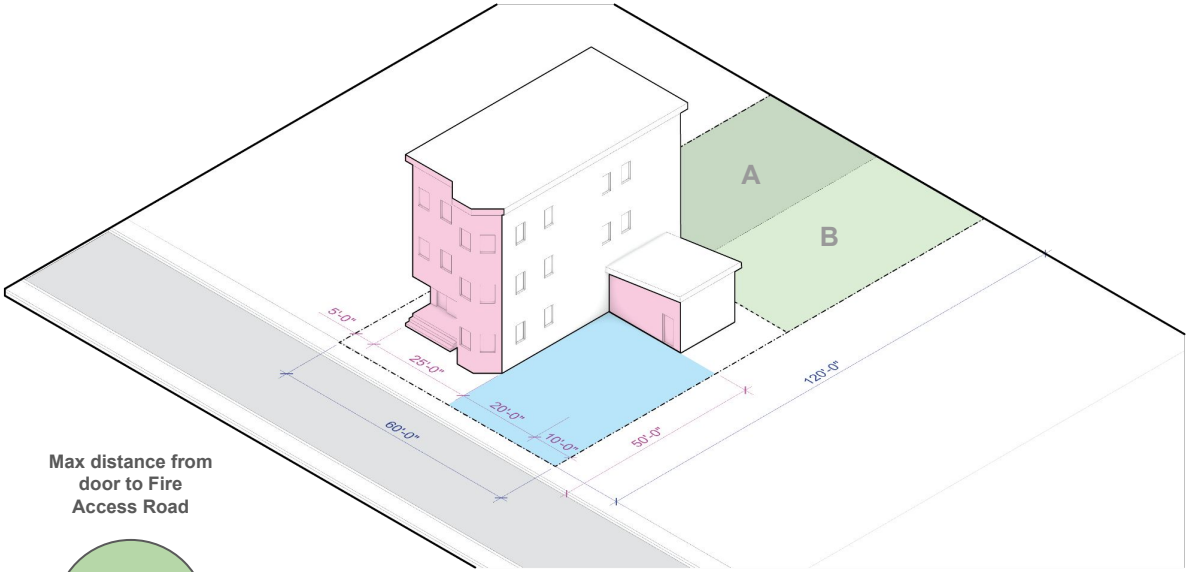
An NFPA 13D tank system is allowed with 3 or fewer units. The sprinkler is required in the area where the change of occupancy occurs, which is the ADU.

In addition, their must be hard-wired smoke alarms and CO2 detectors in all units including the new ADU.

APPLICABLE CODE

IEBC 1012.2.1 Fire sprinkler system
IBC Chapter 9 Fire Protection and Life Safety
IBC 903.2.8 Group R
IBC 903.2.8.1 Group R-3
780 CMR 903.2 Where required
TABLE 903.2 Occupancy automatic sprinkler requirements

ATTACHED ADU: **3F + ADU**



Three family plus ADU requires sprinkler

The building code requires buildings with 3 or more units to add a sprinkler. In this scenario, there are 3 existing units and the ADU adds a fourth. Therefore a sprinkler is required.

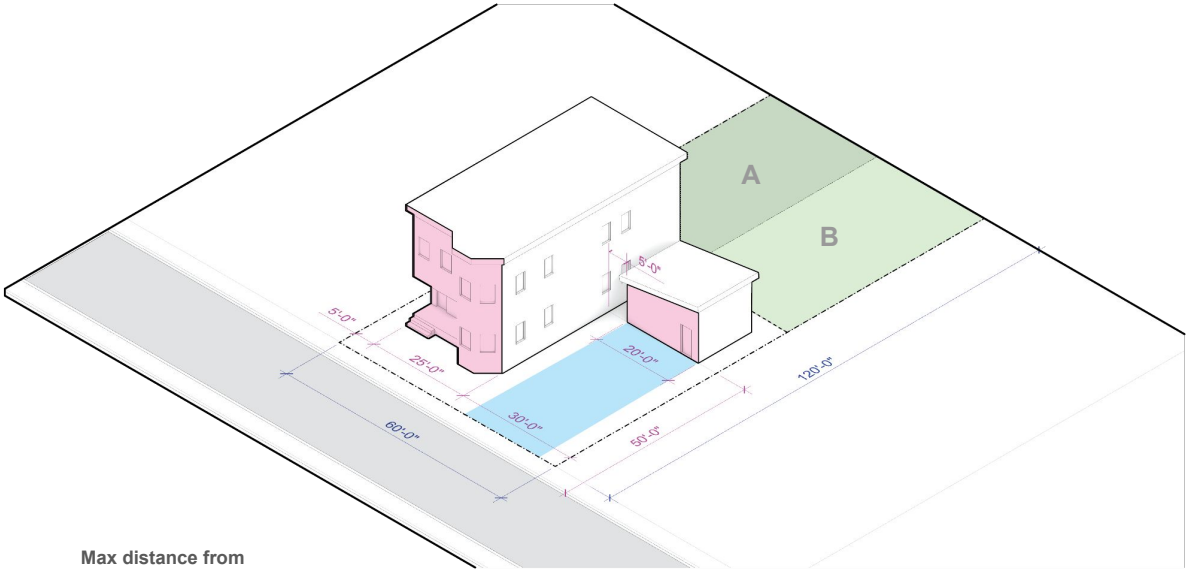
With 4 or more units, an NFPA 13R type sprinkler with a water line to the street is required. The sprinkler is required in the area where the change of occupancy occurs, which is the ADU.

