



Montgomery County Fire and Rescue Service

POST INCIDENT ANALYSIS

Three Alarm Garden Apartment Fire 9300 Piney Branch Road Silver Spring, Maryland

Incident Date: August 27th 2013



Submitted by
Battalion Chief David Polikoff

I. Incident Overview

On August 27th, 2013 at 1545 hours Montgomery County Fire Rescue Service (MCFRS) units responded to a reported building fire at 9300 Piney Branch Road, in Fire Station 16's first due area. The incident quickly escalated to a second and then third alarm bringing in units from Prince George's County, District of Columbia and Howard County Fire Departments. A total of 27 residential units were affected displacing over 80 residents. Red Cross and other assistance units were requested to aid those in need. Investigators listed the fire as accidental in nature. Damage was listed at \$1,000,000 to the structure and \$500,000 to the contents. There were no reported civilian or fire fighter injuries.

This complex is known to have water supply issues. As a result, a special dispatch and water supply procedure was developed to include one additional engine company. First Battalion companies have trained on the special procedure prior to this incident.

Dispatchers advised responding units via Mobile Data Computers (MDCs) of several persons trapped in numerous apartments and on balconies due to heavy smoke conditions in the stairway.

Paramedic Engine 716 arrived on the scene to find fire showing from Side Bravo and immediately requested the Rapid Intervention Dispatch and a Fire Task Force.

Once Battalion Chief 701 arrived he requested a second alarm.

Crews from Paramedic Engine 716 and Engine 702 advanced attack lines from Paramedic Engine 716 to the lobby on Side Alpha to initiate fire attack. Both companies encountered difficulties advancing their lines because too many Fire Rescue personnel were in the lobby.

Concurrent with the interior attack, Truck 716 and Aerial Tower 719 rescued seven occupants from their balconies via ground ladders.

Due to rapid fire spread to the second and third floors, personnel were ordered to retreat from the fire apartment and seek refuge in an interior hallway and a Personnel Accountability Report (PAR) was completed.

Paramedic Engine 712 was directed to initiate an exterior attack from Side Bravo. With the help of other crews, a BlitzFire and hand line, Paramedic Engine 712 successfully knocked a great deal of the fire on all three floors.

Once the fire appeared to be significantly knocked, Command assigned fresh crews to enter the structure, relieve the interior crews, and complete extinguishment. The second interior operation focused on extinguishing the fire under the roof that could not be extinguished from the exterior and extensive overhaul operations requiring numerous companies to rotate through.



Initial water supply

II. Building Structure/Site

9300 Piney Branch Road is a non-sprinklered mid-rise apartment building with four stories visible in the front and five stories visible in the rear. There are five apartments per floor. The primary access is via a door on Side Alpha opening in to the lobby. There is direct access to the terrace level via a door on Side Delta. A hydraulic elevator located just to the right of the front entry services all floors. All floors are serviced by two fully enclosed stairways, one of

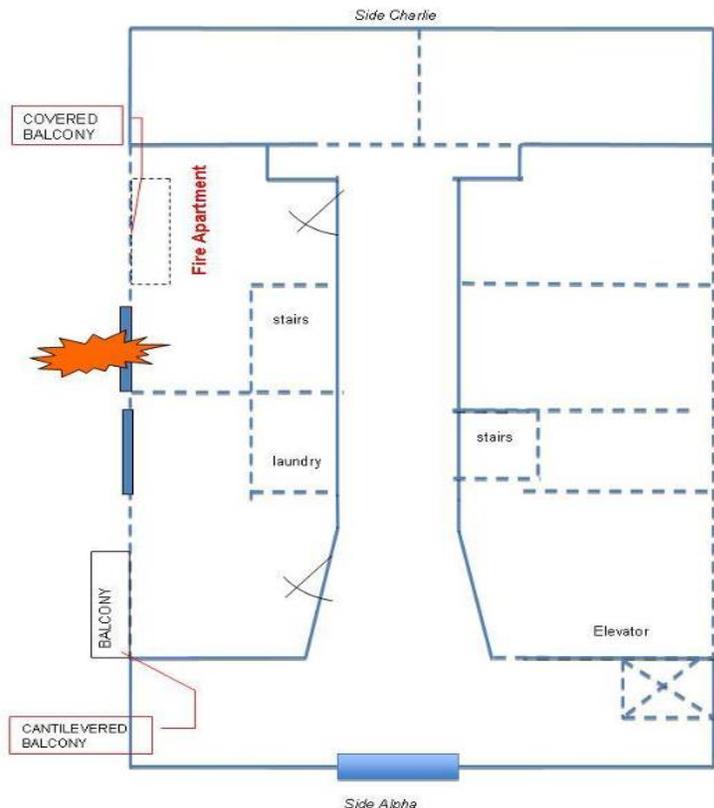
which houses a standpipe riser. There is a standpipe connection on Side Alpha just to the left of the main entrance. Crews elected not to use the connection due to a belief that it was not maintained and therefore not trustworthy. Post incident investigation finds that the system is both maintained and reliable which has been relayed to the first due and surrounding companies.

