

# ***FIRE RESCUE***

## **ALBEMARLE COUNTY**

460 Stagecoach Road, Suite F Charlottesville, VA 22902-6489  
 Voice: 434-296-5833 FAX: 434-972-4123

***www.ACFireRescue.org***

### **Albemarle County Fire and Emergency Medical Services Executive Committee Agenda**

Monday, August 5, 2024 | 1630 Hours | Fire Rescue Conference Room 2

<b>Agenda Item</b>	<b>Name</b>
I. Call to Order A. From the Board: Matters Not Listed on the Agenda	H. Childress
II. Approval of Consent Agenda A. July 8, 2024 Minutes	H. Childress
III. Unfinished Business A.	
IV. New Business A. High-Rise FOG B. Townhouse FOG	D. Puckett D. Puckett
V. Next Meeting A. Monday, September 9, 2024	

**ALBEMARLE COUNTY FIRE/EMS BOARD**  
**FEMS BOARD EXECUTIVE COMMITTEE**  
**MONDAY, JULY 8, 2024 – 1630 HOURS**

A virtual meeting of the Albemarle County Fire/EMS Board Executive Committee was held on Monday, July 8, 2024, at 1630 hours.

The following members were in attendance:

Dan Eggleston, Albemarle County Fire Rescue  
Virginia Leavell, Charlottesville/Albemarle Rescue Squad  
Gary Dillon, Crozet Volunteer Fire Department  
Greg McFadyen, Seminole Trail Volunteer Fire Department  
Kostas Alibertis, Western Albemarle Rescue Squad

Others in attendance:

Heather Childress, Albemarle County Fire Rescue  
Christina Davis, Albemarle County Fire Rescue  
Greta Fleming-McCauley, Albemarle County Fire Rescue  
David Puckett, Albemarle County Fire Rescue

**I. Call to Order**

Chief Eggleston called the meeting to order at 1631 hrs.

**A. From the Board: Matters Not Listed on the Agenda**

There were none.

**II. Approval of Consent Agenda**

**A. June 3, 2024 Minutes**

**MOTION:** Chief Alibertis motioned, seconded by Chief Leavell, to approve the Consent Agenda as presented. The motion passed 4-0-1, with Chief Dillon abstaining.

**III. Unfinished Business**

**A. Training and Registration Policy**

Chief Childress stated that the feedback she had received indicated that the chiefs had wanted to put something in the policy that allowed the departments choose who gets to apply—but that already exists, as it requires approval from training officers before members sign up for the class. She said that this could be used for the stations to decide who gets to sign up for a class, or that can come at the department level before it goes to ACFR.

Chief Alibertis said that it was he who had emphasized that the department should decide.

Chief Childress agreed but said the department should decide, but before these come to ACFR.

Chief Alibertis said that the stations don't necessarily know the status of the member's enrollment until after the course closes and there's a cancellation that allows eligibility. He cited an example of someone who is on the wait list and there is an opening.

Chief Childress stated that the first two people get in anyway, and she asked if he was just talking about the wait list.

Chief Alibertis posed the example of 16 people signing up for a 12-person class; person 12 cancels, which moves onto person 13. He said that there is little or no time for communication because of Cornerstone and hence no ability to know who the person is on that day.

Chief Childress responded that this could easily be handled in terms of the wait list and enrollment. She stated that she would put this policy under 600.4.2, under Registration.

Chief Alibertis clarified the additional language, "Any additions to the course from the wait list will be at the discretion of the department."

Chief Puckett asked if there would ever be a scenario where the first two people are not the choices.

Chief Leavell said that was her question as well—how the first two people become the first two people, because they are the ones signing up.

Chief Alibertis stated that the first two people must have department support. He said the stations get a weekly report as to who is in which class, so if they aren't paying attention to who is attending from their station, that's on them.

Chief Childress emphasized that they can change the order of those people if they come to ACFR and let them know.

Chief Dillon posed an example of having four people waitlisted and issues with one of the two people already enrolled.

Chief Childress said that he could change it out as his discretion, as every station had two slots and she had no preference as to how they were prioritized.

Chief Alibertis stated that there may not be a negative reason for a person being selected; it could just be to meet a need.

The Executive Committee clarified that this was the only outstanding issue for this policy.

Chief McFadyen stated that Station 8 still has concerns about the pick order, and that has not gone away.

**MOTION:** Chief Leavell moved to forward FOG to FEMS, updated regarding station approval to move a person from the waiting list. Chief Alibertis seconded the motion, which passed 4-1, with Chief McFadyen dissenting.

#### **IV. New Business**

##### **A. Garden Apartment FOG**

Chief Puckett reported that the Garden Apartment FOG was attached to the agenda, and he had been working with Chief Burkett as he was developing this. He said that they already had single family and townhouses approved; garden apartments is before them; and the midrise/high-rise is drafted to go to the Operations Committee as early as this week.

Chief Puckett stated that it would be difficult to zero in on the parameters of the garden apartment, so they would have to fall under Pro QA and how they can dispatch. He said that as Chief Burkett was doing the taskings for this, one of the recommendations is for garden style, midrise, and townhouse to get an additional truck. He said that as they get into high-rise, anything five stories or later would have an additional engine for lobby control, two trucks, and a second transport unit.

He said that this FOG would need to be revised to reflect the additional truck.

Chief Eggleston noted that this would be the only change and would be consistent with industry practices.

Chief Puckett said that he had polled several central Virginia departments, Chesterfield, Hanover, and Northern Virginia—and what they are recommending for 4 and 2 for this type of structure is equal to or less than what those other departments are putting out. He noted that some of those departments also likely have more people on each truck.

Chief Alibertis stated that they need to be careful, as they are stretched pretty thin and don't have a lot of second-call resources when they are busy. He said that outside of the urban ring, if all those resources are out in Crozet, there's a chance someone's house in Keswick might burn down if that happens at the same time.

Chief Eggleston commented that Crozet is a long haul from Seminole.

Chief Alibertis asked if this brought backfilling into consideration.

Chief Puckett responded that it did, and he said that's one of the triggers for a working incident.

Chief Alibertis noted that that's more education than policy.

Chief Eggleston commented that the most challenging situation is when there are several lightning strikes, and they sometimes do a reduced response during that.

Chief Puckett said that they may want to consider something like "storm mode" where they hold tree-down calls, and they may have to do a modified response on structure fires.

Chief Alibertis asked what the volume of calls is, as those types of structures have gone up exponentially.

Chief Puckett responded that he did not know, as they weren't dispatching that way, but they could still get ECC to run a report on the breakdown in Pro QA. He noted that there are a few categories: Single-family, which includes residential structure or trailer; small or large unoccupied dwellings such as barns or chicken coops; multi-family, which includes townhouses and garden apartments; commercial, which includes strip malls, grocery stores, and retail space; high-rise; and high-occupancy/life hazard.

Chief Puckett explained that they may want to send the same response to a high-rise as to a nursing facility that's only two stories; they may want to target the high-occupancy/high-risk the same way as they do the high rise.

Chief Eggleston asked if this was just an initial reading and not ready for advancement to the FEMS Board.

Chief Puckett responded that it was up to the committee, and it could go forwarded with the recommended change in response or could come back to the EC again first.

Chief Dillon stated that he was fine with it going forward now.

Chief McFadyen commented that it was quite detailed and informative at about 15 pages, and as these continue forward, the depth of them would also expand.

Chief Alibertis suggested that they have a cheat sheet, as all of these should.

Chief Puckett noted that one of the changes was to add the actual response plan below the structure type, and updating the 4 engines/2 trucks.

Chief McFadyen noted that each time something like this comes out, it affects other aspects and should be included in the updates.

Chief Eggleston noted that the Wildland FOG had a pocket guide that included all pertinent information, which worked well.

Chief Alibertis said they could also do a command chart to correspond, and they could just write in their units.

Chief McFadyen added that it would be nice to have an engine company version and a command version; he noted that his station has an engine company version of this in their front seats, but a command version would help a lot.

Chief Eggleston said that he has sometimes heard on the radio that the DC or other responding officers would make sure they know ahead of time what the engines need to provide, such as water supply.

**MOTION:** Chief Dillon moved that the Garden Apartment FOG be forwarded to FEMS. Chief McFadyen seconded the motion, which passed unanimously (5-0).

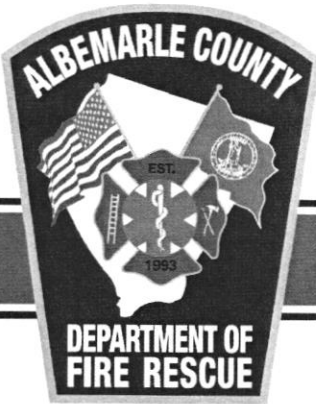
## **V. Next Meeting**

### **A. Monday, August 5, 2024 at 1630 hours**

The next FEMS Board meeting will be held on Monday, August 5, 2024 at 1630 hours in the Fire Rescue Conference Room.

### **Adjournment**

At 16:49 hrs., the FEMS Executive Committee adjourned its meeting.



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### ALBEMARLE COUNTY FIRE AND EMERGENCY MEDICAL SERVICES BOARD EXECUTIVE COMMITTEE

#### ATTENDANCE LOG

Date: July 8, 2024

#### VOTING MEMBERS (OR DESIGNATES)

Chief Virginia Leavell (CARS):

Chief Gary Dillon (Crozet):

Chief Greg McFadyen (Seminole Trail):

Chief Kostas Alibertis (WARS):

Chief Dan Eggleston (Albemarle County):

#### **GUESTS & OTHERS**

*Guest/Other*

*Organization/Agency/Affiliation*

Christina Davis

ACFR

Heather Childress

ACFR

David Puckett

ACFR

Gretz Fleming-McCawley

ACFE

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### ALBEMARLE COUNTY FIRE AND EMERGENCY MEDICAL SERVICES BOARD EXECUTIVE COMMITTEE ACTION RECORD

AGENDA TITLE/ISSUE:	AGENDA DATE:	
Approval of Consent Agenda	July 8, 2024	
MOTION:	MOTION MADE BY:	SECONDED BY:
Approve Consent Agenda with correction to dates on the agenda	Chief Kostas Alibertis	Chief Virginia Leavell
SUBSEQUENT MOTIONS/AMENDMENTS:		
1.		

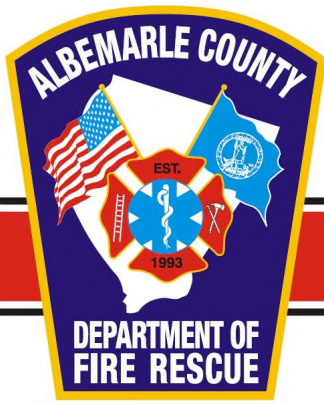
CALL OF THE QUESTION:	Yes	No	Abstain
Chief Dan Eggleston (ACFR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Virginia Leavell (CARS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Gary Dillon (Crozet Fire)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Assistant Chief Greg McFadyen (Seminole Trail)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Kostas Alibertis (Western Albemarle)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I hereby attest that the foregoing is true and complete to the best of my knowledge.