In addition, their must be hard-wired smoke alarms and CO2 detectors in all units including the new ADU.

APPLICABLE CODE

IEBC 1012.2.1 Fire sprinkler system
IBC Chapter 9 Fire Protection and Life Safety
IBC 903.2.8 Group R
IBC 903.2.8.1 Group R-3
780 CMR 903.2 Where required
TABLE 903.2 Occupancy automatic sprinkler requirements

DETACHED ADU: **SIDE**



Max distance from door to Fire Access Road

50/150
Door/Wall

Detached ADU is a single family and building code doesn't require sprinkler

The building code requires buildings with 3 or more units to add a sprinkler. In this scenario the detached ADU is separate from the existing building. The ADU is only 1 unit and therefore a sprinkler is not required.

Their must be hard-wired smoke alarms and CO2 detectors in the ADU.

**Fire code may require a sprinkler based on the location of the ADU on the lot. See earlier slides on detached ADUs for guidance.*

APPLICABLE CODE

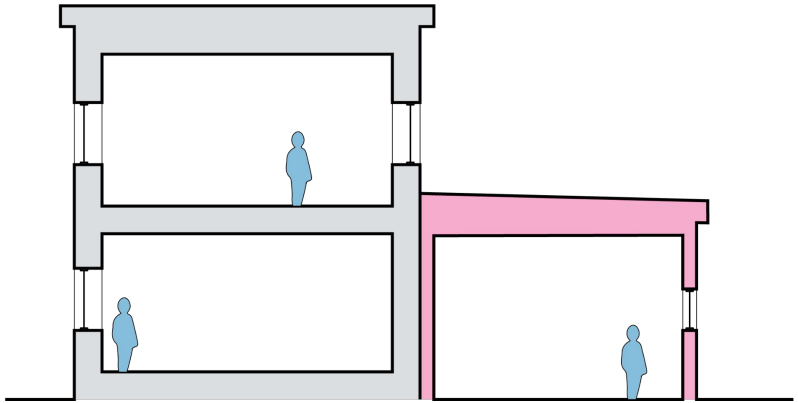
IEBC 1012.2.1 Fire sprinkler system
IBC Chapter 9 Fire Protection and Life Safety
IBC 903.2.8 Group R
IBC 903.2.8.1 Group R-3
780 CMR 903.2 Where required
TABLE 903.2 Occupancy automatic sprinkler requirements

BUILDING CODE:

ALLOWABLE OPENINGS

How does the distance from the building impact the size of openings allowed?

ATTACHED ADU: **0 FEET BETWEEN**



The attached ADU must have a at least 2-hour fire rating in the joining wall

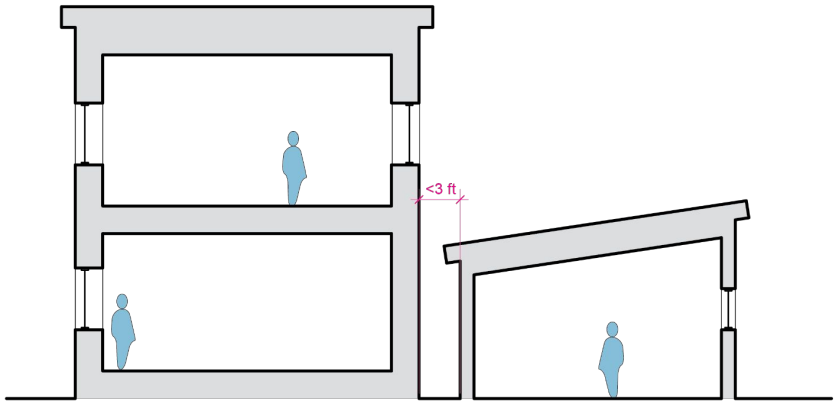
When the ADU is attached there can't be any window openings in the joining wall.

