

# Denver Fire Department



## Post Incident Analysis

17-01

Residential Structure Fire

20OCT2017

6420 W. Sumac Ave

## **Post Incident Analysis Description**

The main purpose of a Post Incident Analysis (PIA) is to learn from incident operations, including personnel actions and departmental procedures, and to give management recommendations into how department operations may be improved. When an incident occurs, regardless of type or outcome, a PIA may be initiated. As part of the PIA process, objective facts will be gathered through dispatch transcripts, FD707 written reports, and interviews. Every effort will be made to ensure the analysis is objective and accurate.

The PIA committee, composed of members of the Denver Fire Department representing ranks from Firefighter to Assistant Chief, will review all available information and draft the PIA. The report will include background information, incident overview, a final analysis, and recommendations. The success of the PIA Team is dependent upon the cooperation of all members. The process will provide an enhanced method to disseminate critical lessons learned during an incident, thus providing an educational tool for all employees allowing us to learn from actions taken and improve our current strategy and tactics, when determined necessary and appropriate.

Fraternally,

The Denver Fire Department PIA Committee

## General Incident Overview

1. Report of a structure fire in a single-family dwelling at 15:11 On 20OCT2017.
2. E30 Reported seeing heavy black smoke from Wadsworth and Belleview.
3. Dispatch relayed 911 caller reports of “very involved fire” prior to crews arrival onscene
4. E30 first rig onscene with a 4 minute 33 second response time.
5. E30 Reported thick black smoke and no visible flame from the Alpha side upon arrival.
6. E30 pulled a 1 ¾” attack line to the Charlie side and witnessed a large volume of fire then returned to the rig for a 2 ½” attack line.
7. E28A C&D, T28A, and E30 C&D made an interior attack on the fire from the front door with a 2 ½” and a 1 ¾” hose line. Conditions in the structure halted the attack at the 2nd floor landing of the stairs and forced crews back outside.
8. E36 and E28 secured secondary water supplies.
9. Chief 7 arrived onscene took Command after a 12 minute 14 second response from quarters.
10. T38 and TR23 conducted primary searches of the 1st floor and basement while Engine crews were putting water on the fire from the exterior of the structure.
11. Fire conditions continued to grow, Chief 7 gave the back out order and tones were sounded.
12. After giving back out order, Chief 7 is alerted the primary of the second floor was not complete. Chief 7 ordered Defensive operations halted and sent TR23 back in to complete a primary of the 2nd floor.
13. After primary of the 2nd floor was completed, back out tones were again sounded due to TR23A’s and Chief 7’s inability to communicate because of radio issues. TR23 exits the structure and defensive ops are once again resumed.

## Site Background



1. On 20OCT2017 at 15:11 dispatch was notified of a structure fire at 6420 W Sumac Ave.
2. The building is a single-family dwelling of Type V construction built in 1996. It complied with all building codes applicable at the time of construction.
3. The house is 2588 square feet above ground level.
4. The structure is effectively 2 stories in the front and 3 stories in the rear with a walkout basement.
5. Water supply in the area is sufficient (i.e. fire hydrants.)
6. Smoke detectors were operating normally at the time of the fire.
7. Initial response was; map page Romeo 19, Engines-30, 28 and 36, Trucks-28 and 38, Rescue, Tower 23 RIT, Chief 7 and 3, and Ops 2.
8. At the conclusion of the incident, the fire had escalated to a second alarm defensive fire.
9. Per Arson, cause was determined to be a one pound propane grill on the rear deck that was attached to the main level of the house.

## 911 Calls and Radio Transmissions

### 15:12:33

**Caller:** (Inaudible)...(popping and wind noise in background)...

**Call Taker 1:** 6420 W Sumac

**Call Taker 2:** Caller?

**Call Taker 1:** I can't get her to answer any questions

**Call Taker 2:** So... I'm reading the notes sounds like a pretty good fire?

**Call Taker 1:** I can't tell I can hear beeping and screaming that's all so far

**Call Taker 2:** Ok

**Call Taker 1:** Thank you

**Caller:** Inaudible yelling in background

**Call Taker 2:** We'll turn it into a fire thanks

**Caller:** (Inaudible yelling and beeping.) (popping noises in background.)

### 15:13:34

**Dispatch:** Engine 36, Dispatch.

**E36:** Yeah, 36's copies were responding from Platte River and Hampden Boulevard uh... 6432 W Sumac on a structure fire.

**Dispatch:** Copy that sir, go to TAC7.

**E36:** Willco.

### 15:13:37

**D3:** Chief 3, Rescue.

**Chief 3:** Chief 3.

**R1:** Rescue 1.

**Dispatch:** Gonna be map page Romeo 19 on a structure fire; 6...6420 W Sumac Drive all units go to TAC7. This is gonna be for Engine 30, 28's a pair, Engine 36, Truck 38, Rescue, Chief 7, Chief 3, Tower 23, you are the RIT, and Ops 2.

This will be map page Romeo..... 19 on a structure fire; 6420 West Sumac Drive All units go to TAC7. Gonna be for Engine 30, 28's a pair, Engine 36, Truck 38, Rescue, Chief 7, Chief 3, Tower 23 you are the RIT and Ops 2.

### 15:14:37

**Dispatcher:** Fire Dispatch.

**Call Taker:** I have another call for 6420 West Sumac Drive.

**Dispatcher:** Okay, go ahead.

**Caller:** The back...the back of the house, the deck is on fire. It's on the corner of Lamar and Dorado. It's a house on the northside of that street all from the back of the house.

**Dispatcher:** Okay. do you know if anybody is inside?

**Caller:** Uh... I don't know. I'm walking up towards it now.

**Dispatcher:** And is it just the deck or is the house involved?

**Caller:** Well... It's the second and third floor.

**Dispatcher:** The second and third floor decks?

**Caller:** Uh... yeah but the... there is fire, at the uh, up to the gutters.

**Dispatcher:** Okay, does it look like it is confined to just the balconies or is it coming out of the house onto the balconies?