\_\_\_\_\_  
 Christina Davis  
 Clerk

\_\_\_\_\_  
 July 8, 2024  
 Date





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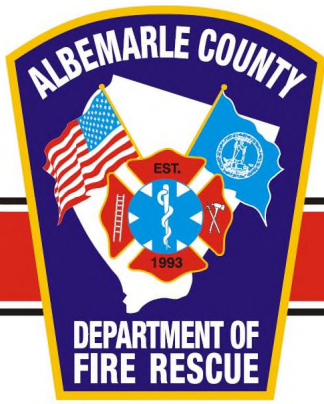
AGENDA TITLE/ISSUE:	AGENDA DATE:
Garden Apartment FOG	July 8, 2024
MOTION:	MOTION MADE BY:    SECONDED BY:
To forward FOG to FEMS with update regarding station approval to move a person from waitlist	Chief Gary Dillon      Assistant Chief Greg McFadyen
SUBSEQUENT MOTIONS/AMENDMENTS:	
1.	

CALL OF THE QUESTION:	Yes	No	Abstain
Chief Dan Eggleston (ACFR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Virginia Leavell (CARS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Gary Dillon (Crozet Fire)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assistant Chief Greg McFadyen (Seminole Trail)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Kostas Alibertis (Western Albemarle)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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\_\_\_\_\_  
 Christina Davis  
 Clerk

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 Date



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### ALBEMARLE COUNTY FIRE AND EMERGENCY MEDICAL SERVICES BOARD EXECUTIVE COMMITTEE ACTION RECORD

<b>AGENDA TITLE/ISSUE:</b>	<b>AGENDA DATE:</b>
Garden Apartment FOG	July 8, 2024
<b>MOTION:</b>	<b>MOTION MADE BY:      SECONDED BY:</b>
To forward FOG to FEMS	Chief Gary Dillon      Assistant Chief Greg McFadyen
<b>SUBSEQUENT MOTIONS/AMENDMENTS:</b>	
1.	

CALL OF THE QUESTION:	Yes	No	Abstain
Chief Dan Eggleston (ACFR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Virginia Leavell (CARS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chief Gary Dillon (Crozet Fire)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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I hereby attest that the foregoing is true and complete to the best of my knowledge.

\_\_\_\_\_  
 Christina Davis  
 Clerk

\_\_\_\_\_  
 July 8, 2024  
 Date

# High Rise Fire Guide

## 703.1 PURPOSE

This document provides arrival and on-scene procedures for Albemarle County Fire Rescue units operating at incidents involving fires in high rise and midrise structures.

## 703.2 SCOPE

This procedure applies to all members of the Albemarle County Coordinated Fire and Rescue System as defined in Albemarle County Code Chapter 6, Article I, Division 2, Section 6-102.

## 703.3 OVERVIEW

High rise buildings, for the purposes of Albemarle County Fire Rescue, are those buildings that are five stories and greater. This definition ensures that the appropriate dispatch complement is assigned to fires in these buildings. However, the inclusion of five and six story structures creates some overlap with the definition of midrise buildings (discussed in the included addendum) and likely code differences should be noted.



The Virginia Uniform Statewide Building Code was modified in February of 1976 to require a fire control room in buildings with occupied/occupiable floors located more than 75' above the lowest level of fire department vehicle access. It is important to note that fires that occur in structures with fewer floors or lower building height can still present the same challenges experienced in much taller buildings. Buildings that have four to six, at least one standpipe, and at least one elevator may require the same tactical considerations as a high-rise, yet they likely lack the same built-in fire protection systems.

High-rise buildings present a wide variety of occupancies and may be strictly residential, strictly commercial, or house a combination of residential and commercial occupancies. These buildings often contain community rooms, restaurants, gyms, swimming pools, parking garages, trash rooms and chutes, trash compactors, dumpsters, and commercial occupancies. These buildings may present with large footprints and/or odd designs that

result in excessively long hose stretches and the potential for large distances between stairwells.

Data related to fires in high-rise structures indicates that nearly three-quarters of fires in high-rise structures occur in residential structures with cooking being the leading cause. The overwhelming majority of those fires originate at or below the 4<sup>th</sup> floor.

High-rise structures are scarce within Albemarle County. However, they are all within the hydranted area of the County.

High-rise structures are served by several utilities: water, sewer, gas, electric, and communications systems. These utilities may be in a variety of locations based on the occupancy.

The Effective Response Force (ERF) for high-rise fires should be 27 based on a hydranted area response.

#### **703.4 INCIDENT OBJECTIVES**

The following incident objectives serve as an initial incident action plan (IAP) for fires involving high-rise buildings. However, it is essential that the Incident Command continuously evaluate the scene and modify the IAP based on the unique circumstances of the incident. Although the objectives are listed in sequential order, it may be appropriate to prioritize lower-priority objectives if achieving them will expedite incident stabilization. Additionally, if sufficient resources are available, objectives may be accomplished simultaneously.

1. Life Safety / Rescue / Civilian Protection
2. Exposure Protection / Fire Attack / Confinement
3. Search
4. Water Supply
5. Extinguishment
6. Overhaul / Ventilation / Salvage

The action with the highest potential to positively impact victim survivability and the safety of firefighters at any fire is to accomplish extinguishment of the fire as quickly as possible in its smallest state. Fires in high-rise buildings require effective size-up to identify the fire location and to recognize when an aggressive and overwhelming fire attack is the most appropriate action. It also requires recognition of when conditions are beyond the ability to control effectively by a standard interior fire attack. Size up must include the recognition of structural involvement as early as possible with a pessimistic perspective.

It is paramount that determination is made as to the occupancy of the high-rise. High-rise structures containing housing units pose a high-life hazard and should generally be addressed within the strategic mode of Rescue. Conversely, high-rise structures that house

solely commercial occupancies that operate during normal business hours may indicate a need to operate within any of the defined strategic modes of Offensive, Rescue, or Defensive. High-rise structures with mixed occupancy should be addressed as residential housing.

For the incident objectives to be met, fires in high-rise buildings require five basic actions:

1. determination of the fire floor,
2. verification of the fire floor,
3. control of occupants,
4. control of building systems, and
5. confinement and extinguishment of the fire.

### **703.5 DISPATCH PLAN**

(5) Engines, (2) Trucks, (2) Transport Units, (2) Chief Officers (Minimum ERF 27 Personnel)

### **703.6 DISPATCH ASSIGNMENTS**

#### **703.6.1 1<sup>ST</sup> ENGINE**

##### Expected Actions:

- Determine and announce water supply plan. 1<sup>st</sup> arriving engines should generally plan to either secure their own water supply or lay in from a hydrant to the scene.
- Supply the FDC.
- Size-up and initial command.
  - Assess Fire Alarm Control Panel (FACP)
  - Identify fire floor
  - Identify attack stairwell
- Determine and announce Mode of Operation.
- Place 1<sup>st</sup> line in service
  - Standpipe deployment
  - Preconnect deployment
  - Leader line
  - Hose bundle/high rise pack
  - Well stretch
  - Ladder advancement
  - Rope hoist options

##### Tactical Considerations:

All high-rise structures are within the hydranted area of Albemarle County, and the water supply plan should follow the anticipated deployment for the hydranted area. Generally, the 1<sup>st</sup> engine should plan to supply the FDC. As such, the 1<sup>st</sup> engine may opt to lay in from

the hydrant to the scene remaining cognizant to maintain access for the truck(s) and other responding apparatus. If a hydrant is within 100' of the fire scene the company officer may elect to have the DPO hand jack the LDH and hydrant assist valve to the hydrant where the 2<sup>nd</sup> engine will complete the connection. If a hydrant is within 50' then the 1<sup>st</sup> engine may make an independent hydrant connection. The FDC should be immediately charged with company reports of fire or visible smoke or upon the direction of the IC.

Due to the potential for fire growth within high-rise structures and the impact smoke travel, the 1<sup>st</sup> engine should fully commit itself to the tasks associated with supplying the FDC and placing the 1<sup>st</sup> line in service. If the 1<sup>st</sup> line deployed is not a standpipe line, the operator should still connect to and supply the FDC if available. There is more potential to positively impact higher numbers of building occupants by limiting fire growth as the 1<sup>st</sup> engine. The practice of immediately forgoing the hose line deployment to focus on rescue should be avoided and left to either the truck or later arriving engines.

The size-up is of paramount importance and should begin at dispatch and continue throughout the incident. High-rise structures offer unique features and challenges. Serious fires can develop in areas remote from the exterior and personnel must aggressively investigate reports of "nothing showing." The FACP is a great resource that must be checked; additional signals from the FACP should serve as a strong indicator of a growing/advancing fire. The company officer should attempt to view multiple sides of the structure during the approach to the scene and make note of any fire location, extent of smoke, and any obvious rescues. If all sides of the structure are not able to be viewed prior to initiating actions on scene the company officer should make that announcement and assign the task to a later arriving company. The size-up should include all aspects of the initial and follow-up reports as listed in the *Incident Command Procedure*.

Additional items pertinent to size-up include, but are not limited to:

- Wind direction and strength
- Information garnered from building occupants, security, and/or maintenance
- Lobby directory review
- Determination of attack stairwell
- Determination as to whether elevators are viable for fire department use
- Determination of standard versus odd floor labeling or configurations

All items determined during the ongoing size-up must be announced to incoming companies and to the incoming/on-scene IC. It is the responsibility of the 1<sup>st</sup> engine company officer to identify and verify the fire floor.

The rapid application of water is the primary goal of the first arriving engine. Crews should work to ensure this takes place as rapidly as possible. The primary purpose of the first line should be to:

- Protect occupants.
- Protect stairwells.
- Confine the fire.
- Extinguish the fire.

The first line, rather deployed from a preconnect or utilizing the high-rise pack and standpipe, will typically be the 1 ¾" line to allow for the needed speed, mobility, and fire flow. The deployment method utilized will be based on the size-up and determination of fire location and fire progression. If the fire attack is planned to commence from a stairwell, efforts should be made to determine that the stairwell is clear of fleeing occupants above the point of attack. Once the doorway to the fire floor is opened and the line advanced, the doorway will remain open, and the stairwell may become polluted with smoke.

The 1<sup>st</sup> engine officer must be prepared to operate as a team with the 1<sup>st</sup> truck. In a perfect deployment model, the 1<sup>st</sup> engine and 1<sup>st</sup> truck should proceed to the fire floor together. Once on the fire floor, the truck should initiate reconnaissance operations to locate and identify the extent of the fire. Simultaneously, the 1<sup>st</sup> engine should be preparing the hose line for deployment from the stairwell but must remain aware and maintain the ability to relocate based on information from the reconnaissance efforts. In the absence of a truck, it is the responsibility of the 1<sup>st</sup> engine to accomplish these necessary tasks.

As time and actions permit, the operator should look to deploy ladders, as feasible and practical, to the building with an emphasis on placement to the fire room.

#### 703.6.2 2<sup>nd</sup> ENGINE

##### Expected Actions:

- Water Supply:
  - Complete water supply for 1<sup>st</sup> engine.
  - If the 1<sup>st</sup> engine obtained their own water supply and there is no need to assist in the primary water supply for the incident the operator should dress out, abandon the apparatus, and deploy with the crew of the engine.
- Assess Fire Alarm Control Panel (FACP)
- Assist 1<sup>st</sup> engine with deployment of the first line
- Deploy second line to assist fire attack and/or protect the hallway/stairs.
- Perform primary search and rescue in coordination with fire attack (1<sup>st</sup> engine) in absence of a truck.

##### Tactical Considerations:

Generally, the 2<sup>nd</sup> engine should complete the water supply (make the hydrant connection) for the 1<sup>st</sup> engine. If the 1<sup>st</sup> engine has obtained its own water supply, the 2<sup>nd</sup> engine's operator should dress out, abandon the apparatus, and deploy with the crew of the engine.