The adjoining wall must have at least a 1-hour fire rating for tenant separation.

APPLICABLE CODE

IBC Chapter 705.5 Fire separation ratings.
IBC 705.8 Openings.
IBC 705.8.1 Allowable area of openings.
IBC Table 706.1 Party walls.
IBC 706.4 Fire-resistance rating.
Table 706.4 Fire wall fire resistance rating.

DETACHED ADU: **<3 FEET BETWEEN**



An ADU less than 3 feet from a building can't have windows

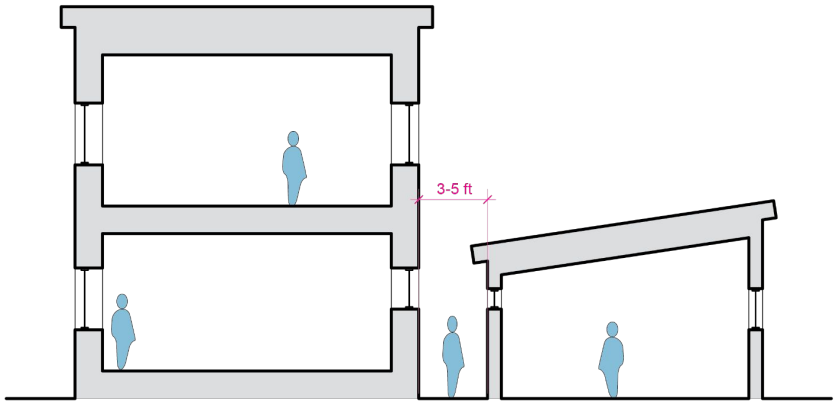
When there is less than 3 feet between the ADU and a building, their can be no openings in the exterior wall in any story of the ADU facing the building.

Exterior walls must be fire resistance rated to be at least 1 hour.

APPLICABLE CODE

IBC Chapter 705.5 Fire separation ratings.
IBC 705.8 Openings.
IBC 705.8.1 Allowable area of openings.
IBC Table 705.8

DETACHED ADU: **3-5 FEET BETWEEN**



Limited window openings when distance between buildings is 3 -5 feet

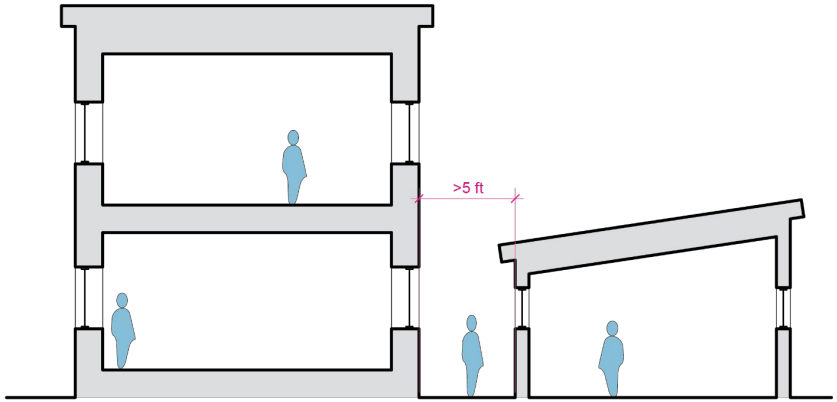
When there is 3-5 feet between the ADU and a building, the wall in any story of the ADU facing the building can have 15% openings if the ADU has a sprinkler.

Exterior walls must be fire resistance rated to be at least 1 hour.

APPLICABLE CODE

IBC Chapter 705.5 Fire separation ratings.
IBC 705.8 Openings.
IBC 705.8.1 Allowable area of openings.
IBC Table 705.8

DETACHED ADU: **5-10 FEET BETWEEN**



Increased window openings when distance between buildings is 5-10 feet

When there is 5-10 feet between the ADU and a building, the wall in any story of the ADU facing the building can have 10% openings or 25% openings if the ADU has a sprinkler.