**Caller:** Uh, that's not clear. Definitely, the side of the house is definitely on fire.

**Dispatcher:** Okay and I have the address as 6420 West Sumac what was the intersection you gave again?

**Caller:** This intersection is Dorado and Lamar. It's the back, it's facing the back of the house.

**Dispatcher:** Okay.

**Caller:** And that part of the house is uh... the 2 and now 3 levels the basement and the deck and everything is completely on fire and there is a lot of smoke.

**Dispatcher:** And what side did you say that was?

**Caller:** This is on the south side of the house, the back of the house on Dorado Drive. There's no entrance to it, there's a fence there.

**Dispatcher:** Okay, alright sir, I have a bunch of fire trucks coming over. Thanks for the update.

**Caller:** Yep, bye.



*Picture was taken by a neighbor of the occupancy. Picture was taken approximately 5-7 minutes prior to E30's arrival.*

**15:16:40**

**E30:** All units responding into 6420 w Sumac, we have black smoke in that air, we'll give you a size up once we get there. (heavy static throughout transmission.)

**Dispatcher:** Engine 30 you are breaking up really bad. You might want to try another radio.

**E30:** Well, I would if I wasn't on the rig, but if you can make this out, we've got heavy black smoke showing. We're in Grant Ranch, I'll give you a size up once we get there.

**Dispatcher:** Copy that. All units responding, based on the phone call we got, looks like you have a very active fire at location time is 1517.

**15:16:45**

**Caller:** I'm going from house to house and telling people to get out.

**Call taker:** Yeah, I got another caller for 6420 W Sumac Ave.

**Dispatcher:** Okay. Go ahead caller, help is on the way, a lot a people coming.

**Caller:** Okay.

**Dispatcher:** Okay, are you part of the... is it part of your apartment

**Caller:** No, actually they're homes, and we're about 5 houses east.

**Dispatcher:** Okay, so it's not apartments, it's a home.

**Caller:** It's a home.

**Dispatcher:** Does it look like it's into the house?

**Caller:** Yeah, there's smoke coming from the top so.

**Dispatcher:** Okay, yeah, someone will be there right away.

**Caller:** Thanks, buh bye.

**15:18:15**

**E30:** Engine 30's on scene, we do have heavy smoke showing. Looks like it's on the alpha/delta side right now, we'll be in fast attack mode. We'll let you know what else we've got going on. We're securing the hydrant at Sumac, stand by one.

*As E30 arrived, they observed heavy black smoke that had settled to street level. There were no visible flames from Alpha side of the structure. The garage door was open prior to crews arrival. Several bystanders were standing in front of the structure and smoke conditions made them only appear as silhouettes. E30 was delayed 60-90 seconds while bystanders moved their vehicles from the Alpha side of the structure.*

**15:18:47**

**Dispatcher:** Fire Dispatch.

**Call Taker:** Sorry this is Jessica. I took the original call from inside on the house fire. Um... I don't know if you guys need to know this but, it sounded right before the phone died, it sounded like there was a large boom. So, I don't know if you need anything else or if it matters, then the line died, and I don't have an inside line.

**Dispatcher:** Okay, I copy. Thank you.

**Call Taker:** Okay, Thanks, bye.

**15:18:48**

**E30:** We're on the corner of Sumac, we're uh... we're proceeding forward with a... with fast attack mode. We'll give you an update as we go on air.

**E28:** Engine 30 from Engine 28, what hydrant did you hit?

**E30:** Yeah there's a hydrant just to the um ... it's just to the... west here of sumac on the fire side. Sorry, on the side of the address here. Let us give you an update as we get situated here.

**E28:** Engine 28 copy.

**15:19:36**

**E36:** Engine 28 from Engine 36, looks like you're going to need the plug at Marshall and Sumac. We're driving into Grant Ranch from the south side of the complex.

**15:20:06**

**E30A:** Engine 30 Bravo from Alpha, you ready for water?

**15:20:44**

**E28:** Engine 28 on scene. We're going to go to work at Engine 30's plug and pull a backup line.

**E36:** Is that plug going to be on Lamar or is that gonna be on Marshall?

**15:21:06**

**E36:** Engine 36 is on scene. We're going to be on laying in from a... a plug that's at mid-block on Sumac coming in from the... we'll nose into 30's.

**E28:** Engine 28 is going to pull a back-up line off of Engine 30. Engine 36 it looks like you can catch a plug right by 30's.

**E36:** Yeah, that's affirmative, we're laying in.

**E30C:** Engine 30, I need water quick, it's got an exposure to the east. WATER, I NEED WATER.... WATER.

*E30A, C, and D pulled a 300' 1 3/4" hose line with a 15/16" tip and advanced the line around the Delta side of the building to the backyard. Radiant heat from the fire had ignited the lawn and fence on the Charlie side. Due to the large body of fire E30 C positioned the 1 3/4" hand line while E30 A and D returned to the rig to grab a 2 1/2" hose line.*



*Picture was taken by a neighbor prior to E30's arrival and before water is applied to the fire.*

**15:22:10**

**E30C:** Engine 30 I need water...

**E30A:** Meet us down there, standby one, we've got everyone on scene now we'll go ahead and get that water right to you.

**T28:** Truck 28 is on scene, will be assuming command. I've got Truck 28... heading to the backside, Engine 28 and Engine 30 out front with hose lines.

*T28B notices that he had partially parked on a supply line to E30. Issue is immediately addressed and resolved.*

**15:22:46**

**T38:** Command, Truck 38's on scene. What would you like?

*As E30A and an unidentified member advance the 2 1/2" hose line toward the Alpha/Delta corner the windows of the first floor blow out. Shortly after the windows of the second floor Alpha side also blow out. E30A and the unidentified member applied water to the now visible fire inside the structure from the outside Alpha side.*

**15:23:01**

**Command (T28A):** All incoming units we're going to use two and a half on this, uh... Engine 30, let's go ahead and get ready with your deck gun.