A large fenced swimming pool and parked cars limit apparatus access on Side Alpha. Steep terrain and vegetation limit apparatus access to Sides Bravo and Charlie. Access is on the Delta Side which is where the first due truck positioned for this incident. Exterior construction consists of exterior brick and block walls with a flat tar and chip roof.

Interior construction consists of wooden floor decks and subfloors. All floors are covered with either parquet wood or carpet. The walls of the units along the interior corridors and the perimeter of the building are block covered with drywall attached by wooden furring strips.

From the exterior, it appears that the fire apartment would be accessed via the first interior door on the left past the lobby; however, it was actually the fourth door on the left. The building contains several void spaces.

A vertical void for plumbing, extending the entire height of the structure, was likely the most rapid path of vertical fire travel inside the structure.



Approximation not to scale

III. Fire Code History

No fire code history is noted.

IV. Communications

The initial 911 callers reported smoke but were not specific about the location or origin. The urgency and number of 911 callers indicated that there was a fire. 911 calls continued during the entire dispatch and response sequence. Prior to fire department arrival, Montgomery County Police arrived and confirmed a working building fire.

There is no indication that the building local alarm was ever activated despite direction from the ECC call takers to 911 callers to pull the alarm if possible.

Computer Aided Dispatch (CAD) messages and updates were being sent to MDCs from the Emergency Communications Center (ECC), however, some critical updates including information regarding reports of trapped occupants, were not communicated verbally.

The radio spectrum and infrastructure functioned as designed, and the incident tactical talk group provided effective fire ground

There were some problems communicating with mutual aid units. Those problems were experienced during their response and were resolved before they left staging to engage.

Radio discipline was sometimes a problem and the need to convey a lot of information made it challenging to get "air time".

V. Pre-emergency Planning

Companies made good use of the existing special procedure and dispatch for water supply operations in the complex. As such, water supply was never an issue during this fire.

VI. On-Scene Operations



View from Side Bravo shortly before exterior knock

Paramedic Engine 716 arrived on the scene and reported fire showing from the first floor on Side Bravo. Battalion Chief 701 arrived on the scene and positioned on the corner of Sides Alpha / Delta and established the Command Post. Based on the hot and humid weather and the amount of smoke showing, a second alarm was immediately requested.

Paramedic Engine 716 advanced a 300 foot, 2" cross lay to Side Alpha, Engine 702 advanced a leader line to Side Alpha to back up Paramedic Engine 716 and both units entered the building via the main entrance. Black smoke pushed out from the entrance door as the engine companies entered the building.

Command attempted to assign Paramedic Engine 716 Officer as the Division 1 Supervisor but could not raise him on the radio. Engine 702's Officer was then assigned as the Division 1 Supervisor.

Truck 716 and Aerial Tower 719 placed several ground ladders around the building and made seven rescues via ground ladders. Once the rescues were completed, Truck 716 was assigned to Division 1 and Aerial Tower 719 was assigned to Division 2.

Paramedic Engine 701 and Paramedic Engine 719 were assigned to the second floor with Paramedic Engine 701 Officer as the Division 2 Supervisor. Truck 834 (from the RID) threw ground ladders to the second floor, which both engines used for access; upon entry, they found moderate heat and zero visibility.