Exterior walls must be fire resistance rated to be at least 1 hour.

NOTE: For greater than 10 feet between buildings see IBC Table 705.8.

APPLICABLE CODE

IBC Chapter 705.5 Fire separation ratings.
IBC 705.8 Openings.
IBC 705.8.1 Allowable area of openings.
IBC Table 705.8

APPENDIX

APPENDIX A

BOSTON FIRE DEPT.
BOSTON, MA

S.O. 141647 / QUOTE 83643
AERM AERIAL BODY
CYCLONE II X CHASSIS
95-PLATFORM AERIAL

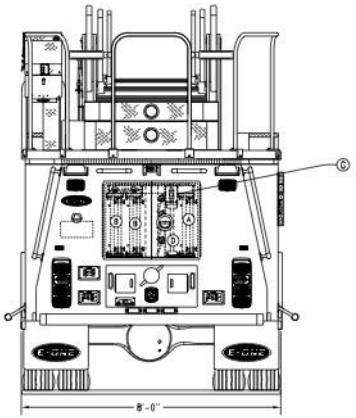
THIS DRAWING IS FOR REFERENCE PURPOSES. ALL DIMENSIONS ARE SUBJECT TO MINOR VARIATIONS DUE TO MANUFACTURING PROCESSES.

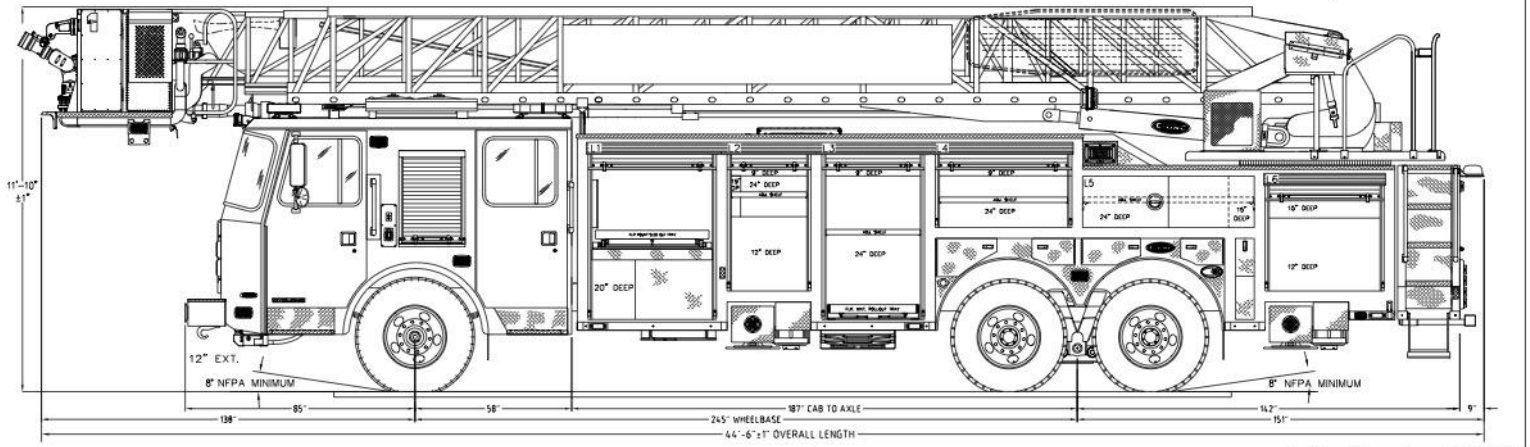
APPROVED FOR PRODUCTION
DESIGNER: BRIAN MASON DATE: 04-AUG-2017

COMPT.	OPENING		INTERIOR DIMENSION			
L1/R1	45W	55H	47W 47W	49H 27H	90D NOTED	UPPER LOWER
L2	29W	45H	31W	54H	NOTED	
R2	31W	19H	31W	19H	12D	
L3	36W	55H	38W	64H	NOTED	
R3	38W	30H	38W	30H	24D	
L4	48W	21H	50W	30H	NOTED	
R4	44W	19H	44W	19H	12D	
L5	63W	19H	63W	19H	NOTED	
L6	42W	33H	44W 44W	15H 27H	15D 12D	UPPER LOWER