*T28 crew forces the front door of the structure and E28A pulls a 2 1/2" crosslay with a fog nozzle and meets two members of E30 carrying a 1 3/4" smooth bore at the front door. Companies face to face a plan to advance with T28A up the stairs on the first floor.*

**15:23:15**

**Unknown:** (inaudible transmission)

**T38:** Command, Truck 38, you got an assignment?

**E30A:** Engine 30 Engineer, we're going to need, on that first line, we need more pressure.

**Command (T28A):** 38's ... (transmission becomes garbled) ... in front here.

**E30B:** Okay.

**T38:** Command, Engine uh... Truck 38.

**15:23:51**

**T38:** Command, Truck 38.

**Command (T28A):** Truck 38, we're setting Truck 28 to go defensive on this.

**T38:** Yeah, copy, do you have an assignment for me?

**15:24:19**

**Command (T28A):** Engine 36's taking a two and a half down the... (inaudible, transmission breaks up) going to hit it.

**15:24:41**

**Command (T28A):** All companies uh... this house is fully involved in the back were going to set up T28, 38 get your stick in the air.

*T28B notified the shop in the morning that they were experiencing hydraulic issues that affected the turntables ability to move starboard and T28 was added to the road list for repair. Due to a miscommunication, the shop responded to Station 38, resulting in the repair not being completed prior to the incident. T28B was able to move the aerial into position for defensive operations using the override switches.*

**15:24:57**

**E28B:** Engine 30 from Engine 28 Bravo, do you need more water?

**15:25:07**

**Unknown:** Engine 28 Bravo negative.

**E30B:** That's affirmative on more water.

**15:25:19**

**DHMC:** (weak transmission) Ambulance 28 on scene.

**15:25:50**

**E36A:** I need pressure Engine 36... I need pressure.

**15:26:01**

**Chief 7:** Chief 7 I'm on scene, I'll take command out there face to face with Truck 28.

**15:26:30**

**Unknown:** And command, utilities are shut off.

**T38A:** Command, Truck 38

**15:26:55**

**TR23:** Command, Truck 23 is setup in the rear of the structure. We're going to take down the fence and work from the back side.

**T38:** Command from Truck 38.

**Command (Chief 7):** Go ahead Truck 38 this is Chief 7 I'll take command now (transmission is weak and slightly broken.)

*Chief 7 takes command of the fire after being unable to locate T28A for a face to face handoff.*

**T38A:** Yeah Chief uh... I'm on Charlie side right now. I've got 6 hose lines working from the exterior. Looks like uh... basement, first, and second floor have, uh, involved fire you could send an engine over here by Tower 23 on whatever street this is, uh, on the Charlie side

**Command (Chief 7):** Alright, I'll meet you on the Charlie side.

**15:28:12**

*Radio transmissions up to this point of the incident had been garbled and heavily covered with static. Transmissions after this point of the incident continue to degrade. Several companies on scene have stated that their radios worked intermittently, and some radios would not send or receive transmissions for the duration of the incident. This problem led to several messages being relayed face to face between companies and to command.*

**Command (Chief 7):** Truck 28 from Command.

**T28A:** Go ahead for Truck 28.

**Command (Chief 7):** Yeah have... have you gotten a search done (transmission breaks up)?

**T28A:** Repeat your message.

**Command (Chief 7):** Have we completed a primary search?

**TR23A:** Command, Tower 23, we can start on that if you would like from the rear, do you want us to work on a primary?

**Command (Chief 7):** Uh... that's negative uh... what I need, uh, dispatch if you could send me, uh, two more engines.

**Dispatcher:** And Chief, I copy two more engines. Any additional trucks?

**Command (Chief 7):** (transmission weak and broken.) Dispatch, I didn't copy your last transmission.

**Dispatcher:** I copy two additional engines. Would you like any additional trucks?

**Command (Chief 7):** Yeah, send me one additional truck as well.

**Dispatcher:** I copy. I'll add 'em.

**TR23A:** Command, Tower 23.

**Unknown:** Losing pressure in the back.

**TR23A:** Command from Tower 23.

**Command (Chief 7):** Command by.

**15:29:36**

**TR23A:** Yes sir, would you like us to start a primary search of the first floor from the Charlie side?

*Command's radio was not receiving transmissions for TR23A's radio, TR23A traded radios with a member of his crew. Point of clarification, when speaking of the first floor, TR23A was referring to the walkout basement on the Charlie side of the structure.*

**Command (Chief 7):** Tower 23 from Command.

**TR23A:** Tower 23 is requesting to start a primary search on the first floor from the Charlie side.

**Command (Chief 7):** (Transmission had static throughout.) Yeah Tower 23, I've got Truck 38 on a primary search on the alpha side, through the garage.

**TR23A:** Okay, copy. Tower 23 is going to enter on the ground level through the patio door, starting a primary on the ground level Charlie side.

*TR23's crew enters the structure through door into the walkout basement.*

**Command (Chief 7):** Command, I copy that.



*Since there are no aerials in position for defensive operations, this picture is estimated to be around the time of, or shortly after, TR23 started their primary search.*

**T28C:** Command, we can start the aerial.

**Command (Chief 7):** Engine 36 from Command.

**T28C:** (T28 had line of sight communication with Command) Copy that's a negative.

**E36A:** Engine 36 standing by.

**Command (Chief 7):** Yeah... Engine 36 what's your location?

**E36A:** (inaudible, garbled with heavy static)

**Command (Chief 7):** Engine 36 you're unreadable.

**Command (Chief 7):** Uh... Truck 38 from Command.

**Command (Chief 7):** Truck 38 from Command.

**E28A:** (on air) This is Engine 28. Engine 28, Engine 38 are making a push up the stairs.

*Per FD707's, T28A, E28A, T38 and E30 crew members stop at the top landing of the staircase due to conditions. T28A, after opening an inspection hole in the ceiling, witnessed fire throughout the attic space. Fire conditions in attic were unchanged with application of water. Crew members on the landing start a primary search of the second floor. Due to deteriorating conditions at the time, all members start to egress the structure along with hose lines. Once outside, members continue to apply water to the fire from the exterior of the structure.*

**Unknown:** (Inaudible transmission, heavy static)

**T38A:** (on air) Truck 38 standing by.

**Command (Chief 7):** Command, Truck 28.

**Command (Chief 7):** Truck 38 from Command.

**T28A:** (on air) Command, Truck 28.

**Command (Chief 7):** Truck 38, I need you to have your engineer set up their stick for a defensive operation to protect the exposure to the east.