On the second floor, windows were vented without a hand line in place. The crew responsible for doing so was never identified. Paramedic Engine 701 advised that the floor in the apartment directly above the fire was spongy and that fire was extending into the second floor via an exterior window.

Prince George's Chief 801 Alpha was assigned to assess the interior conditions and report back with his findings. Based on his report, which included deteriorating conditions and fire on floors 1, 2 and 3, personnel were ordered to retreat from the fire apartments and seek refuge in an interior hallway. A PAR was completed and all personnel were accounted for. Paramedic Engine 712 was then directed to initiate an exterior attack from Side Bravo, utilizing a hand line from their unit and a BlitzFire.

The BlitzFire and handline quickly knocked down the fire in apartments on all three floors. This tactic was successful in rendering the building safe for a continued interior operation and it certainly changed the dynamic and direction of the event.



View from Side Bravo during exterior knock

Crews encountered heavy smoke conditions on all four floors and ventilation was an issue due to the large amount of fire in the walls and under the roof. Positive Pressure Ventilation (PPV) was not used until all fire was confirmed exposed and extinguished. Once the PPV was started, it rapidly cleared all floors and stairwells of smoke.

A third alarm was called in order to provide fresh crews to assist with the extensive overhaul required. The extreme heat and amount of work required made it difficult to maintain enough personnel ready to work. Most personnel cycled through work assignments and Rehab more than once and nearly all personnel on the scene used more than one SCBA cylinder with some using more than two cylinders.

Time	Action	Elapsed Time	
15:43:34	911 Call Received		
15:44:49	Box Alarm Dispatched	1 minute	15 seconds
15:48:35	Paramedic Engine 716 On-scene	5 minutes	1 second
15:52:32	Paramedic Engine 712 On-scene	8 minutes	58 seconds
15:53:19	Second Alarm Dispatched	9 minutes	45 seconds
16:06:22	Order to Back out to Hallway	22 minutes	48 seconds
16:12:00	Exterior Knock Down Ordered	28 minutes	26 seconds

VII. Staging

The first arriving engine officer on the second alarm assumed the role of Staging Area Manager. He did an effective job of tracking the units and coordinating needs with ECC and the Command Post. He also ensured adequate ingress and egress for Emergency Medical Service (EMS) units assigned to the EMS Group. Over time, apparatus positioning did degrade and eventually led to Piney Branch Road being shut down for an extended period of time.

VIII. Safety

With the presence of multiple persons trapped, a “two-out” standby team did not need to be established.

Given the complexity of the event and the dire need for manpower, the full rapid intervention compliment was never assembled or completed. With the extended work cycles, Command should have ensured that the Rapid Intervention Group was properly assigned, and staged on Side Alpha of the structure.

IX. Accountability

There were multiple occasions where accountability was lost. In at least one instance, a crew was assigned to a particular floor but because of disorientation found themselves on a different floor. In another instance, a crew announced to Command via radio that the crew was being

split and Command acknowledged the transmission. This specific information was never captured or documented and later led to confusion when trying to account for personnel.

It is important to note that although all personnel were accounted for during the PAR's, there were multiple occasions when individuals couldn't be raised by radio. These individuals were accounted for quickly prior to Maydays being called.

After Command ordered all interior companies to take refuge in the interior corridors in advance of an exterior attack, it took more than six minutes before full accountability could be established.

X. Investigations

Fire and Explosives Investigators were able to determine the exact area of fire origin. An electrical fire started in an interior void space in a bedroom. The fire rapidly extended to a mattress and was not noticed until children in the affected apartment complained of an odor of smoke. Upon investigation, the lone adult occupant located the fire in the bedroom and made several attempts to extinguish it before gathering the children and exiting the structure.

The fire in the void space burned undetected for an unknown period of time and it is unclear how far it had traveled prior to being discovered. The fire traveled primarily upward into an inverted "U" shaped utility channel and laterally until it reached the vertical plumbing chase. Once in the plumbing chase, the fire quickly travelled to the upper floors. Photographic evidence from the fire ground suggests that there was, at the very least, a smoldering fire in the interior void space on the second, third, and fourth floors and cockloft.