The company officer should obtain building keys, if available, and assess the FACP to identify any changes since the assessment by the 1<sup>st</sup> engine.

The crew from the 2<sup>nd</sup> engine should deploy to the location of the 1<sup>st</sup> engine with hose packs, forcible entry tools, and additional SCBA cylinders. The 2<sup>nd</sup> engine's primary objective is to assist the 1<sup>st</sup> engine with the deployment of the initial attack line. After the initial attack line has been deployed the 2<sup>nd</sup> engine should work to deploy the second line. The second line may be used to assist with fire attack on the fire floor and/or protect the hallway/stairs.

In the absence of a truck, the 2<sup>nd</sup> engine may need to initiate/complete the primary search of the fire floor. In this instance, the crew should work with the 1<sup>st</sup> engine to coordinate search efforts. Refer to the *Tactical Considerations* section under *1<sup>st</sup> Truck* to determine taskings.

### 703.6.3 3<sup>rd</sup> ENGINE

#### Expected Actions:

- Water Supply:
  - Be prepared to:
    - Establish water supply to secondary FDC if present
    - Establish water supply to ground-level stairwell standpipe discharge to provide secondary water supply in absence of a secondary FDC
    - Initiate secondary water supply with support for potential aerial operations
- Deploy hose line to the floor above the fire
- Work in conjunction with the 2<sup>nd</sup> truck to perform fire attack, search/rescue, and check for extension

#### Tactical Considerations:

Deployment of the line above the fire is highly important. This line increases the safety of the crew(s) performing search above the fire and provides a means of extinguishment when fire extension is encountered.

The best-case scenario(s) for the deployment of the third line/line above involves buildings that are equipped with 3 or more stairwells. This allows for the third line to be deployed from a stairwell standpipe riser that is not being used as the primary attack stairwell and is not being used as the evacuation stairwell. At the very least, every effort should be made to use a stairwell standpipe riser that is different from the attack stairwell as both the first and second lines will typically deploy from the same riser.

If the evacuation stairwell must be used for the advancement of the third line personnel should work to limit contamination of the stairwell by allowing the truck company to search



and assess for extension while the door to the floor remains closed. During this time the line should be deployed and staged in the stairwell while members of the engine company assist occupants around the obstruction(s).

#### 703.6.4 4<sup>th</sup> ENGINE

##### Expected Actions:

- Position away from building; all personnel abandon apparatus
- Assume RIT
  - Stage one floor below the fire floor via the attack stairwell
  - When faced with a below-grade fire RIT should be established just outside of the IDLH but still in proximity to the working crews

##### Tactical Considerations:

The Rapid Intervention Team (RIT) shall perform proactive measures to increase the safety of crews operating in the IDLH and on the fireground. This includes deploying to the appropriate location in or adjacent to the attack stairwell with appropriate equipment. The 4<sup>th</sup> engine should bring, not only their RIT pack, but RIT packs from several apparatus. Additionally, they should deploy with search rope and tools potentially necessary to mitigate a firefighter rescue. While staged, the RIT should actively assist with the movement of hose lines through the stairwell.

#### 703.6.5 5<sup>th</sup> ENGINE

##### Expected Actions:

- Assist the 3<sup>rd</sup> engine establish the secondary water supply
- Report to the IC for potential alternative assignment(s)
- Report to the lobby and assume lobby control

##### Tactical Objectives:

The 5<sup>th</sup> engine must be highly organized, knowledgeable, and capable of operating multiple building systems to successfully manage lobby control. Lobby control manages several tasks. The successful management of the responsibilities associated with lobby control will generally require the 5<sup>th</sup> engine to split their crew. The specific tasks managed by lobby control may include:

- Internal accountability.
  - Personnel assigned to manage internal accountability should position themselves in a conspicuous location and be prepared to track pertinent information related to operating companies on a command board. The information tracked should resemble:

Unit ID	Task and Location	Entry Time	PAR
Engine 72	Second Line, 4 <sup>th</sup> Floor	2145	3

- Building systems control.

- The management of building systems can be a daunting task. Personnel assigned to manage building systems should make every effort to identify and work with building maintenance or building engineer(s). Personnel and building staff should move to the fire control room. Building systems that may require control include:

Fire Pump	Determine operation of fire pump and activate if necessary. Communicate discharge pressure of fire pump.
Fire Alarm	Monitor alarm system status for changing activations and communicate.
Sprinkler System	Monitor the floor/location with activated sprinkler heads. Notify command if the sprinkler system is in trouble or indicating water flow.
Fire Phones	Constantly monitor and answer fire phones.
HVAC System	Initially shut down the HVAC. Coordinate with building staff and IC regarding reactivation to utilize the HVAC in an exhaust function.
Elevator Systems	Determine the status and location of all elevators. Elevators not already recalled to the lobby will require identification and search.

- Elevator operations.

- Elevators may be used to deliver personnel and equipment to staging and/or the fire floor. Elevators may also be used to rapidly evacuate patients from upper floors. Tasks associated with elevator operations includes:

Retrieve keys, either from the Knox Box or from the fire control room.
Recall elevators (firefighter service Phase 1) if not already performed.
Determine which elevators have firefighter service.
Confirm the shaft is clear of any fire, smoke, or water. If clear, enter the car and take control of the car operations (firefighter service Phase 2).
Do not allow operation of the elevator above the fire floor.

- Evacuation coordination.

- There is the potential for evacuating and displaced persons to congregate in the lobby. Personnel may need to evacuate civilians to an alternate area.

## 703.6.6 1<sup>st</sup> TRUCK

### Expected Actions:

- Position on side Alpha unless the fire location is different and can be readily identified.
- Position to reach the fire floor.
- When arriving first, perform size-up, establish command, as well as determine and announce mode of operation.
- Prepare for immediate rescues as appropriate.
- Perform forced entry.
- Perform reconnaissance of the suspected fire floor.
- Perform primary search of the fire floor.
- Perform ventilation in coordination with fire attack and the IC.
- Ladder the structure.
- Control utilities and prepare for salvage and overhaul.

### Tactical Considerations:

The role of the truck company is vital to the success of fire ground operations and personnel assigned to the truck must be able to adapt based on needs and at the direction of the IC. Delays in the arrival of the truck may result in some taskings being performed or initiated prior to the truck's arrival. In these instances, the truck officer should work with the IC and other company officers to determine tasking priorities.

The 1<sup>st</sup> truck should position on side Alpha unless the fire location is different and can be readily identified. In those instances, the truck should position on the fire side of the building if accessible. Personnel should work to make an immediate determination as to the anticipated effectiveness of the aerial. If smoke, fire, and/or victims appear within reach of the aerial, the crew should:

- Utilize the aerial to access the unit or location while attempting to maximize the scrub area.
- Avoid placing the aerial to a window or balcony directly involved in fire unless there is an indication that there is an occupant requiring immediate rescue in that area or the elevated master-stream tactic is planned to be used for a portion of the initial fire attack.
- Raise the aerial to an adjoining unit if the apartment or unit is fully involved.

The 1<sup>st</sup> truck should generally plan to deploy with the DAO remaining exterior to operate the aerial while the crew enters the structure for interior taskings (recon, search, etc.). It should be noted that accomplishing the interior taskings may be delayed when the interior crew of the truck is comprised of fewer than three personnel. If there is no need for the aerial, or if

the fire floor is completely out of reach, the officer should consider deploying the entire crew interior.

While en route to the fire floor the truck crew should assist the 1<sup>st</sup> engine as necessary. Upon arrival at the anticipated fire floor the truck crew should:

- Consider deploying a search line to assist in maintaining orientation.
- Determine and announce the location of the fire. In times when the fire location is not readily apparent, the crew should perform reconnaissance while the engine prepares the line.
- Perform forcible entry on the fire unit.
- Initiate the primary search of the fire unit.
- Coordinate the evacuation of occupants from the fire floor.
- Remove obstructions that may hinder the hose deployment and fire attack.

Once the fire is located, the fire attack is initiated, and the fire unit has been searched to the extent possible, the truck crew should begin their search of the remainder of the fire floor.

Search priorities for residential occupancies are:

- The fire unit,
- Exit hallways,
- Adjacent/exposure units, and
- All other units on the fire floor.

Search priorities for commercial occupancies are:

- The immediate fire area and floor,
- The floor above the fire area,
- The top floor, inclusive of the involved hallways, stairwells, and elevators, and
- The floors between the floor above the fire and the top floor.

#### 703.6.7 2<sup>nd</sup> TRUCK

##### Expected Actions:

- Position to reach the fire floor
- Ensure the identification of the evacuation stairwell
- Deploy to the floor above the fire for reconnaissance, search and rescue, ventilation, and aid the engine operating on the same floor

##### Tactical Considerations:

During the response and arrival sequence, the 2<sup>nd</sup> truck should attempt to view as much of the structure as possible and note changes from initial reports and persons in distress. The

company officer should assess the potential need for elevated master streams. The positioning of the 2<sup>nd</sup> truck should be based off this information and coupled with wind direction and strength.

The deployment of the crew from the 2<sup>nd</sup> truck may be based on several factors. If the aerial can reach the fire or victims, it should be raised to the fire floor with a minimum of the DAO left exterior to operate the aerial. If the 2<sup>nd</sup> truck is a tower ladder and is operating as a crew of three, the DAO may operate the aerial from the bucket and elevate to the level of the fire and remain ready for placement as needed. The DAO should not raise the bucket above the fire except for immediate rescue(s). If the tower ladder is operating with a crew of four, the officer may split the crew into an inside team and an x-ray crew with the x-ray crew handling the exterior taskings. If there is no ability to access the fire floor, victims or roof, the entire truck crew should deploy to the interior of the structure to assume their role on the floor above.

#### 703.6.8 TRANSPORT UNITS

##### Expected Actions:

- Position for rapid egress.
- Provide treatment for initial patients.
- Set up and prepare for rehab.
- Support fire ground operations at the direction of the IC.
- When first arriving, perform size-up, establish command, and determine and announce mode of operation.

##### Tactical Considerations:

There are multiple types of transport units that operate within Albemarle County. There are differences between EMS capability (BLS versus ALS) and differences between suppression capability. The IC shall consider the capabilities of the transport unit assigned to the incident and make any adjustments or additions that may be deemed necessary.

In general, the transport unit shall be responsible for maintaining a position that allows for rapid egress from the scene with focus placed on not becoming trapped due to apparatus and hose deployment. The transport unit shall be responsible for the treatment of initial patients. In the absence of initial patients, the transport unit shall prepare for and set up rehab.

If the transport unit is suppression capable and the arrival order warrants, the IC may direct the unit to be utilized in a suppression role. If the transport unit is used in a suppression role, an additional transport unit shall be added.

Based on the complexity of the scene, and at the direction of the IC, the second transport unit may be directed to establish a treatment and/or rehab area within the lobby of the structure.

### 703.6.9 CHIEF OFFICERS

#### Expected Actions:

- 1<sup>st</sup> Chief Officer
  - Position with a view of the incident with attention to preferred apparatus placement.
  - Receive CAN from IC.
  - Size-up and assume role of IC.
  - Reaffirm or update the IAP.
- 2<sup>nd</sup> Chief Officer
  - Meet with IC.
  - Assume Division/Tactical Supervisor.
- Subsequent Chief Officers
  - Meet with IC.
  - Be prepared to operate any of multiple roles:
    - Division/Tactical Supervisor(s).
    - Group Supervisor(s).
    - Branch Director(s).
    - Lobby Control.
    - Logistics and Planning.
    - Safety Officer.
    - Accountability Officer.

