

**VARIANCE FEES**

MGO \$50.00  
COMM \$490.00  
Priority - Double above

**PETITION FOR VARIANCE APPLICATION**

City of Madison  
Building Inspection  
Division  
126 S. Hamilton St.  
Madison, WI 53703  
(608) 266-4568

Amount Paid  
\$500 *HA* 12-5-17

Name of Owner Sabrina Tolley	Project Description Capitol East Parking Garage	X Agent, architect, or engineering firm GRAEF
Company (if applies) City of Madison Parking Utility	Tenant name (if any)	No. & Street 5126 West Terrace Drive, Suite 111
No. & Street 30 West Mifflin St., 9th Floor, Box 2986	Building Address 111 S Livingston Street	City, State, Zip Code Madison, WI 53701-2986
City, State, Zip Code Madison, WI 53703	Phone 608-245-1975	Name of Contact Person Dan Windorski
Phone 608-265-1147	Madison, WI 53703	e-mail dan.windorski@graef-usa.com
e-mail STolley@cityofmadison.com		

- The rule being petitioned reads as follows: (Cite the specific rule number and language. Also, indicate the nonconforming conditions for your project.)  
2009 Internation Fire Code Section D105.2 and City of Madison Fire prevention code section 34.503. 2009 International Fire Code (Section D105)(D105.2) that requires a 26' wide aerial access fire lane. This petition is to reduce the aerial access to 22' wide based on the existing road conditions with street parking on both sides of the street.
- The rule being petitioned cannot be entirely satisfied because:  
The existing Livingston street is 38' curb to curb. With existing 8' of on street parking on both sides of sides, there is only 22' of remaining width.
- The following alternatives and supporting information are proposed as a means of providing an equivalent degree of health, safety, and welfare as addressed by the rule:

This building is a open cast in place concrete above ground automobile parking ramp with minimal human occupancy. The parking structure is exposed concrete with no combustibile finishes and minimal columns. Fire fighting stand pipes are spaced throughout the garage. Due to the large size of the garage the stand pipes will be more effective to tight fires. A vast majority of car fires are limited to one car.

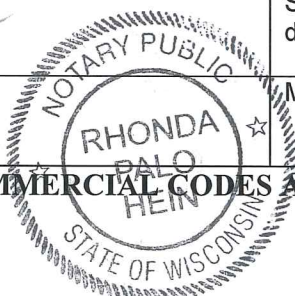
Note: Please attach any pictures, plans, or required position statements.

**VERIFICATION BY OWNER – PETITION IS VALID ONLY IF NOTARIZED AND ACCOMPANIED BY A REVIEW FEE AND ANY REQUIRED POSITION STATEMENTS.**

Note: Petitioner must be the owner of the building. Tenants, agents, contractors, attorneys, etc. may not sign the petition unless a Power of Attorney is submitted with the Petition for Variance Application.

Sabrina Tolley, being duly sworn, I state as petitioner that I have read the foregoing petition, that I believe it to be true, and I have significant ownership rights in the subject building or project.

Signature of owner <i>Sabrina Tolley</i>	Subscribed and sworn to before me this date: 11/27/17
Notary public <i>Rhonda Palo Hein</i>	My commission expires: 11/8/2019



**NOTE: ONLY VARIANCES FOR COMMERCIAL CODES ARE REQUIRED TO BE NOTARIZED.**

## City of Madison Fire Department Position Statement

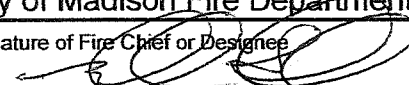
<b>Owner:</b> City of Madison Parking Utility Sabrina Tolley	<b>Project Name:</b> Capitol East Parking Garage	<b>Contact:</b> Dan Windorski GRAEF
<b>Address:</b> 30 W Mifflin Street 9 <sup>th</sup> Floor, Box 2986 Madison, WI 53703	<b>Building Location:</b> 111 S Livingston Street	<b>Address:</b> 5126 West Terrace Drive Suite 111, Madison, WI 53701-2986
<b>Owner Phone:</b> 608-265-1147 <b>Email:</b> stolley@cityofmadison.com	<b>Building Occupancy or Use:</b> Parking Garage S-2	<b>Phone:</b> 608-245-1975 <b>Email:</b> Dan.windorski@graef-usa.com

**Rule Being Petitioned: Madison General Ordinance 34.503, IFC Appendix D**

**I have read the application for variance and recommend:** (check appropriate box)

Approval     
  **Conditional Approval**     
  Denial     
  No Comment

- The building is an open parking garage negating the need to conduct vertical ventilation.
- The building is constructed of cast in place concrete which allows more time for crews to gain access to upper floor levels with little impact on the structural strength.
- The surrounding streets are set up on a uniform grid that provides alternative directions of approach with negligible time added to the emergency response.