**T38A:** (Inaudible, static) ... (on air) can we get a handline through the garage door?

**Command (Chief 7):** (static throughout transmission) Repeat your last transmission.

**T38A:** (Inaudible, heavy static) ... handline first floor (inaudible, heavy static)...

**Command (Chief 7):** I copy, you need a handline on the first floor.

**T38A:** (on air) From the garage.

**Command (Chief 7):** Handline from the garage onto the first floor.

**E36A:** Command from Engine 36.

(Inaudible) (open mic)

**Command (Chief 7):** (heavy static) Command by.

**E36A:** Command from Engine 36.

**Command (Chief 7):** Yeah, go ahead Engine 36.

**E36A:** We are entering on the Charlie side on a separate 300-foot line off of Engine 36. We can cover the eastern exposure on this house putting out the fence and anything else on the exterior of the Charlie side. I could be your Charlie Division.

**Command (Chief 7):** Alright, Engine 36 I need you to be my Charlie division. Uh... I'm going to need a line... an attack line for an exposure on the, uh, Bravo side of the building (transmission becomes inaudible with static.)

**OPS2:** Ops 2, I'm on scene.

**TR23?:** Command, Tower 23.

*Paramedics alert command that a resident had made their way to the ambulance and reported a family member who lived in the basement was unaccounted for.*

**Command (Chief 7):** All companies from Command, just got a report that we may have a party in the basement.

*At this point TR23 had completed a primary of the walkout basement and was making their way to the first floor. After hearing this transmission TR23 returned to the basement for a more thorough search of that level.*

**E37:** Command, Engine 37, we're going to be your next engine on scene. Do you have a plug we can go to?

*After notification from dispatch Engine 37 responded from Federal and Oxford.*

**Command (Chief 7):** Yeah if you could work off of Engine 36's plug, it'll be on the east side of Sumac uh... and we'll have you supply Truck 38.

**E37:** Engine 37's copies, Engine 36's plug.

**Command (Chief 7):** Truck 38 from Command.

(Inaudible Transmission, static)

**Command (Chief 7):** Yeah, can you, uh, see if we can get a primary done down in the basement. (Inaudible transmissions, broken with static)

**15:30:27**

**Dispatcher (on Channel 1):** Attention, this will be map page Romeo 19. We need to add Engine 37 and Truck 16 to a fire, 6420 West Sumac Avenue. Attention, this will be group, map page, Romeo 19 requesting Engine 37, Truck 16, and Engine 25 6420 West Sumac Avenue. Attention, map page Romeo 19, single family structure fire, 6420 West Sumac, requesting Engine 25, Truck 16 and Engine 37, time is 1531.

**15:30:28**

**E23 (on Channel 1):** Dispatcher, Engine 23, we're at Federal and Yale, if we can jump on that fire?

**Dispatcher:** Yeah, start that way.

**E23:** Okay, going to TAC 7, thanks.

**15:34:48**

**Dispatcher:** Chief 7, Dispatch.

**Command (Chief 7):** Chief 7 by.

**Dispatcher:** You're getting Engine 37 on scene, Engine 25 and Truck 16 as additional, also you're 20 minutes in.

**Command (Chief 7):** Alright, got that. Can you send me another truck, uh, we've got the Rescue a ways out.

**Dispatcher:** That's affirmative, I'll add another truck.

**OPS2:** Command this is Ops 2, I'm on the Charlie side, I've got uh... transmission from 23's. Primary's clear on the ground level basement.

*TR23, unable to relay to Command that a more thorough primary search was negative, exits the building and relays information face to face to OPS2. In the same timeframe T38 reports through a face to face with Command that a primary of the first floor is negative.*

**Command (Chief 7):** Alright copy, primary is clear ground level basement. Primary is clear on the first floor. Second floor is untenable at this point, uh, all companies we're going to get ready for a defensive operation from the attic uh, I'm going to use Truck 16 aerial (heavy static) and get a water supply to (transmission becomes inaudible.)

**Unknown:** (on air) (weak and broken) ... we gotta back out here... (transmission breaks up.)

#### **15:35:36**

**Dispatcher (on Channel 1):** Tower 22.

**TR22:** Tower 22.

**Dispatcher:** Yes sir, you're being requested at this fire for an additional Tower company for defensive operations.

**TR22:** Copy were respond... responding 6420 West Sumac.

#### **15:36:02**

**Command (Chief 7):** (heavy static) Charlie side from Command.

#### **15:36:15**

**T38A:** Command, Truck 38.

**T28A:** (on air) (heavy static) Command, Truck two-eight.

#### **15:36:27**

**Chief 3:** Chief 3 is on scene.

**T38A:** Truck two-eight from Truck three-eight.

**Command (Chief 7):** (static and broken) Chief 3 from Command, if you could, meet me at Truck 28?

#### **15:36:55**

**Command (Chief 7):** Engine 25 from Command.

**E25:** Engine 25.

**T28A:** Command from Truck 28 (becomes broken and inaudible.)

**Command:** Engine 25, when you get on scene you'll be my RIT.

**E25:** Copy, Engine 25 will be RIT.

**15:37:30**

**Dispatcher:** Chief 7, Dispatch.

**Command (Chief 7):** Go ahead Dispatch.

**Dispatcher:** You are now receiving Engine 23 as an additional engine and Tower 22 as an additional tower.

**Command (Chief 7):** Alright, copy that.

**Command (Chief 7):** Truck 38 from Command, Truck 38 Bravo from Command, get ready to use your aerial and Truck 28 get ready to use your aerial.