#### Tactical Considerations:

The standard plan of action for fires in high-rise structures shall be to address them according to the guidelines contained herein. However, it is understood that situations involving fire are dynamic and may require actions that are outside of standard practice. In those instances, all changes must be announced by the IC.

The goal of the IC should be to continue and/or update the appropriate IAP for the incident. The IAP shall be based on a thorough and continuous size-up, recognition of who and what may be in danger, attention to safety considerations, and resource needs. The anticipated need for additional resources should be requested early. Fires in high-rise buildings require more resources than similar fires in smaller structures and additional alarms should be considered early. Additionally, the IC should consider requesting additional resources to bolster the RIT assignment.

Objectives for fires shall be set within the following areas: Rescue, Exposure, Confinement, extinguishment, Ventilation, and Salvage.

High-rise building fires present oversight and management challenges not typically encountered by chief officers operating at single family dwelling fires. For this reason, later arriving chief officers should be immediately prepared to operate within an assigned tactical supervision role such as a Division Supervisor. Chief officers assigned to this role must anticipate managing all aspects of suppression, search/rescue, ventilation, salvage, and overhaul for the assigned area. Chief officers should refer to the *Tactical Supervisors Procedure* for additional information and best practices.

### **703.7 OPERATIONAL CONSIDERATIONS**

#### **703.7.1 HOSE SELECTION AND ADVANCEMENT**

Typically, hose operations within high-rise buildings will involve the use of standpipes. However, for fires occurring below grade or on the first through the third floors, personnel may elect to deploy preconnected lines from the engine due to speed and familiarity. It is imperative that even when this tactic is employed the standpipe system must still be supplied.

Residential occupancies are considered to have a low fire load requiring 10 gpm per 100 sqft of involved area. If the fire occurs in a residential or hotel building, use of the 1 ¾" hose high-rise pack is likely preferred. Based on the tip size, personnel should achieve 160-210 gpm, and one or two lines should achieve extinguishment in residential settings. This size of line also provides more mobility which may be needed due to the inherent compartmentation found in residential high-rises. Consideration should be given to large diameter hose lines for fires on extreme upper levels of a high-rise structure due to the potential delay in achieving the benchmark of "water on fire."

Commercial occupancies are considered to have a moderate fire load requiring 20 gpm per 100 sqft of involved area. Company officers should consider whether 1 ¾" hose, 2" hose, or 2 ½" hose would be better suited based on the extent of any fire on arrival. 1 ¾" and 2" hose offer more maneuverability and offer flows from 160-240 gpm. 2 ½" hose offers flows from 260-300 gpm along with increased reach and penetration. However, 2 ½" hose will increase the number of staff required to operate the line. For fires involving compartmentalized commercial spaces the 1 ¾" or 2" hose line offers the best option.

#### **703.7.2 STANDPIPE OPERATIONS**

Great care and attention should be given to identifying and determining the attack stairwell. Incorrectly designating the attack stairwell prior to confirming the fire location may cause hose lines to be stretched short of the objective. Initial companies should work to identify the fire location prior to announcing the attack stairwell. Likewise, ICs should

exercise patience and allow companies a reasonable amount of time to determine the fire location.

Standpipe operations should include the use of flow meters or pressure gauges. Companies should include these devices in their high-rise bag and deploy them inline between the standpipe and the hose line. This increases the ability of companies to troubleshoot and overcome water supply problems and allows companies to adjust flows.

### 703.7.3 SEARCH OPERATIONS

Typically, commercial high-rises are most populated during the daylight hours whereas residential high-rises experience higher occupancy rates during the evening and nighttime hours. However, personnel should note that there is no hard rule delineating occupancy rates; it is not uncommon for commercial occupancies to have some occupants after hours and it is not uncommon for residential occupancies to have daytime occupancy.

Personnel should greatly consider the use of a search rope. Even small fires may experience rapid growth creating conditions that significantly impact visibility.

Search priorities for residential occupancies are:

- The fire unit,
- Exit hallways,
- Adjacent/exposure units, and
- All other units on the fire floor.

Search priorities for commercial occupancies are:

- The immediate fire area and floor,
- The floor above the fire area,
- The top floor, inclusive of the involved hallways, stairwells, and elevators, and
- The floors between the floor above the fire and the top floor.

Personnel should note that search operations also include evacuation of occupants via a controlled manner. Personnel must work to prevent panic amongst the fleeing occupants, control the evacuation, and ensure all searches are complete. Throughout the entire process of search and evacuation personnel must monitor changes in smoke, heat, and fire and be prepared to alter the evacuation plan as necessary.

### 703.7.4 VENTILATION

Smoke is a major issue during fires involving high-rise structures. Smoke may travel through the many passageways (stairs, elevator shafts, utility shafts, HVAC, etc.) found in high-rise structures and poses a danger to building occupants.



Newer high-rise structures are tightly sealed and are designed to be highly energy efficient. The tight seal of these structures influences smoke travel.

Smoke may mushroom within a structure. This occurs when the smoke rises vertically, uninfluenced by external environmental conditions, until it reaches the roof or ceiling level. The smoke then banks down and begins to fill the area working back towards the fire.

Additionally, smoke may contaminate the structure via the stack effect. This is more likely in tightly sealed structures during winter temperature extremes. During the stack effect, smoke rises until the temperatures balance, at which point the smoke will settle and stratify. This occurs when the smoke is not sufficiently hot enough to rise all the way to the roof or ceiling.

A reverse stack effect may occur during summer temperature extremes. During the reverse stack effect, heated smoke will rise through shafts and chases as normal. However, smoke will also migrate to floors below the fire floor due to temperature differences with the exterior of the tightly sealed building.

Personnel must be prepared to ventilate the heat, smoke, and dangerous gases that build up during a fire. These efforts must be coordinated with attack, search, evacuation activities, and the IC. There are generally three tactics that may be considered for ventilation of a high-rise structure. The impacts of wind and the stack effect will impact the decision regarding the tactic utilized. Additionally, it is generally better to have the fire knocked down prior to initiating ventilation during a high-rise fire. The three tactics that are generally considered for ventilation include:

- Horizontally through windows,
- Vertically through stairwells, or
- Through the building's HVAC system.

Horizontal ventilation in high-rise structures poses difficulties for a multitude of reasons. Many windows in high-rise structures are sealed closed and unable to open. Some windows are made with the ability for firefighters to break them, however, this creates a hazard to units operating on the exterior of the structure. Additionally, personnel must pay careful attention to the wind when utilizing windows for horizontal ventilation. Preferably, horizontal ventilation would be performed by utilizing the pressurized attack stairwell to pressurize the fire floor. From there only window(s) in the fire unit can be opened to perform the ventilation. Personnel must monitor smoke travel to ensure that it only vents out of the fire unit window(s) and does not collect in any common hallways or the attack stairwell.

Vertical ventilation may be accomplished through stairwells. However, it is important for personnel to understand that evacuation stairwells cannot be used for this purpose. Those stairwells must remain pressurized with any top-side openings, such as bulkhead doors, closed. Additionally, vertical ventilation through the stairwells depends on the extent of

progress of the fire attack to avoid fire pushing back towards advancing hose and search teams. Once an appropriate stairwell has been identified, personnel can utilize PPV from the ground level to pressurize the stairwell and push smoke through a suitable roof opening. Personnel should note that elevator shafts are generally not a viable option for vertical ventilation as they likely do not have a suitable opening to expel the smoke and the presence of smoke in an elevator shaft removes that elevator from service.

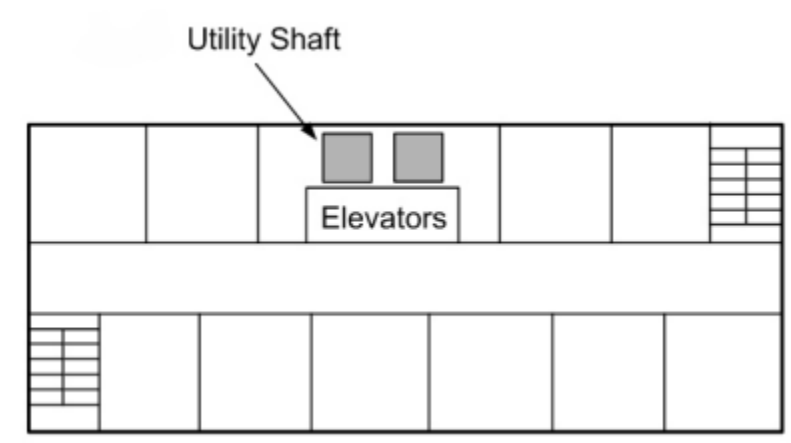
The HVAC system is another option for ventilation within high-rise structures. Initially, during the beginning phases of a high-rise fire, the HVAC system should be shut down to limit any fire spreading through the system. Once knock down has been achieved, companies may consult with the IC and/or building maintenance/engineering to determine the feasibility of the HVAC system to ventilate the structure. Many newer HVAC systems can be placed into an exhaust function to remove smoke on one or more floors. During this process, personnel should monitor the status of the system to ensure that the desired effect is observed.

### 703.8 CONSTRUCTION CHARACTERISTICS

#### 703.8.1 DESIGN DIFFERENCES

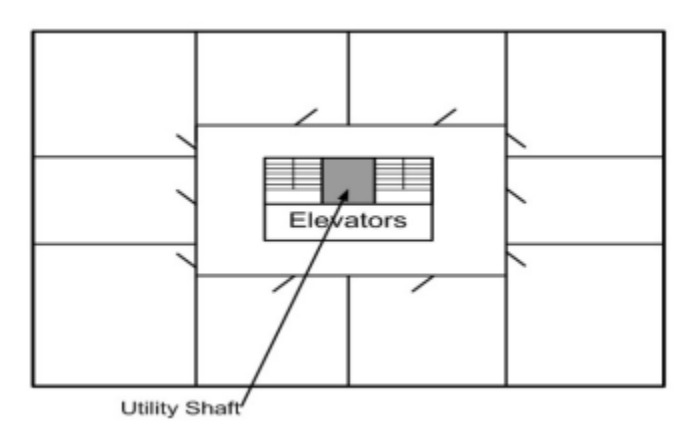
High-rise structures can generally be classified into two basic designs, either residential or commercial. Often, newer high-rise structures contain a mixture of commercial space and residential space. These high-rises should be treated as residential by the responding companies.

Residential high-rise buildings are characterized by center-fed hallways, numerous interior compartments, and 24-hour occupancy. These buildings include apartments, hotels, condominiums, hospitals, and/or assisted living facilities. An example of common center-fed hallway design in residential high-rise buildings is below.



Many commercial high-rise buildings are characterized by center-core construction. This construction technique places utility routes up through the center of the building with circuit and utility corridors around the building's core. These buildings likely have large,

open expanses on each floor. Elevators, stairwells, and mechanical rooms generally reside in the building's core with office or residential spaces comprising the perimeter of each floor. An example of center-core design is below.



A common construction practice, particularly in hotels, is the inclusion of an atrium as shown below. Atriums are typically located at the main entrance of the building. Atriums can increase the difficulty of controlling smoke conditions as they allow multiple floors to be exposed to smoke, fire, and heat.