XI. Lessons Learned

There are many items, both positive and negative, that need to be addressed with this incident. It is important to use this complex incident as a learning experience.

- **It is the responsibility of every fire fighter on the fire ground to assist with putting the first attack line in place to extinguish the fire.**

Neither, the first line nor the back up line ever got to the seat of the fire. It was later determined that subsequent crews were stepping on the lines which prevented their movement rather than assisting with deployment of the first line.

- **An exterior attack or reset must be considered early in structure fires particularly if there are delays in achieving an interior knock.**

There were significant delays in getting the first line in service inside the apartment of origin. If the fire can be “reset” early, occupants have increased survivability and fire fighters have increased safety. There was excellent coordination to ensure that no exterior hose line flowed while personnel were in the fire apartments.

- **Initial entry teams and Division/Group Supervisors must give updates noting their progress or delays.**

The lack of progress advancing hose line and finding the seat of the fire was not communicated to Command. This omission prevented the Incident Commander from knowing that the interior crews were not making a successful fire attack.

- **Crews must always bring the right tools for the expected situation.**

Engine companies must bring in tools to force doors. At times, the special service is not going to be immediately available, as was the case with this fire. Proper hand tools can be used to quickly force doors.

- **Do not vent windows or doors when there is no hose line in place.**

Venting windows without a hose line in place is inviting fire to overtake your position. Without a hose line, fire can rapidly extend to the other areas in the fire building such as the apartment above. Coordinated and controlled ventilation is key.

- **Crew integrity is a must.**

Crews must stay and work together. Splitting a crew to cover a search area is acceptable as long as both parts of the split crew remain in the same search area.

- **Accountability is crucial.**

At times, the Incident Commander did not have proper accountability of all personnel operating on the scene. Units need to provide accountability to their Supervisors, and Supervisors and Command need to ensure that they know where their resources are. Individuals, unit officers, Division/Group Supervisors and Command share the responsibility for accountability.

- **All personnel must be able to rapidly deploy all ground ladders.**

Crews quickly placed multiple ground ladders and utilized them to make rescues. A 45 foot ladder was also deployed quickly with the help of Montgomery County Police Officers on scene.

- **Rapid Intervention Groups must remain available to make a rescue, but can perform other tasks.**

The Rapid Intervention Company Engine, Paramedic Engine 712, took good initiative by securing their own water supply and advancing multiple attack lines to Side Bravo of the building with the assistance of Rescue Squad 814. These lines were ultimately used to knock a majority of the fire to allow the interior crews to regroup and move in to finish knocking the fire. Truck 834 deployed ground ladders which both met demands of Rapid Intervention and assisted with suppression.

- **More than one Incident Scene Safety Officer may be necessary.**

The Incident Scene Safety Officer moved throughout both interior and exterior spaces and made several recommendations. With an incident this large and complex, a second Incident Scene Safety Officer should have been considered