Name of Fire Chief or Designee (type or print) <b>Bill Sullivan, Fire Protection Engineer</b>	
City of Madison Fire Department	Telephone Number 608-261-9658
Signature of Fire Chief or Designee 	Date Signed 12/5/2017





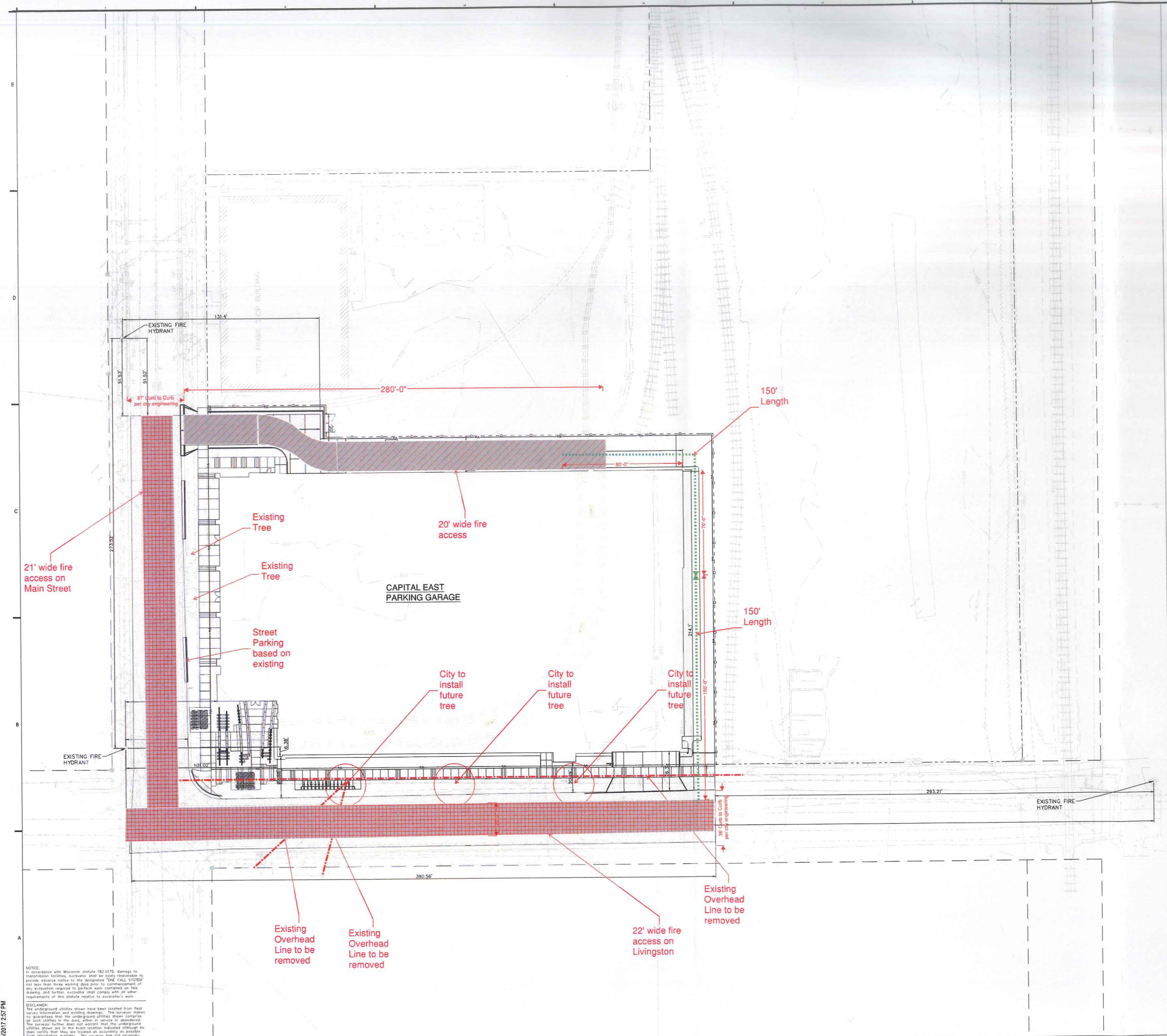
LEGEND  
- FIRE ACCESS

PROJECT INFORMATION:

PROJECT NUMBER: 2016-5051  
DATE: 09/30/17  
DRAWN BY: SRK  
CHECKED BY: JAL  
APPROVED BY: JAL  
SCALE: AS NOTED  
SET TYPE: BD

SHEET TITLE:  
**FIRE ACCESS PLAN**

SHEET NUMBER:



**NOTICE:**  
In accordance with Wisconsin statute 183.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL SYSTEM" not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.

**DISCLAIMER:**  
The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, unless it is stated otherwise. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does warrant that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.

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8/14/2017 2:57 PM

# APPENDIX D

## FIRE APPARATUS ACCESS ROADS

*The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.*

### SECTION D101 GENERAL

#### **D101.1 Scope.**

Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the *International Fire Code*.

### SECTION D102 REQUIRED ACCESS

### SECTION D105 AERIAL FIRE APPARATUS ACCESS ROADS

#### **D105.1 Where required.**

Buildings or portions of buildings or facilities exceeding 30 feet (9144 mm) in height above the lowest level of fire department vehicle access shall be provided with *approved* fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

#### **D105.2 Width.**

Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm), exclusive of shoulders, in the immediate vicinity of any building or portion of building more than 30 feet (9144 mm) in height.

#### **D105.3 Proximity to building.**

At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572 mm) and a maximum of 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of the building.

# APPENDIX E

## HAZARD CATEGORIES

*This appendix is for information purposes and is not intended for adoption.*

### SECTION E101 GENERAL

#### **E101.1 Scope.**



## Sec. 34.503

## FIRE PREVENTION CODE

**34.503 FIRE APPARATUS ACCESS ROADS.**

- (1) Fire Access Roads on Public or Private Property Devoted to Public Use.  
The following requirements are in addition to the requirements found in IFC section 503:
- (a) The marking of fire access roads on public property or private property devoted to public use shall be approved by the Chief.
  - (b) Obstructing fire access roads shall be prohibited at all times, including the accumulation of snow.
  - (c) Fire access roads shall be established on public property or private property devoted to public use where the parking of motor vehicles or other obstructions may interfere with the ingress and egress of Fire Department vehicles, personnel and equipment for the protection of persons and property.
  - (d) At least two (2) exterior walls of each building shall be available for Fire Department access. The Chief may consider alternative designs that ensure adequate access for fire apparatus, equipment and personnel.
- (2) Surface of Fire Apparatus Access Roads.  
The following requirements are in addition to the requirements found in IFC sections 503.2.3 and 503.2.5:
- (a) Fire access roads shall be designed to support the imposed loads of fire apparatus and shall be constructed of asphalt or concrete.
  - (b) Section 503.2.5 is hereby amended to add an exception. Exception: The fire chief is authorized to increase the dimension of one hundred fifty (150) feet to three hundred (300) feet where the dead end fire lane is geometrically straight between the point of two (2) access ways and the terminal end of the fire lane.

(Am. by ORD-14-00004, 1-14-14)

- (3) Grade of Fire Apparatus Access Roads.

The following requirements are in addition to the requirements in IFC section 503.2.7:

The grade shall not exceed a slope of eight percent (8%).

- (4) Aerial Fire Apparatus Access Roads.

The following requirements are in addition to the requirements found in IFC:

- (a) IFC Appendix D105.
- (b) Section D105.2 is hereby amended to include an additional sentence. The last fifty (50) feet of dead-end aerial fire apparatus access may be twenty (20) feet wide or greater. (Cr. by ORD-13-00102, 6-12-13)
- (c) Section D105.3 is hereby amended to include an exception. Exception: The Fire Chief is authorized to approve alternate access roads where the route(s) are parallel to at least twenty-five percent (25%) of the building perimeter. Each segment of access road used to meet the twenty-five percent (25%) of the building perimeter must be at least forty-five (45) feet in length, without overhead obstructions.