High-rise buildings may present with long hallways. Often, these long hallways will be sectioned with fire-rated doors. Personnel should regularly perform pre-incident planning to gain knowledge of these structures. Personnel may also perform reconnaissance on a floor below the fire area to determine door locations, floor layout, and standpipe locations.

Generally, if areas are sectioned by fire doors, each section should include a stairwell and a standpipe.

High rise structures greater than 75' in Albemarle County were constructed after the 1976 building code change and therefore have:

- Fire resistive construction,
- Class 3 standpipe system(s),
- A compartmentation option if built between 1976 and 1991,
- Sprinkler protection,
- Firefighter service to the elevators,
- Some form of smoke control system or compartmentation inclusive of windows that may be opened, tempered glass panels on at least two sides of the building that can be broken out, or an HVAC system that can exhaust smoke to the outside,
- At least two approved means of egress from each floor,
- A building communications system if built after 1991,
- In building emergency communications enhancement if built after 2003,
- A fire control room, and
- Standby and emergency power systems.

#### 703.8.2 FIRE WALLS

High-rise structures are constructed with multiple fire walls. Fire walls, either gypsum or masonry, typically enclose shafts (stairway, elevator, and utility) within high-rises. These fire walls are typically constructed to provide a minimum of a 2-hour fire resistance rating. Fire walls may also be utilized to separate occupied areas from storage, utility, and commercial areas.

#### 703.8.3 ROOFS

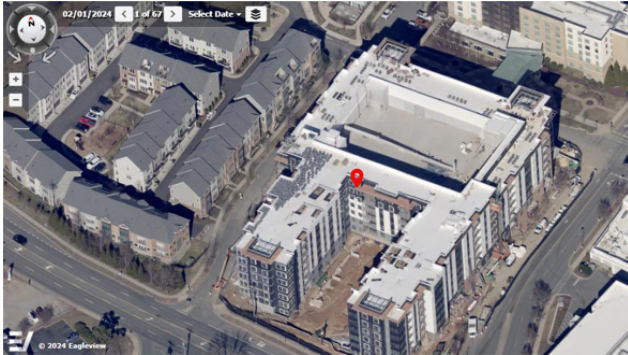
The most common roof design of high-rise structures is the flat roof. Typically, the roof is designed to be much lighter than that of the other floors. Most commonly, these roofs are constructed using composite metal floor decking with a rubberized or tar-and-gravel layer supported by steel bar joist. Occasionally, the structure may include a roof-top community room or community space. This structure typically differs from the noncombustible lower floors in that it is constructed of lightweight combustible materials.

Flat roofs are often accessed through a hatch or a bulkhead at the top of the stairwell(s). Occasionally, this access may be gained through a machine room located off a penthouse. Personnel should make note during preplans of which stairs provide access to the roof.

Often, flat roofs are hidden with facades. These facades are used to hide utilities installed on the roof and to create the appearance of a decorative pitched roof or of an additional floor. HVAC units are the primary utility that is installed on the roofs. Personnel should be

cognizant of the increased deadload these present and be prepared to access the roof to control power to these units.

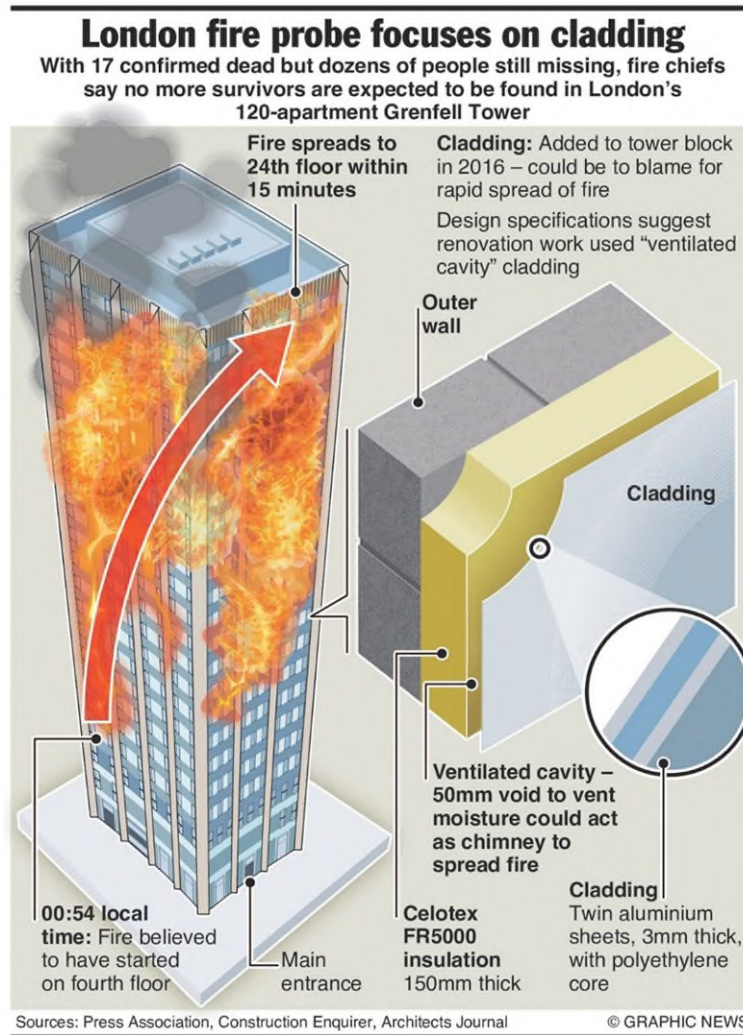
Additionally, flat roofs may be used to house elevator control rooms, antennae, microwave dishes, helicopter pads, and communications equipment.



#### 703.8.4 EXTERIOR WALLS

A common feature found on many newer high-rise structures involves the installation of exterior curtain walls. These curtain walls are normally constructed of either glass or panels made from precast masonry or metal. Occasionally, structures may be designed to have a “living curtain wall” where lattice panels are installed, and vining plants are encouraged to grow throughout the lattice work. Depending on the type of bracket used to mount the curtain wall to the building a gap of 6” – 12” may exist. Any gap that may exist is required to have firestops. Personnel should be cognizant and remain vigilant for vertical, both upward and downward, spread of fire with the presence of curtain walls.

Additionally, some structures are designed with exterior cladding used to enhance a buildings appearance and to improve the overall performance of the façade. This design feature presents challenges for service personnel. On some structures, this added design feature includes lightweight materials such as Styrofoam designed to mimic carved stone and enhance the insulation of a structure. On other structures, this added design feature includes the installation of thick, dense insulation mounted on the exterior of the building and then covered with cladding. There is an air gap between the cladding and the insulation to allow for ventilation. This air gap can act as a chimney resulting in rapid fire growth and development. An extreme example of the dangers associated with this design feature was evidence in the Grenfell Tower fire that occurred in London, England on June 14, 2017.



### 703.8.5 STANDPIPES AND SPRINKLERS

High-rise buildings in Albemarle County were all constructed after 1976 and, as such, contain automatic sprinkler systems. Design features such as compartmentation may result in these structures being either partially or completely sprinklered.

Buildings with standpipe and sprinkler systems often utilize a combination fire department connection (FDC) that supplies both systems. Occasionally, buildings may have individual FDCs for each system. The FDCs for these systems may be either mounted directly to the building or away from the building on the surrounding property. Each FDC will have an accessible hydrant located within 100 feet of the standpipe and sprinkler FDC.

It is important to note that not every stairwell may contain a standpipe riser. Standpipe riser outlets can vary depending on the stairwell type and location; some stairwells may lack standpipe riser outlets due to proximity to other risers within the building.

Some buildings, due to layout and floorplan, may house standpipe riser outlets at hallway midpoints. While these are useful, they should not be a primary option for fire personnel due to the inherent safety and level of protection afforded to crews by the landing door when using stairwell standpipe riser outlets.

Sprinkler control valves for each floor may be found at stairwell landings. In buildings with hallway riser connections personnel may find sprinkler control valves in hall closets or recessed above a drop ceiling.

Some high-rise structures may have pressure-regulating devices on standpipe discharges. These are designed to reduce, regulate, control, or restrict water pressure. There are two types of pressure-regulating devices: pressure-restricting devices and pressure-reducing valves. Pressure-restricting devices are typically mounted on the exterior of the riser outlet and are designed to reduce downstream water pressure only in flowing (residual) conditions. If possible, personnel should remove any pressure-restricting devices prior to use. Pressure-reducing valves include a device with internal components affixed to the riser discharge. These valves cannot be easily removed or adjusted. Personnel should note the presence of any pressure-reducing valves and be prepared to alter their method of fire attack if the valve disallows appropriate flows and pressures.

One tactic for the supply of the standpipe riser involves the DPO connecting directly to the standpipe riser in the stairwell. This tactic is typically utilized when exterior FDC connections are found to be out of service. The presence of a pressure-reducing valve on the standpipe riser outlet will not allow this technique to work due to the presence of a one-way valve within the reducer.

#### 703.8.6 PARKING GARAGES

Vehicle fires within attached parking garages pose a challenge to fire service personnel. Parking garages may be found attached to high-rises, below grade within a high-rise, designed as the center-core, or in other configurations. Personnel should be prepared to address fires in parking garages at grade, below grade, and above grade. These structures can easily exceed several thousand square feet and can house any number of vehicles. Additionally, these structures are often now equipped with electric vehicle charging stations.

Personnel have two primary options for addressing fires in parking garages:

- Deploy a hose line directly from the engine to attack the vehicle fire. In this instance, the FDC should still be supplied.
- Operate a hose line off the standpipe from the riser on the fire floor.

Other options for addressing above grade parking garage fires include:

- Utilize an aerial for an elevated standpipe connection.

- Deploy a leader line.

When the fire is located on a lower level of a below grade parking garage, personnel should utilize a combination of positive pressure ventilation and the garage ventilation system to keep the attack stairwell clear of smoke.



## 703.9 MIDRISE BUILDING FIRES - ADDENDUM

### 703.9.1 OVERVIEW

Midrise buildings, for the purposes of Albemarle County Fire Rescue, are three and four stories.

Midrise buildings may be strictly residential, strictly commercial, or house a combination of residential and commercial occupancies. These buildings allow for a greater occupancy density than garden apartments without the code requirements or regulations associated with high-rises. Additionally, midrise structures may present with large footprints and/or odd designs that result in excessively long hose stretches and the potential for large distances between stairwells.

Midrise buildings share many characteristics with both garden apartments and high rises. Three factors will dictate the shared characteristics and whether the specific midrise is more akin to a garden apartment or to a high rise. Those factors are the year of construction, the building code enforced during construction, and the original intent of the occupancy.



Characteristics that may be shared with garden apartments:

- Full, partial, or no sprinkler protection
- No standpipe system
- Ordinary construction
- Lightweight wood construction
- Large/open attic space

Characteristics that may be shared with high rises:

- Full, partial, or no sprinkler protection
- A standpipe system

- Hallway riser connections
- Firefighter elevator service
- Standby and emergency power systems
- Noncombustible construction
- Hallways to access work or living areas
- Fire doors in the hallways
- Center core floor plans
- Center fed hallways
- Lower-level commercial occupancies
- Parking garages

Fire data (property loss, fire numbers, and deaths) does not exist specifically for midrise structures. Rather, reported fire data tracks the number of residential versus nonresidential structure fires. Residential fires are broken down into “home structure fires” (one/two-family homes and apartment/multi-family homes) and “other residential structure fires.” In 2022 there were 80,000 apartment/multi-family fires resulting in 470 civilian deaths. Those 470 deaths account for 17% of residential fire deaths.