*T28A performs face to face with Command and relays conditions on both the 2nd floor and in the attic that were witnessed prior to crews egressing from the structure. T28A also alerts Command that a limited primary search of the second floor had been completed.*

**Command (Chief 7):** (Broken heavy static) OPS2 from Command.

**OPS2:** OPS2, go ahead.

**Command (Chief 7):** (Heavy static) Yeah, I'm going to get ready to start pulling everyone out. Sounds like we've got fire... pretty heavy fire above the second floor and the roof looks like it's about ready to go, uh, I'll have defensive operations from the aerials.

**OPS2:** Ops 2 copies. You said defensive operations from the aerials.

**Command (Chief 7):** (broken) Dispatch from Sumac command.

**Dispatcher:** Go ahead sir.

**Command (Chief 7):** (heavy static) Yeah, at this time can you go ahead and sound the back out tones please?

**Dispatcher:** Yes sir. (back out tones) All companies back out, back out, back out. (back out tones) back out, back out, back out (back out tones) back out, back out, back out.

**15:39:02**

**Command (Chief 7):** (broken with heavy static) All companies on scene at Sumac everyone out of the house. We're getting ready for defensive operations.

**15:39:18**

**Command (Chief 7):** Truck 28 Bravo from Command.

**T28B:** Go ahead.

**Command (Chief 7):** Yeah, we're going to just start running your aerial.

**T28B:** Ready..... We're working on the water supply right now.

**E37:** Engine 37 on scene.

**T28B:** Truck 28 is ready.

**Command (Chief 7):** (broken with static) Alright, we got your water supply, get ready to run your aerial and Engine 37 go ahead and hook up and drag back a line up to Engine 36 and we'll get Truck 38's aerial up and running.

**E37A:** Copy, we're hand jacking a line now.

**15:40:25**

**Command (Chief 7):** Truck 28 shut your aerial off.

*Command requested that T28B shut down their master stream after his legal pad containing his assignments and rigs was knocked from his hands and destroyed by water. Chief 7 was working with a notepad because he did not have an operable iPad containing the Tablet Command program.*

**15:40:34**

**Command (Chief 7):** Truck 28 Bravo from Command, shut your aerial off.

**T28B:** Copy.

**15:41:18**

**Command (Chief 7):** Ops 2 from Command.

**OPS2:** Ops 2.

**Command (Chief 7):** Yeah, can you meet me out front? Chief 3, I'm going to have you Charlie Division.

**OPS2:** Copy.

**Dispatcher:** Chief 7, Fire Dispatch.

**15:41:43**

**Dispatcher:** Chief 7, Dispatch.

**Command (Chief 7):** (static throughout transmission) Okay, all companies, we're going to send Tower 23 in to try and do a primary on the second floor. Hold all defensive water. It'll be Tower 23 only.

*TR23A had made his way to Command's location for a face to face and relays that TR23's crew was making the 2nd floor when the back out tones were sounded. TR23 relays that conditions were tenable enough to complete the primary of the second floor. TR23 takes a protective 2 1/2" line to the second floor while the search is completed.*

**15:42:05**

**Dispatcher:** Chief 7.

**Command (Chief 7):** Go ahead Dispatch.

**Dispatcher:** Yes sir, you're 30 minutes in. Also, was there an update on any primaries on the other floors?

**Command (Chief 7):** Primary on the basement, primary on the first floor, we're about to ready to complete one on the second floor.

**Dispatcher:** I copy 1542.

**E25:** Engine 25 on scene, we are your RIT.

**E23:** And Command, E23 is on scene, do you want us to supply Tower 23?

**15:42:55**

**E37A:** Command, Engine 37, we have a (inaudible, static) line laid dry to Engine (inaudible, static) we'll have to do the changeover if you want to get hooked up, there's no Humat.

*While E36 was catching their plug, the Humat and hydrant were not threading together easily. Upon E30's urgent call for water, E36D abandoned the Humat and connected to the hydrant with a single 3" line to get water quicker. E36 later connected to an additional unused hydrant with another 3" supply line.*

**Command (Chief 7):** Alright Engine 37, I copy you have, uh... water to 36's and you're ready to do a changeover when needed.

**E37A:** That's correct line is dry right now we're ready when you need it

**15:43:45**

**Command (Chief 7):** Truck 38, go ahead and see if you can extend your stick up to the gable end. Tower 23 let me know when you have a primary on the second floor.

**15:44:07**

**Command (Chief 7):** Tower 23 from Command.

**TR23?:** (on air) Go ahead.

**Command (Chief 7):** Tower 23 from Command

**15:44:22**

**TR23A:** (inaudible, static)

**Command (Chief 7):** Okay, Tower 23 everybody out, Tower 23 everybody out.

**TR23?:** (on air) (transmission weak) copy that we're getting out now Chief.

**Command (Chief 7):** Tower 23 again from command, everybody out of the house.

**TR23A:** (inaudible, static)

*TR23A was acknowledging backout order and experienced a third radio failure.*

**Dispatcher:** (back out tones) back out, back out, back out (back out tones) Tower 23 back out, back out, back out.

**Charlie Division (Chief 3):** Command from Charlie side.

**Command (Chief 7):** Go ahead Charlie side.

**Charlie Division (Chief 3):** Yeah, once we've got everyone out, we've got two hose lines in place we can start hitting this from the exterior windows on the Charlie side.