(Sec. 34.503(4) Cr. by ORD-11-00004, 1-12-11; Am. by ORD-14-00004, 1-14-14)

**34.505 PREMISES IDENTIFICATION.**

In IFC section 505.1, the words "or alphabetical letters" are not included as part of this chapter. (Am. by ORD-13-00102, 6-12-13)

**34.507 FIRE PROTECTION WATER SUPPLY.**

The following requirements are in addition to the requirements found in IFC section 507:

- (1) Fire Protection Water Supply and Fire Hydrants.
- (a) Private fire hydrants and water mains shall be installed in accordance with NFPA 24, and Sec. 702.4 of the latest edition of the City of Madison Public Works Department "Standard Specifications for Public Works Construction." Private fire hydrants and water mains shall be maintained in accordance with NFPA 25.





# FIRE RESCUE

## Fighting Vehicle Fires in Parking Garages

02/01/2012

By Mike Kirby



*The effects of car fires inside parking garages can be magnified due to trapped smoke, which limits visibility, and you may not be able to safely attack from the four corner angles of the car due to its location and adjacent cars, columns or walls. Photo Bill Tompkins*

We've all seen the effects of a vehicle fire during our careers: massive amounts of black smoke pouring out of the vehicle due to the materials involved; fuel or other flammable liquids igniting; shocks, struts, bumpers and/or tires exploding; and the ever-increasing list of unknown contents that





we may find inside the vehicle. But when your engine company responds to a report of a vehicle fire located inside a parking garage, you need to have your mind wrapped around the idea that this could be more than just a routine car fire. The effects can be magnified inside a parking structure, primarily because the smoke is trapped, which limits visibility, and you might not be able to safely attack from the four corner angles of the car due to its location and adjacent cars, columns or walls.

There are many variables involved in fighting a car fire in a parking garage, including structure type, access, grade or elevation changes, confined spaces or areas trapping heat and smoke, exposures and fire department response. In this article, we'll discuss some of these variables, as well as tactical options as you respond on the engine company.

### Structure Type

From our experience, parking structures/garages are either non-combustible, independent structures or non-combustible, integrated portions of a much larger building. They can range in height from one story to high-rise structures, or they can be several levels below grade and take up an enormous amount of space. These garages can also be open-air structures with no outer walls, or fully enclosed structures, which of course changes the firefighting environment.

Parking garages are usually classified as either stand-alone or integrated structures. The stand-alone garage offers one benefit above the integrated structure: All the smoke, heat and damage caused by the fire won't affect an occupied portion of a building. The integrated garage is usually attached to another, larger building, and can be found under the main building, attached to the side or occupying the first few floors of a high-rise. When car fires occur in these garage spaces, smoke and byproducts of combustion can travel through voids, elevator shafts, stairwells and utility areas into the occupied portions of the attached structure, making the incident a more serious emergency. Sometimes, however, these enclosed or integrated garages have smoke-removal systems that will aid in removing the smoke.

### Accessing the Fire

When accessing parking garage fires, use the stairwells leading to the level on which the fire was reported or located. Once you reach the fire floor, it's best to have a firefighter or team of firefighters perform a quick reconnaissance of the location of the fire and determine the best attack point for a variety of reasons, one being the grade of the garage. These structures include grades on each parking level to allow for vehicles of different heights to travel up or down. Therefore, it's important to attempt to attack from the upper portion of the grade so your nozzle team isn't standing in the direct line of flammable run-off in the event of a well-involved fire or rupture of a fuel tank.

Tip: Take the time to determine the shortest route to the fire by speaking with parking attendants, checking alarm panels and performing simple reconnaissance. Often, parking structures cover large





areas and have multiple stairwells. If you go too fast and pick the wrong attack point, you may not reach the fire with your hoselines or you may have to use a great deal of hose.

### Level of Involvement

Determining what's on fire and how much of it is burning is important, because like other types of fires, doing so will help you quickly determine whether you can handle the response with your current resources or if you need to request more help. It's also important to determine the necessary tactics. Ask yourself:

- Can an extinguisher control the fire, or is it being controlled by a built-in fire protection system upon arrival?
- Will you need foam because of fuel involvement?
- How many vehicles are involved?
- Has the fire extended to void spaces?
- Is it impeding an exit?
- Do you have smoke-control issues?