Midrise structures can be found throughout the hydranted area of the County.

Midrise buildings are typically served by several utilities: water, sewer, gas, electric, and communications systems. These utilities may be in a variety of locations based on the occupancy.

The Effective Response Force (ERF) for garden apartment fires should be 22 based on a hydranted area response.

#### 703.9.2 INCIDENT OBJECTIVES

The incident objectives for fires involving midrise structures mimics those for fires involving high-rise structures. Personnel should focus on:

7. Life Safety / Rescue / Civilian Protection
8. Exposure Protection / Fire Attack / Confinement
9. Search
10. Water Supply
11. Extinguishment
12. Overhaul / Ventilation / Salvage

The action with the highest potential to positively impact victim survivability and the safety of firefighters at any fire is to accomplish extinguishment of the fire as quickly as possible in its smallest state. Fires in midrise buildings require effective size-up to identify the fire location and to recognize when an aggressive and overwhelming fire attack is the most appropriate action. It also requires recognition of when conditions are beyond the ability to

control effectively by a standard interior fire attack. Size up must include the recognition of structural involvement as early as possible with a pessimistic perspective.

It is paramount that determination is made as to the occupancy of the midrise. Midrise structures containing housing units pose a high-life hazard and should generally be addressed within the strategic mode of Rescue. Conversely, midrise structures that house solely commercial occupancies that operate during normal business hours may indicate a need to operate within any of the defined strategic modes of Offensive, Rescue, or Defensive. Midrise structures with mixed occupancy should be addressed as residential housing.

#### 703.9.3 DISPATCH PLAN

(4) Engines, (2) Trucks, (1) Transport Unit, (2) Chief Officers (Minimum ERF 22 Personnel)

#### 703.9.4 DISPATCH ASSIGNMENTS OVERVIEW

Midrise buildings share characteristics found in both high-rise buildings and garden-style apartments. Because of this, the tactics necessary for mitigating fires in midrise buildings can overlap with tactics employed during fires in garden apartments or high-rise buildings.

The presence of a standpipe system should drive the tactical decisions regarding operations at fires in midrise structures. For structures that lack a standpipe system personnel should refer to the *Garden Apartment (G-APT) Guide*. For structures with a standpipe system personnel should refer to the tactics outlined in the *High Rise (HR) Guide*.

Responding units should position and operate based on the initial tactical plan identified by the first arriving officer. This plan should generally align with either the *Garden Apartment (G-APT) Guide* or the *High Rise (HR) Guide*.

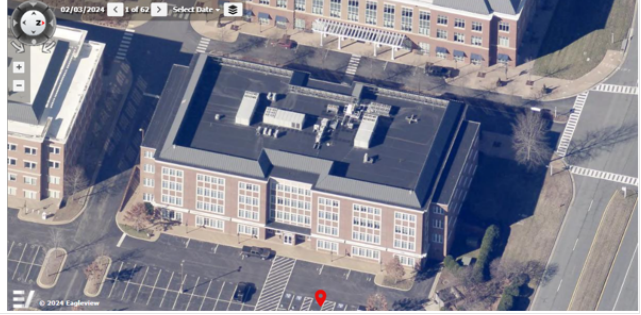
While operating at fires in midrise buildings without a standpipe system the 5<sup>th</sup> due engine company may be utilized to:

- Assist the 3<sup>rd</sup> engine with completion of the secondary water supply.
- Assume lobby control.
- Perform tasks as requested and deemed necessary by the IC.

#### 703.9.5 CONSTRUCTION EXAMPLES

As discussed earlier, construction styles may greatly mimic those found in high-rise construction without the inclusion of the associated regulations and code requirements. Midrise structures that are only three stories are not required to have a standpipe system.

##### 703.9.5.1 COMMERCIAL MIDRISE



703.9.5.2 RESIDENTIAL MIDRISE



## Townhouse (TH) Guide

### 701.1 PURPOSE

This document provides arrival and on-scene procedures for Albemarle County Fire Rescue units operating at incidents involving fires in townhouses.

### 701.2 SCOPE

This procedure applies to all members of the Albemarle County Coordinated Fire and Rescue System as defined in Albemarle County Code Chapter 6, Article I, Division 2, Section 6-102.

### 701.3 OVERVIEW

Fires in townhouses often present a life safety hazard and present with attached exposures where fire can spread, whether the exposure is separated by a firewall or not.

The term townhouse is a generic term used to describe various styles of attached dwellings. Townhouses are constructed in a variety of layouts. Because of this, a thorough size-up where as many sides of the structure are viewed as possible (360 lap) is paramount. The size-up and 360 lap will allow the initial IC to determine the location of the fire within the building as well as life hazards, conditions in the rear, and eventually the attached exposures.

Townhouses range from two to four or more stories in height and may differ in height from front to rear. Additionally, townhouses may have garages which can store one or two vehicles. The garage may be on the lowest level, or it may be detached in the rear off a common alley.

Commercial townhomes and residential townhomes are similar to each other in both construction and firefighting tactics. The occupancy type is the primary difference between commercial and residential townhomes. Commercial establishments may operate in townhomes and may not involve the same life safety concerns.

The Effective Response Force (ERF) for townhouse fires should be 21 for hydranted responses and 21 for non-hydranted responses.

### 701.4 DISPATCH PLAN

#### 701.4.1 HYDRANTED AREA

(4) Engines, (2) Trucks, (1) Transport Unit, (1) Chief Officer (Minimum ERF 21 Personnel)

#### 701.4.2 NON-HYDRANTED AREA

(5) Engines, (3) Tankers, (1) Transport Unit, (1) Chief Officer (Minimum ERF 21 Personnel)

### 701.5 DISPATCH ASSIGNMENTS

See attachment: [Quick Reference Guide.pdf](#)

#### 701.5.1 1ST ENGINE

Expected Actions:

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- Determine and announce water supply as soon as possible
  - In hydrated areas companies should generally lay in from a hydrant.
  - In non-hydrated areas companies should not lay in and should commit to the driveway.
- Size-up and command.
- Determine and announce Mode of Operation.
- Place 1<sup>st</sup> line in service.

### Tactical Considerations:

In hydrated areas the first engine shall normally lay in from a hydrant to the fire scene. If a hydrant is within 100' of the fire scene the company officer may elect to have the DPO hand jack the LDH and humat valve to the hydrant where the 2<sup>nd</sup> engine will complete the connection. If a hydrant is within 50' then the 1<sup>st</sup> engine may make an independent hydrant connection. Occasionally, exigent circumstances such as a known rescue or need for VEIS may negate the 1<sup>st</sup> engine from laying in. In these situations, the water supply plan must be passed to the next arriving engine(s).

In non-hydrated areas the first engine shall commit to the driveway and shall not deploy any LDH. This allows for additional companies to deploy closer to the residence and increase the number of personnel and equipment immediately available on the scene.

Apparatus positioning shall provide room for the arrival of an aerial apparatus if dispatched. Additionally, positioning shall take into consideration the anticipated hose deployment and generally shall not be more that 100' from the fire scene.

Initial decisions must be made based on a systematic consideration of deployment following the guidance of RECEO (Rescue, Exposure, Confinement, Extinguishment, Overhaul).

As stated in the overview, the size-up is of paramount importance and should be used to determine layout, exposures, fire location, fire growth, flow paths, and victims. The officer should perform a complete 360-lap as part of the size-up. For fires involving middle units, consideration should be given to entering Bravo or Delta exposure to obtain a view of Side Charlie. If physical barriers make the 360-lap impractical, the lap may be assigned to another unit. However, interior operations should not commence until a report from Side Charlie is received. In situations where immediate action is needed to mitigate an immediate life hazard, the initial IC shall transmit the need to bypass the visualization of Side Charlie and the completion of the 360-lap.

As the officer performs the walk-around of the structure, attention should be given to controlling or noting utilities. Gas utilities should be easily controlled during the walk-around while electric utilities may not be easily controlled. However, the location of the electric utility should be noted for future control.

The rapid application of water is the primary goal of the first arriving engine. Crews should work to insure this takes place, often simultaneously of the officer's walk-around. Generally, fire attack

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should be transitional with the primary attack beginning from a safer area and pushing towards the fire. The placement of the line should be to provide for the most advantageous location for fire attack (i.e., deck fires, vinyl siding fires, etc.). Attention should also be given to flow paths and any potential flow paths should be controlled. Once the fire attack transition has begun, the first line should be placed between the fire and any persons endangered by the fire. This is generally accomplished by stretching the line to the primary means of egress, normally the front door.

The purpose of the initial attack line is to protect occupants, the interior stairwell, and, if possible, advance to the seat of the fire. The conditions found upon arrival and the information gained during the size-up may dictate changes in these tactics. If it is determined there is no life hazard in the occupancy then the first line shall be positioned between the fire and the most at-risk exposure, either internal or external. Additionally, the requirement of rapid water application may require fire attack to be direct and to begin from the location of the original transitional attack. It should be noted that this tactic does not insure the first line enters via the primary egress point but does address rapid water application; additional attention should be directed towards the primary egress as appropriate.

Townhouse construction practices include regular use of vinyl siding and may have less substantial eaves and soffits than many other multiple dwellings. These practices can lead to an external fire extending internally and into the attic. Fire incidents that present with fire on the exterior of the structure where vertical transmission is likely should have the eaves and soffits swept with the fire attack stream prior to entry.

As time and actions permit, the operator should look to deploy ladders to the building with an emphasis on placement to the fire room.

### 701.5.2 2ND ENGINE

#### Expected Actions:

- Water Supply:
  - Complete water supply for the 1<sup>st</sup> engine when in hydranted areas.
  - In non-hydranted areas deploy LDH down the driveway (less than 1,000') or perform a split lay of LDH down the driveway (greater than 1,000').
- Perform primary search and rescue in coordination with the fire attack (1<sup>st</sup> engine).

#### Tactical Considerations:

In hydranted areas the second engine shall complete the water supply (make the hydrant connection) for the first engine.

In non-hydranted areas the second engine shall deploy LDH down the driveway. When the driveway is less than 1,000' the LDH shall be deployed from the end of the driveway with the Siamese. When the driveway is greater than 1,000' the LDH shall be deployed from a location approximately 1,000' from the 1<sup>st</sup> arriving engine and efforts should be made to prepare for relay-pump operations. Special consideration should be made to identify the water supply. If an

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appropriate non-pressurized source is available within 3,000' of the fire scene then relay-pumping is desired over a tanker shuttle.

When the mode of operation is **Offensive**, the 2<sup>nd</sup> engine shall establish the initial 2-out until relieved of the responsibility by the next arriving company.

When the mode of operation is **Rescue**, the 2<sup>nd</sup> engine shall assist the 1<sup>st</sup> engine with rescue efforts or assume a complementary role such as fire attack. Generally, the assumed role should be the complement to the role of the 1<sup>st</sup> engine, either search or fire attack, unless immediate assistance is required by the 1<sup>st</sup> engine.

Search priorities and efforts shall focus first on any known area of victim location or refuge. Efforts shall then focus on the fire area, fire floor, floor above the fire, and remaining floors. It is critical to understand that sleeping areas and means of egress are considered highly critical areas in need of search.