**Command (Chief 7):** (static) Alright, copy that, you've got companies over there Charlie side?

**Charlie Division (Chief 3):** I've got Engine 36 and it looks like they've got a line from another company as well.

**Command (Chief 7):** Alright, copy that. Why don't you go ahead and start putting water in from the outside; we've got fire showing from the roof now.

**Charlie Division (Chief 3):** I copy that. We might be able to penetrate the, uh, second floor ceiling with it too.

**Command (Chief 7):** Copy that... Tower 23 is now out of the building get everyone out we've got fire in the attic uh... Truck 28 we want you... (broken)... into the attic space.

**Command (Chief 7):** (static) Truck 28 from Command.

**15:46:32**

**Charlie Division (Chief 3):** Command from Charlie Division.

**15:46:44**

**Charlie Division (Chief 3):** Command from Charlie Division, we have had a partial collapse of the deck in the back.

**15:47:00**

**Command (Chief 7):** (broken throughout) Dispatch from Command, we've got the primary of the second floor as far as we can get.

**E30B:** (static) Engineer 30 to Engineer 28 give me a few more pounds of pressure.

**15:47:21**

**E28B:** Did you say lower the pressure?

**E30B:** I need 30 pounds more of pressure.

**15:47:35**

**E28B:** See if that's any better for you Danny.

**E30B:** Copy that.

**15:47:55**

**E23A:** Engine 23 Bravo water on that two and a half.

**Charlie Division (Chief 3):** Command from Charlie Division.

**Command (Chief 7):** Go ahead Charlie Division.

**Charlie Division (Chief 3):** FYI, I have Engine 23 and Engine 36 on the back. We have got two inch and three quarter lines and one two and half inch line in place going to the exterior, second floor windows.

**Command (Chief 7):** Copy. You've got water flowing into the second story windows Truck 28 is throwing water onto the roof right now.... Truck 38's on the Bravo side spraying water on it from the Bravo side.

**T16:** Truck 16 on scene, staged.

**Command (Chief 7):** Truck 38 see if you can get up into that gable end with your water.

**15:49:09**

**E30B:** Engine 30, Engine 28, I need more water.

**Unknown:**(inaudible, broken with heavy static)

**Command (Chief 7):** Last transmission was unintelligible.

**Command (Chief 7):** Engine 25 from Command.

**E25A:** Engine 25.

**Command (Chief 7):** (broken throughout transmission) Come to the front of the house with the RIT pack.

**E25A:** We are at the front of the house with the RIT pack at your 3 o'clock.

**Command (Chief 7):** Charlie Division from Command.

**15:50:10**

*Radio Transmissions continue to degrade and are now affecting radios that have not been in the structure or involved in active firefighting operations.*

**Charlie Division (Chief 3):** Charlie Division by.

**Command (Chief 7):** Charlie Division from Command.

**Charlie Division (Chief 3):** (heavy static) Charlie Division standing by.

**Command (Chief 7):** Yeah, are you going to need any other companies over there? I'm going to use Engine 25's who's our RIT for a 360.

**Charlie Division (Chief 3):** Copy that Engine 25 is over on the... (inaudible) side or (transmission becomes static.)

**Command (Chief 7):** Do you need any other companies on the Charlie side?

**Charlie Division (Chief 3):** That's negative.... (broken).... We are trying to punch some holes in the second-floor ceiling with these hand lines.

**Command (Chief 7):** Alright, copy that.

**15:50:54**

**Charlie Division (Chief 3):** Command from Charlie Division.

**Command (Chief 7):** Truck 38 from Command, are you able to get water into the attic space?

**15:51:21**

**Dispatcher:** Command from Dispatch.

**Command (Chief 7):** Command by.

**Dispatcher:** Yeah, you've got a second alarm assignment there all except for a Chief. Do you need another District Chief there sir?

**Command (Chief 7):** Uh, yeah why don't you go ahead and send me another District Chief.

**Dispatcher:** Copy that sir, time is 1551.

**15:51:48**

**Charlie Division (Chief 3):** ... (inaudible, static) from Charlie Division.

**T28A:** More pressure for Truck 28.

**15:52:01**

**Charlie Division (Chief 3):** Command from Charlie Division.

**Command (Chief 7):** Go ahead Charlie Division.

**Charlie Division (Chief 3):** (transmission broken throughout) Yeah, we're going to have 23's bucket over here uh... Engine 23 is going to be able to supply them uh... as soon as they have them in play I want to pull these companies back away from the structure. I'm worried about it on the Bravo/Charlie corner.

*E23's crew had initiated the setup of Tower 23's aerial and had sent the A, C, and D members to operate the bucket. This was initiated by E23 A&B and cleared through Chief 3.*

**Command (Chief 7):** (heavy static) Alright, I copy uh... I copy let me know (inaudible/ broken) when back them up. I've got Truck 38 on the Bravo side, they're cutting an access hole... (inaudible) and getting their master stream flowing up there.

**Charlie Division (Chief 3):** Copy that, I'll let you know when Tower 23 is in position.

**Command (Chief 7):** That is Tower 23 or Engine 23.

**Charlie Division (Chief 3):** I'll have Engine 23 and Tower 23 back here on the Charlie Division.

**Command (Chief 7):** Alright, I copy. So, in Charlie Division I've got uh... Engine 36, Engine 23, and Tower 23 correct?