### Fire Department Response

Your response procedures for a vehicle on fire in a parking structure should be the same as those for a building fire. This means that, initially, you would send the same resources to the parking garage that you would send to a building fire of the same size. This is critical because access issues and unknown problems that may be encountered are very similar between the two.

As the first-due engine company, you should first size up the situation to determine what type of garage you're responding to, which will then help you determine your options for attacking the fire.

We'll first talk about the stand-alone, open-air garage, which is the easiest type of garage in which to fight a car fire. Usually, the smoke will travel out of this garage from the open outer walls and won't cause a visibility issue as you attack the fire. But you should still perform reconnaissance first to determine the best point of attack and then determine your method of attack. There are several methods to choose from:

1. Stretch a line from the engine via the closest stairwell to the vehicle fire.
  - Pros: You use your apparatus and hoseline stretches just as you would for most building fires so you don't have to rely on building systems.
  - Cons: Could require a great deal of hose and, depending on elevation and horizontal distance once on the fire level, it could be impractical.
2. Stretch a line from the standpipe riser in the stairwell that's closest to the fire (if a riser is present).





- Pros: Uses less hose and provides an anchored point of refuge so firefighters can follow the hose back to safety if needed. It also provides a high-gpm fireline from the riser if using 2½" hose as a standard for standpipe operations.
- Cons: Often, these are dry standpipe systems, making it necessary to wait on the engine driver to supply water to the system and then expel all the air from the piping prior to hooking up hoses, which can take several minutes.

3. Stretch hose vertically via a rope from a location adjacent to the closest stairwell using hose from the engine to attack the fire.

- Pros: Uses hose stored on the engine and allows you to quickly position hose exactly where you need it. It also uses less hose than if you were stretching via the stairs from the engine company. Further, you don't have to wait on a supply to a dry riser or to expel the air from the system prior to hooking up hoses.
- Cons: It's difficult if the outer wall of the garage is made of thick concrete or it has an elaborate guardrail system. And if you aren't careful, the hose won't lead you to safety like a stretch from a stairwell or standpipe riser would. You'll also need to strap or tie the hose before charging it to ensure it doesn't slip. This is less necessary if you have a couple hundred feet of hose stretched on the floor of the parking garage.

4. Stretch hose from an aerial ladder (on upper floors) to the area adjacent to the fire using hose from an engine to attack the fire.

- Pros: Same as option 3.
- Cons: It often takes a few minutes to set the aerial and place it into service so you can stretch lines. It also places personnel in a more dangerous position when stretching hose up the aerial ladder.

From our experience, the quickest method for fighting upper-floor fires in parking garages is to stretch via a rope from the engine company because it's fast and effective. That said, it shouldn't be the only tactic you practice because it might not work in all situations.

### Enclosed Garages

An enclosed or "integrated" parking garage may be part of a larger building, may have enclosed sidewalls and/or may be located below grade. In these structures, it's vitally important to perform reconnaissance to ensure that you attack from the appropriate stairwell. To ensure the safety of all operating personnel, you should attack from the standpipe riser to provide a high-flow fireline and a safe point of refuge for personnel in the event that they must retreat.

## Summary

Of course, no fire is “routine,” but engine companies can’t treat vehicle fires in parking structures in particular as routine, because they’re located in a structure that could present firefighters with specific accessibility and exposure problems. The key to success: Perform realistic drill scenarios using all the tactics available to you at the parking structures in your response areas so you can find out what works best for you.

The good thing about drilling in a parking garage is that you can usually operate the standpipe systems and flow water via each method to determine your best method of attack.

## Master the Vertical Raise

Being able to raise hose and other objects vertically can be critical to fighting fires in parking garages. Homer Robertson provides two drills to help you master the vertical raise:  
[www.firefighternation.com/article/training-0/mastering-vertical-raise](http://www.firefighternation.com/article/training-0/mastering-vertical-raise).

By



## Mike Kirby

Mike Kirby is a captain with the Cincinnati (OH) Fire Department (CFD), assigned to Engine Company 12. He is a 22-year veteran of the fire service with experience in paid and volunteer fire departments.

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