Support for the primary search should include ladders to upper story windows and hoselines engaged on the fire.

When accessing the fire floor, crews should begin their search while making their way to the fire area. Crews going to the floor above the fire must also begin searching immediately, but with the objective of quickly getting to the area above the fire first, and then searching outward.

### 701.5.3 3RD ENGINE

#### Expected Actions:

- Water Supply:
  - Position for secondary water supply in hydranted areas.
  - In non-hydranted areas the 3<sup>rd</sup> engine shall generally assume the role of the dump side engine.
- Deploy second line.

#### Tactical Considerations:

In hydranted areas the third engine shall look to establish a secondary water supply.

In non-hydranted areas with driveways less than 1,000' the third engine shall assume the role of the dump site engine and shall work with arriving tankers to provide for continuous water to the fire scene. If the driveway is longer than 1,000' then the third engine shall prepare to operate within a relay-pump operation and deploy the Siamese as appropriate.

Unless directed otherwise, the second line shall be deployed to back up the first line. This tactic allows for a rapidly deployable line in the event the first line suffers a burn through or catastrophic failure. The second line may also be used in a simultaneous fire attack in coordination with the first line. If the second line is not needed to support the primary fire attack, it may be deployed to the floor above. Additionally, the second line may be used to protect the crew searching above



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the fire. This may be accomplished by deploying the line to the base of the stairs on the fire floor to observe fire conditions and to prevent fire from spreading to and up the stairs.

An additional consideration for the second line is that the second line may be deployed to the Charlie Side of the structure. The 3<sup>rd</sup> engine should consider the possibility of deploying the line from their engine or from the first arriving engine. A second line to the Charlie Side provides for additional reports from that side to the IC, access to potential basements or cellars, and for access to the interior for typical second line objectives via an alternate entrance from the first line.

### 701.5.4 4TH ENGINE

#### Expected Actions:

- RIT
- Water Supply:
  - In hydrated areas the operator should complete the hydrant connection for the 3<sup>rd</sup> engine or for the tower ladder.
  - In non-hydrated areas the operator should assist the dump site operator after positioning out of the way. If no assistance is needed, the operator should join the crew to bolster the size of the RIT.

#### Tactical Considerations:

The Rapid Intervention Team (RIT) shall perform proactive measures to increase the safety of crews operating in the IDLH and on the fireground. These measures include the preparation of the RIT pack and the readiness of forcible entry and rescue equipment. Additionally, this may include the deployment of ladders for rescue / escape, the preparation of the search tag line, and / or the deployment of a dedicated hose line. Efforts should be made to soften the structure without creating additional flow paths (remove window bars).

### 701.5.5 5TH ENGINE

#### Expected Actions:

- Hydranted Dispatch:
  - In the hydrated area and in the absence of an available tower ladder, a 5<sup>th</sup> engine will be added. The 5<sup>th</sup> engine should perform a walk-around and provide the IC an update and be prepared to fulfill duties typically assigned to the tower ladder.
- Non-Hydranted Dispatch:
  - In non-hydrated areas the 5<sup>th</sup> engine shall become the fill-site engine and should proceed to the nearest and most capable water site and prepare to fill tankers with attention to efficiency.

#### Tactical Considerations:

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In non-hydranted areas the 5<sup>th</sup> engine should work to identify the most appropriate and accessible water source. Upon identification of the water source, they shall proceed to the location and set up to provide adequate water supply to maintain water shuttle requirements.

In hydranted areas, the 5<sup>th</sup> engine should position out of the way of the scene. Generally, the crew should abandon the apparatus and proceed to the scene. Upon arrival to the scene a walk-around should be performed with a status update provided to the IC. The crew should then be prepared to perform duties normally assigned to the tower ladder that are not yet completed. Ladders shall be placed to the fire building with focus on areas directly involved in fire, where crews are operating, and areas of potential civilian / victim refuge. Additionally, if utilities have not been fully controlled, the 5<sup>th</sup> engine shall work to ensure all utilities are controlled. As appropriate and necessary, under the guidance of the IC, ventilation shall be performed. The 5<sup>th</sup> engine may also be deployed to bolster the efforts of the Fire Attack Group and the Search Group.

### 701.5.6 1ST TRUCK

#### Expected Actions:

- Position on Side Alpha unless directed otherwise by the IC.
- If arriving first, perform size-up, establish command, as well as determine and announce mode of operation.
- Perform 360# and communicate findings to IC.
  - For fires involving middle units, consideration should be given to entering the Bravo or Delta exposure to obtain a view of Side Charlie.
- Prepare for immediate VEIS when appropriate.
- Perform forced entry.
- Initiate primary search and rescue if arriving prior to the second engine; this is inclusive of searching for fire. If arriving after the second engine, begin secondary search and / or assist in the primary search based on conditions and extent.
- Perform ventilation in coordination with fire attack and the IC.
- Ladder the structure.
- Control utilities and prepare for salvage and overhaul.

#### Tactical Considerations:

The role of the truck company is very important to the success of fire ground operations and personnel assigned to the truck must be able to adapt based on needs and at the direction of the IC. In the absence of a truck company, all tasks must still be completed and will generally fall to the 5<sup>th</sup> engine.

Nothing should delay the efforts of the primary search or VEIS if conditions warrant.

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Ventilation shall be coordinated with fire attack and the IC. Ventilation shall give special consideration to flow path and unnecessary flow paths shall be controlled.

Generally, the truck operator shall be responsible for ladders and utilities. The operator should place initial ladders to the fire building with focus on areas directly involved in fire, where crews are operating, and areas of potential civilian / victim refuge. If ladders are already in place, then additional ladders should be placed to enhance operational safety and increase ingress and egress points.

Based on the structure, fire extent, and at the IC direction the truck company should be prepared to perform elevated master stream operations. Additionally, some townhouses may require the truck to be used for access to upper floors. Special consideration should be made to ensure apparatus placement allows for both operations.

There are three general locations for turntable placement at townhouse fires. These are determined by degree of fire extension and location.

- Typically, turntable placement at townhouse fires should consist of the turntable being placed one unit away from the involved unit towards most of the exposures. This will facilitate the best placement of the aerial to windows, if needed. Additionally, the aerial will be able to be raised to the roof or to adjoining exposures if needed.
- For a large fire volume / heavily involved situation that may require the use of an elevated stream, the turntable of the first truck should be in front of the most threatened exposure. Additional tower ladders / trucks that may arrive should position their turntable(s) at the next most severely threatened unit. If possible, all turntables should be able to rotate back to the originally involved unit to assist with completion of extinguishment.
  - During large volume fire incidents, the truck should utilize their elevated stream to defend the firewall(s) of the involved unit. This is accomplished by applying heavy caliber streams to the fire side of the firewall to prevent horizontal spread of fire to the attached exposure.

### 701.5.7 2ND TRUCK

#### Expected Actions:

- Position on side Charlie or to access side Charlie. When there is no side Charlie access available, the 2nd truck should position opposite of the 1st truck to provide coverage of the uncovered exposure(s).
- Deploy ground ladders to the Charlie side.
- Provide the IC with an updated Charlie side report.
- Prepare to assist in the primary search.
- Prepare to search exposure units.
- Prepare to complete taskings not initiated or not completed by the 1st truck.

#### Tactical Considerations:

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The primary positioning option for the 2nd truck should focus on gaining access to the rear of the townhouse, either by directly positioning on side Charlie or by positioning on either side of the complex to reach the rear. When access to the Charlie side is not available, the 2nd truck should position on side Alpha opposite of the 1st truck and in front of an uncovered exposure.

The taskings of the 2nd truck will be based on incident needs and at the direction of the IC and may include:

- Assist with the completion of the primary search.
- Deploy ground ladders to the rear of the structure with a focus on providing means of egress.
- Perform primary search in exposure units.
- Perform secondary search of the fire unit(s).
- Perform ventilation in coordination with fire attack.

### 701.5.8 TANKERS

#### Expected Actions:

- 1<sup>st</sup> Tanker
  - Supply attack engine
    - If arriving prior to the 2<sup>nd</sup> engine, commit to the supplying the 1<sup>st</sup> engine.
    - If arriving after the 2<sup>nd</sup> engine, supply water through the Siamese to support fire attack and begin establishing the dump site. No water should be dumped; rather, a nursing operation should be continued, and any water used to fill the dump tank(s) should come from subsequent tankers.
    - If arriving after the 3<sup>rd</sup> engine, supply water to support fire attack, assist in establishing the dump site, maintain uninterrupted supply until empty, and then proceed to the fill site.
- Subsequent Tankers
  - If 1<sup>st</sup> Tanker has < ¼ tank, then continue nursing operation.
  - If 1<sup>st</sup> Tanker has > ¼ tank, then dump enough water to establish draft. Once the draft is established, then dump remaining water.
  - Proceed to fill site when empty.

#### Tactical Considerations:

While the presence of townhouses in the rural area is rare, it is not impossible. Tanker operators must be aware that townhouse fires will likely involve the need for more personnel to arrive rapidly on the scene to control the incident and they should attempt to maintain some access to the scene.

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The primary responsibility shall always be to supply and support the fire attack and to maintain an uninterrupted flow to the fire scene. Tankers should continue nursing operations if the tanker currently supporting fire attack has  $< \frac{1}{4}$  tank. In addition to appropriately supplying fire attack efforts, continued nursing provides the fill site unit enough time to establish an appropriate fill site.

The secondary responsibility of tankers is the establishment of the dump site in conjunction with the dump site engine.

Additional personnel that arrive on tankers and that are not needed for tanker operations should report to Staging or in the absence of Staging, the IC, for deployment as needed.

### 701.5.9 TRANSPORT UNITS

#### Expected Actions:

- Position for rapid egress
- Treatment of initial patients
- Set up and prepare for rehab
- Support fire ground operations at the direction of the IC
- If first arriving, perform size-up, establish command, and determine and announce mode of operation.

#### Tactical Considerations:

There are multiple types of transport units that operate within Albemarle County. There are differences between EMS capability (BLS versus ALS) and differences between suppression capability. The IC shall consider the capabilities of the transport unit assigned to the incident and make any adjustments or additions that may be deemed necessary.

In general, the transport unit shall be responsible for maintaining a position that allows for rapid egress from the scene with focus placed on not becoming trapped due to apparatus and hose deployment. The transport unit shall be responsible for the treatment of initial patients. In the absence of initial patients, the transport unit shall prepare for and set up rehab.

If the transport unit is suppression capable and the arrival order warrants, the transport unit may be utilized in a suppression role such as search. If the transport unit is used in a suppression role a second transport unit shall be added.

### 701.5.10 CHIEF OFFICERS

#### Expected Actions:

- 1<sup>st</sup> Chief Officer
  - Position with view of incident with attention to preferred apparatus placement
  - Receive CAN from IC
  - Size-up and assume role of IC

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- Reaffirm or update the IAP
- Subsequent Chief Officers
  - Meet with IC
  - Be prepared to operate any of multiple roles:
    - Safety Officer
    - Accountability Officer
    - Division Command

### Tactical Considerations:

The standard plan of action for fires in townhouses shall be to address them according to the guidelines contained herein. However, it is understood that situations involving fire are dynamic and may require actions that are outside of standard practice. In those instances, all changes must be announced by the IC.

The goal of the IC should be to continue and / or update the appropriate IAP for the incident. The IAP shall be based on a thorough and continuous size-up, recognition of who and what are in danger, attention to safety considerations, and resource needs. The anticipated need for additional resources should be requested early.