**Charlie Division (Chief 3):** Affirmative.

**Command (Chief 7):** Alright, copy that.

**15:52:32**

**Dispatcher:** Chief 2 you're up on that fire.

**Chief 2:** Alright, I'm responding.

**15:54:05**

**Command (Chief 7):** Truck 38 from Command.

**T38A:** Command, Truck 38.

**Command (Chief 7):** Charlie Division from Command.

**Charlie Division (Chief 3):** Charlie Division standing by.

**15:54:33**

**E28B:** Engine 30 Bravo from Engine 28 Bravo, is that enough pressure or do you need more?

**E30B:** Engine 28 give me another 30 pounds.

**E28B:** I'll give you (inaudible, transmission cuts out)

**15:55:02**

**T38A:** Truck 38 Charlie from Alpha.

**15:55:27**

**Dispatcher:** Chief 7, Fire Dispatch.

**Command (Chief 7):** Yeah, this is Command, go ahead Dispatch.

**Dispatcher:** Yeah, Command you are 45 minutes into your incident.

**Command (Chief 7):** Copy, 45 minutes.

**15:55:49**

**E30B:** Engine 30 Bravo to Engine 28 Bravo, you got any more water?

**E30B:** Engine 28, if you've got good water I could use a little more.

**15:56:06**

**Command (Chief 7):** Charlie Division from Command.

**Charlie Division (Chief 3):** Charlie Division standing by.

**Command (Chief 7):** Yeah Charlie Division, I'm going to send Tower 23 over to your side. I'm going to have them raise the aerial; give me an aerial report of what we've got going on in the house.

**TR22:** Command from Truck 22.

**Unknown:** Engineer Truck 38, raise 10 inches.

**Unknown:** 38 that's perfect.

**Command (Chief 7):** Truck 28 from Command, are you trying to reach me?

**TR22:** That's a negative, this is Truck 22, we're coming up on Grant Ranch and Sumac where do you want us?

**Command (Chief 7):** Yeah, come in on the east side of Sumac and stage.

**TR22:** Willco.

**15:57:20**

**Unknown:** We could us a handline on the Alpha/Delta corner roof.

**Command (Chief 7):** Charlie Division from Command.

**TR22:** Truck 22 staged on Sumac behind 37's.

**Command (Chief 7):** Tower 22 I copy.

**15:58:29**

**TR23A:** Command, Tower 23.

**Command (Chief 7):** Yeah, go ahead Tower 23.

**TR23A:** Okay, you're going to have to communicate with the Engine 23 officer and the Charlie Bravo members in the bucket. They already had it thrown, we're not flowing water yet, we're still observing.

**Command (Chief 7):** Repeat that message Tower 23.

**TR23A:** Engine 23 Alpha, he's in the bucket and it was already thrown prior to us getting here. We are not flowing water at this time.

**Command (Chief 7):** Alright I copy that. Do you have a water supply to your Tower?

**TR23A:** We do... we do have a water supply.

**Command (Chief 7):** Alright copy that I've got uh... I'm going to assign you to the Charlie Division. Uh... when Charlie Division gives you the okay, we'll back the handline crews out of the way and have you operate if Charlie Division thinks they need it.

**16:00:10**

**Command (Chief 7):** All companies on scene, Ops 2 is going to run a PAR on all companies on scene.

**16:00:22**

**Companies:** Engine 28 PAR, Engine 36 PAR... (companies run through PAR.).

**Command (Chief 7):** Dispatch from Sumac command, can you start Arson this way?

**Dispatcher:** Yes sir, they are enroute.

**16:00:55**

**TR23A:** Tower 23 bucket go slow when you're moving that bucket... go slow.

**16:01:15**

**Command (Chief 7):** Charlie Division from Command.

**Charlie Division (Chief 3):** Charlie Division standing by.

**Command (Chief 7):** Yeah, are we needing or to a point where we can have Tower 23 uh... flow water. Do you need them to flow water?

**Charlie Division (Chief 3):** Yeah, we can start that at any time.

**Command (Chief 7):** Alright copy that... uh... Tower 23, when you're ready, go ahead and start flowing water. Engine 37 you guys maybe want to watch out and back up a little bit.

**OPS2:** Tower 22, this is Safety.

**TR22:** Tower 22 is a PAR.

**OPS2:** (broken with static) Cap, I copy your PAR. I'm going to have you be my Rehab Group Officer. Bring your crew this way and start working with Airlight. Get a place out of the smoke we can start rehabbing members.

**TR22A:** Copy, Rehab Officer.

**TR23A:** Tower 23 bucket, let me know when you're in position. Open those gates and then I'll open up down here for you.

**E23A:** Okay, send the water, we're ready in the bucket.

**TR23A:** Okay, water's coming.

**16:03:05**

**OPS2:** All companies, this is Safety I'm going to conduct a PAR give me um... location of where you're at and how many members. Engine 36?