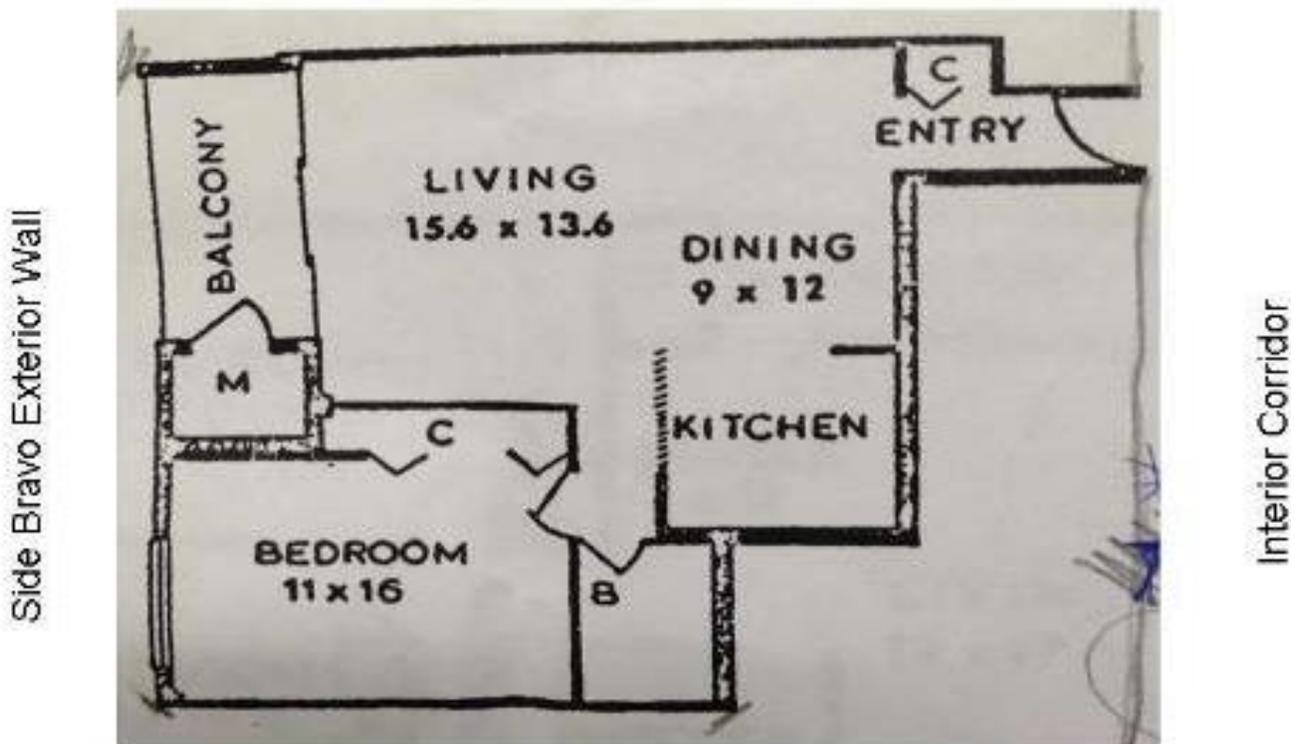
- **Personnel Rehabilitation needs to be established early.**

A Rehab Group was established and used. With the weather and repeated work cycles, Command should have established Rehab more quickly and enhanced it's staffing.

- **Interactions with outside agencies will become a bigger part of Fire Rescue operations.**

For extended incidents, or those involving multiple displaced residents, extra command and support personnel will be needed.

Exposure Apartment



Exposure Apartment

First Alarm, 1544 hours:

Paramedic Engine 716
Engine 702
Paramedic Engine 712
Paramedic Engine 701
Paramedic Engine 844
Paramedic Engine 719

Truck 716
Tower 719
Rescue Squad 801

Ambulance 716
Battalion 701
Battalion 702

Rapid Intervention Dispatch, 1547 hours:

Truck 834

Rescue Squad 814

Medic 712

Second Alarm, 1553 hours:

Paramedic Engine 724
Engine 811
Engine 754
Paramedic Engine 707
Paramedic Engine 718

Truck 812
Truck 855

Medic 701

Special Dispatch, Additional Personnel, 1559 hours:

Tower 724

Special Dispatch, Additional EMS Units, 1610 hours:

Ambulance 712

Ambulance 701

Special Dispatch, Additional EMS Units, 1611 hours:

Medic 742 Foxtrot

Medic 741 Charlie

Special Dispatch, Additional Crews, 1627 hours:

Paramedic Engine 706 Tower 718

Paramedic Engine 844

Engine 834 Bravo

Special Dispatch, Additional EMS Units, 1638 hours:

Ambulance 702

Ambulance 742 Echo

Ambulance 724

Special Dispatch, Additional Crews, 1647 hours:

Engine 710

Paramedic Engine 721

Engine 740

Special Dispatch, Additional Crews, 1652 hours:

DC Engine 28

DC Truck 12

Special Dispatch, Additional Crews, 1723 hours:

Paramedic Engine 715 DC Truck 11

Engine 726

Special Dispatch, Additional Crews, 1810 hours:

Howard Engine 111 Tower 723

Paramedic Engine 830 Tower 705



Views from Side Bravo before fire extended to the floor above.



Fire extending to second floor





Fire extending to the third floor just before the BlitzFire was used



View from the fire apartment main entry door to the exterior entrance



View from Side Alpha entrance to the fire apartment, approximately 45 feet.