Objectives at fires shall set within the following areas: Rescue, Exposure, Confinement, Extinguishment, Ventilation, and Salvage.

### **701.6 CONSTRUCTION STYLES**

The region contains multiple construction styles and types of townhouse structures. These styles include, but are not limited to, modern townhomes, back-to-back townhouses, piggyback townhouses, over-under townhouses, rowhouses, duplexes, quads, and hybrids. Each occupancy has its own address and own entrance.

#### **701.6.1 MODERN TOWNHOUSE**

The modern townhouse is a multi-story dwelling that is normally attached to several other similar units. Typically, each townhouse has rated floor and wall assembly separation. Townhouses will most often have an attic with a pitched roof.

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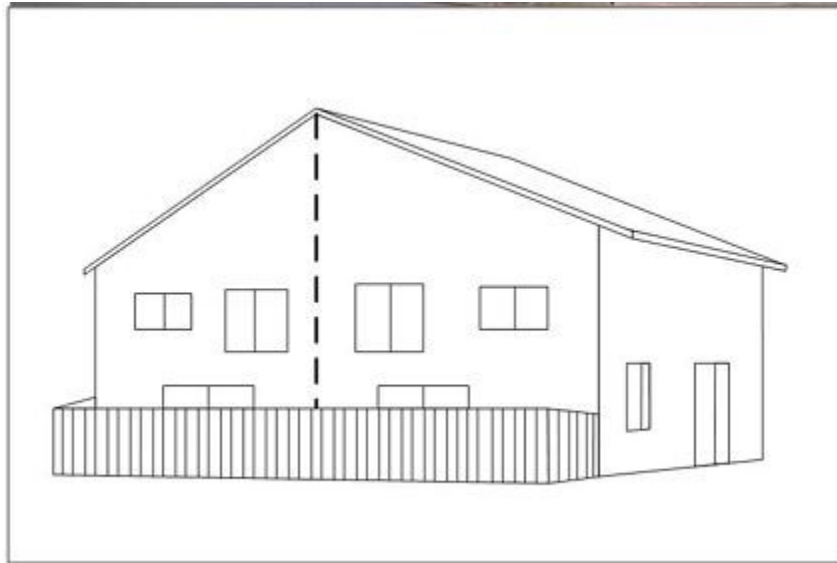
### 701.6.2 BACK TO BACK TOWNHOUSE

A back-to-back is a townhouse that consists of two or more occupancies under one roof connected by the Side Charlie wall.



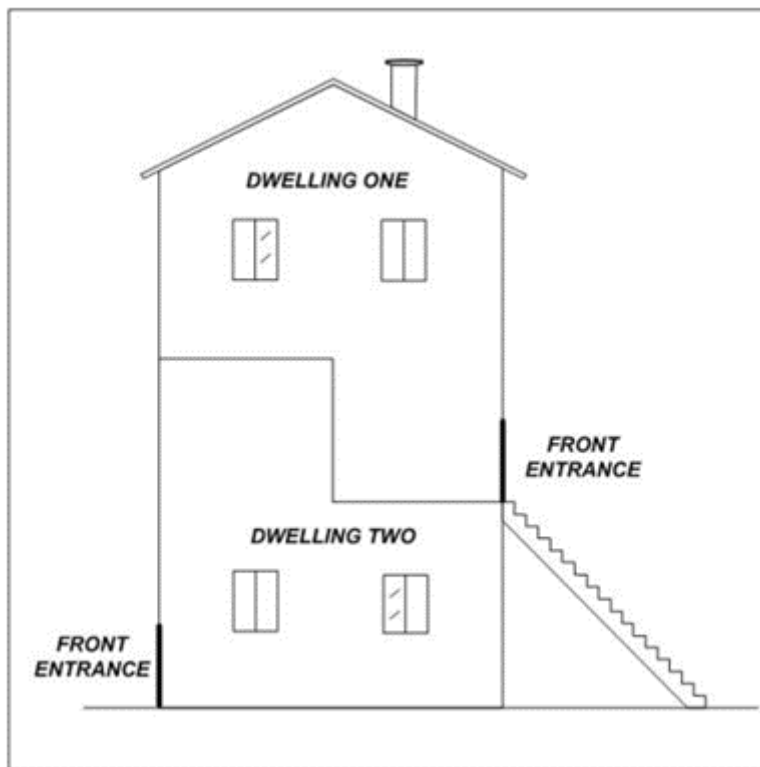
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**701.6.3 PIGGYBACK TOWNHOUSE**

A piggyback townhouse consists of two stacked dwellings (one over the other), each with a separate address and entrance. These occupancies share a common floor separated by a fire wall on that floor.





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### 701.6.4 OVER-UNDER TOWNHOUSE

An over-under townhouse usually consists of two stacked dwellings (one over the other). These are usually two-level occupancies over one-level occupancies with entrances on opposite sides; however, other floor plan variations exist. Occasionally, an over-under townhouse may have two dwellings stacked above two dwellings. Over-under dwellings such as those are typically referred to as **two-over-two townhouses**.



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### 701.6.5 ROWHOUSE

A rowhouse is a multi-story dwelling attached to at least two other dwellings. These dwellings may or may not be separated by fire walls. Typically, a rowhouse will have a common cock loft under a flat roof.



### 701.6.6 DUPLEX

A duplex is two dwellings under one roof sharing a common wall.

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### 701.6.7 QUAD

A quad is four dwellings connected, under one roof, with separate addresses. A quad may have entrances on four different sides.

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### 701.6.8 HYBRID

A hybrid is a building construction style that can be inclusive of various types of townhouse styles (piggyback, back-to-back, and over-under) under one roof.



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### 701.7 ISSUE AND REVIEW

ISSUE	EFFECTIVE	REVIEW	REVIEWER
12/1/2022	4/1/2023		

## Attachments

## Quick Reference Guide.pdf

**HYDRANT AREA RESPONSE PLAN**

	Single-Family Dwelling	Townhouse	Strip Mall/Commercial	Garden Apartment	Midrise	High Rise	
<b>Assignment</b>	4E/1T/1Amb	4E/2T/1Amb				5E/2T/2Amb	
<b>1<sup>st</sup> Engine</b>	Lay supply line or establish own water supply, size up, establish command, complete 360 lap (if size permits) and report findings via follow-up report, determine mode, deploy and manage initial attack line				Lay supply line or establish own water supply, supply FDC, size up, establish command, assess FACP, report findings via follow-up report, determine mode, identify fire floor, identify attack stairwell, place first line in service		
<b>2<sup>nd</sup> Engine</b>	Complete water supply for 1 <sup>st</sup> engine if needed, assume Search and Rescue	Complete water supply for 1st engine if needed, FDC if on Side A, deploy second line to assist fire attack/protect public stairs, perform search and rescue in absence of a truck			Complete water supply for 1st engine if needed, assess FACP, assist 1st engine with fist line, deploy second line to assist fire attack and/or protect public stairs/hallway, perform primary search and rescue on fire floor in absence of a truck		
<b>3<sup>rd</sup> Engine</b>	Position for second water supply, assume 2nd line	Position on Side C, secure water supply if available, forced entry on fire and exposure units, FDC if on Side C	Initiate secondary water supply, provide Charlie side or opposite side report, deploy line above fire		Be prepared to supply the 2nd FDC or initiate secondary water supply, deploy line to floor above		
<b>4<sup>th</sup> Engine</b>	Assume RIT, DPO to complete water supply for 3rd engine or truck				Entire crew abandons apparatus and whole crew assumes RIT in the attack stairwell, staged one floor below the fire floor		
<b>5<sup>th</sup> Engine</b>	*SPECIAL REQUEST ONLY*					Assist 3rd engine establish secondary water supply, report to CMD post, assume lobby control	
<b>1<sup>st</sup> Truck</b>	Position Side A with effort to reach fire area and exposure(s), forced entry, search and rescue, ladders, ventilation, utilities, assist fire attack				Position to reach fire floor, DAO remains with apparatus, crew to fire floor with 1st engine for forcible entry and primary search		
<b>2<sup>nd</sup> Truck</b>	*SPECIAL REQUEST ONLY*	Position for Side C coverage as able, roof, ventilation			Position to reach fire floor, DAO remains with apparatus, crew to floor above with 3rd engine		
<b>1<sup>st</sup> Transport</b>	Position for rapid egress, treatment/transport of injured, rehab or support fire ground ops, if first arriving: complete size up, mode declaration, establish command						
<b>2<sup>nd</sup> Transport</b>	*SPECIAL REQUEST ONLY*					Position for rapid egress, treatment/transport of injured, prepare to establish lobby treatment/rehab area	
<b>1<sup>st</sup> Chief</b>	Position with view of incident, receive CAN report, size up, assume command, reaffirm or update IAP						
<b>2<sup>nd</sup> Chief</b>	Meet with IC, assume position as requested by IC (Prepare for Division/Tactical Supervisor, Safety, Accountability)						



**NON-HYDRANT AREA RESPONSE PLAN**

	Single-Family Dwelling	Townhouse	Strip Mall/Commercial	Garden Apartment
<b>Assignment</b>	5E/3K/1Amb	5E/3K/1T/1Amb		
<b>1<sup>st</sup> Engine</b>	Size up, establish command, complete 360 lap and report findings, determine mode, deploy and manage initial attack line			
<b>2<sup>nd</sup> Engine</b>	Lay supply line. If the driveway is over 1000 feet, split lay. Search and rescue.			
<b>3<sup>rd</sup> Engine</b>	Dump site; complete split lay if needed and assume relay Engine role. Assume second line.			
<b>4<sup>th</sup> Engine</b>	Assume RIT. Position out of the way. If 3 <sup>rd</sup> Engine is relay, assume dump site. DPO should assist w/ the dump site. If no assistance is needed, the DPO should join the crew to bolster RIT.			
<b>5<sup>th</sup> Engine</b>	Fill site.			
<b>1<sup>st</sup> Truck*</b>	*SPECIAL REQUEST ONLY*	Lap with update, ladders, utilities, ventilation, assist Fire Attack, Search and Rescue		
<b>1<sup>st</sup> Tanker</b>	If arriving prior to the 2 <sup>nd</sup> Engine, commit to the driveway and supply the 1 <sup>st</sup> Engine. If arriving after the 2 <sup>nd</sup> Engine, stage at the end of the driveway and supply the Siamese; assist with the dump site.			
<b>Subsequent Tankers</b>	Be prepared to either continue nursing supply or dump water for the dump site.			
<b>2<sup>nd</sup> Truck*</b>	*SPECIAL REQUEST ONLY*			
<b>1<sup>st</sup> Transport</b>	Position for rapid egress, treatment/transport of injured, rehab or support fire ground ops, if first arriving complete size up, mode declaration, establish command			
<b>2<sup>nd</sup> Transport</b>	*SPECIAL REQUEST ONLY*			
<b>1<sup>st</sup> Chief</b>	Position with view of incident, receive CAN report, size up, assume command, reaffirm or update IAP			
<b>2<sup>nd</sup> Chief</b>	Meet with IC, assume position as requested by IC (Prepare for Division/Tactical Supervisor, Safety, Accountability)			
<b>Notes</b>	1. Unlike fires in the hydranted area, a 2 <sup>nd</sup> Truck will only respond based on special request. Personnel should consider access and need prior to the request.			