GROUND LADDERS

ITEM	LADDER LENGTH	MODEL NUMBER	QTY	
A	40' 2-SECT.	TEL-40	1	
B	35' 2-SECT.	TEL-35	2	
C	28' 2-SECT.	TEL-28	1	
D	20' ROOF	TRL-20	1	
E	16' ROOF	PRL-16	1	
F	12' ROOF	PRL-12	1	ON AERIAL
G	10' FOLDING	FL-10	1	
H	LITTLE GIANT	MODEL 17	1	





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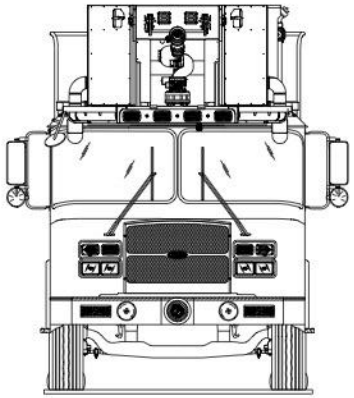

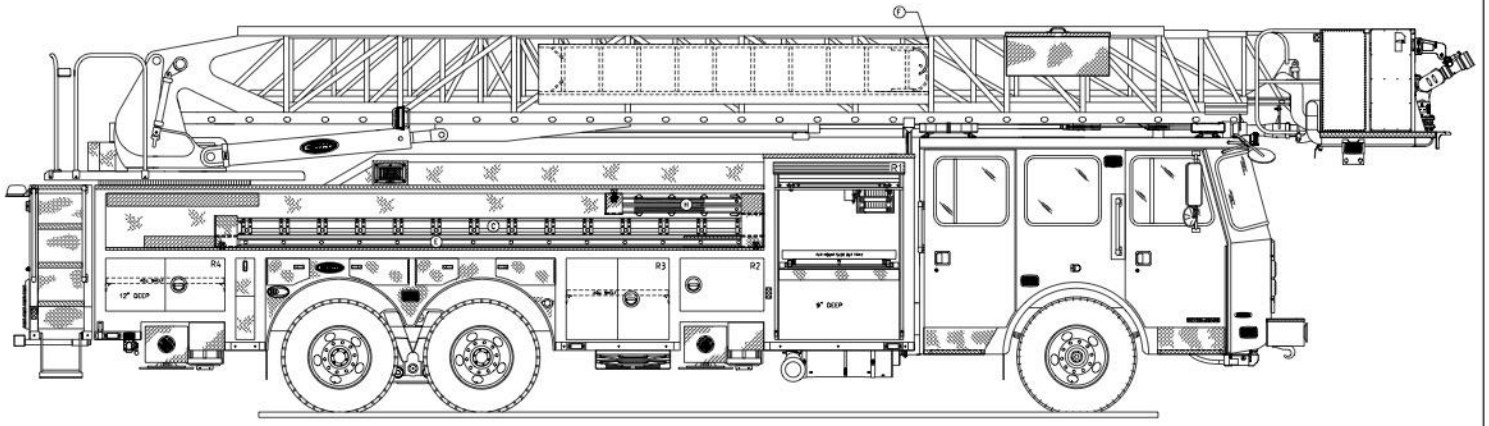

APPENDIX A

Notations are specific to Boston Fire Department

SAE Turning Radius Calculations for Quote No. 83643				
Wheelbase:		245"	Front Bumper Size:	10"
Body Width:		100" 96"	Front Bumper Extension:	12"
Front Axle Kingpin Center:		68.83"	Front Wheel Type:	STEEL
Front Axle Track:		81.57"	Rear Wheel Type:	STEEL
Front Axle Tire Width:		16.2"	Tire Brand:	MICHELIN
Dimension Over Rear Tires:		97.654"		
Body Front Overhang:		84"		
Inside Cramp Angle	**S. A. E. Turning Radius**	**Tire Curb Clearance**	**Bumper Swing Clearance**	**Minimum Inside Radius**
44	34.3'	35'	39.3'	19.9'
45	33.7'	34.4'	38.8'	19.2'
46	33.2'	33.8'	38.3'	18.5'

Nominal Cramp Angles:	
Meritor FL941 & FL943 axles: up to and including 425/65R22.5 tires	45 degrees
Meritor FL941 & FL943 axles: 445/65R22.5 tires	38 degrees

This Turning Radius report reflects how the quote was configured. Any succeeding changes may slightly alter the turning radius of the vehicle and the data in this report.