**16:03:34**

**OPS2:** All companies from Safety I'm conducting a par. Engine 30?

**TR23A:** Ryan open both gates, both gates on Tower 23's aerial.

**OPS2:** Engine 28, looking for a PAR.

**16:04:04**

**E36A:** Dispatch if you're looking for Engine 36 we have a PAR, Charlie side.

**Companies:** [All conduct PAR with OPS2]

*\*For complete audio of (Call #17-0113736) contact dispatch.*

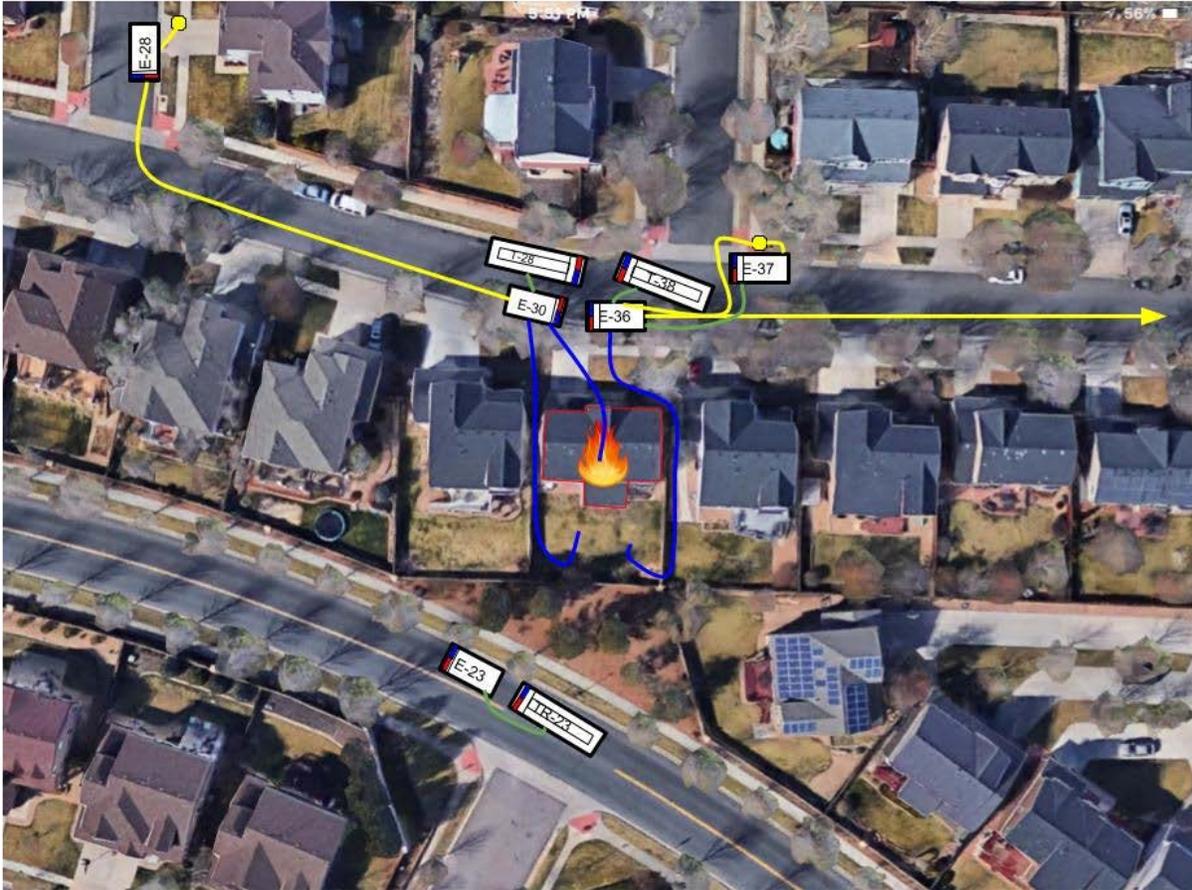


*Post incident Alpha/Delta corner. Photo taken 20OCT2017.*



*Post incident Bravo/Charlie corner. Photo taken 22OCT2017.*

## Rig Placement Map



*\*Due to scale of photo, amount of hose lines are not exact. In all there were six hand lines used during suppression operations. Defensive operations were conducted from TR23, T28, and T38.*

## **Recommendations**

### **Observation 1:**

Dispatch and on scene companies unable to effectively communicate using radios.

**Reference:** Dispatch tapes and on scene companies.

### **Analysis:**

Stations 28 and 30 frequently experience radio communication issues in their first in areas. This may be an issue that affects all outlying companies and warrants further investigation.

### **Recommendations:**

- 1) Contact line shop to identify all areas where crews have radio communication issues.
- 2) Attempt to identify cause and implement solution.
- 3) Ask line shop if new radios will have same issues. If so, attempt to resolve issues prior to new radio distribution.

### **Observation 2:**

Chief 7 iPad was out of service for approximately seven months.

### **Reference:**

Chief 7

### **Analysis:**

With the adoption of Tablet Command as a tracking and command platform, all district Chiefs are required to have a charged and fully functioning iPad. Chief 7 iPad had an issue that was covered under manufacturer warranty yet was out of service for almost seven months.

### **Recommendations:**

- 1) Technical services look into purchasing a backup iPad.
- 2) Explore option of 3rd party extended warranty including replacement in the event of breakage.
- 3) As part of daily Assistant Chief conference call, confirm every Assistant Chief has a fully functioning iPad.

**Observation 3:**

Deputy Chief and Ops2 announced to IC that a P.I.A. would be conducted on incident prior to loss stopped.

**Reference:**

On scene personnel

**Analysis:**

When in command of an incident, the IC needs to have full attention on the task at hand. This action had the potential to distract and/or derail the IC's entire command structure resulting in a less than positive outcome of the incident.

**Recommendations:**

- 1) Wait to notify IC that a P.I.A. will be conducted on the incident they are commanding until the incident is brought under control, or loss is stopped.
- 2) Keep all non-essential personnel away from incident, including command post.
- 3) If members of the Command Staff arrive on scene, check in with IC for accountability and assignment.

**Observation 4:**

Miscommunication at repair shop led to delay in repairs to T28

**Reference:**

Repair shop personnel

**Analysis:**

Repair shop contacted by T28 regarding turntable malfunction. Miscommunication at repair shop led to mechanic responding to T38 instead. The result was T28B had to operate turntable using the override controls.

**Recommendations:**

- 1) Consider implementation of system similar to T.S. heat ticket for repair shop. This will ensure accurate transmittal and receipt of pertinent repair information.
- 2) Continue to improve daily 56-point check online form to include requests for repairs that generate a separate electronic request straight to assistant master mechanic.

**Observation 5:**

Need to more clearly communicate assigned roles

**Reference:**

Interviews and radio transmissions

**Analysis:**

There was no true transfer of command. All members may be required to function outside regular assignments due to staffing or a developing emergency scene.

**Recommendations:**

- 1) A “train the replacement” program should be put in service for every riding position (Jr. Firefighter, Sr. Firefighter, Engineer, and Officer) so that all members are confident in any role they may be tasked with.
- 2) Transfer of Command should always be done face to face, when reasonably possible.

**Observation 6:**

The use of the first Humat valve was done with one supply line for the entire incident. The second Humat was not deployed.

**Reference:**

Interviews and Humat SOG

**Analysis:**

The first Humat was in place and a second supply line was never added. Due to water issues, multiple hand lines, and then the change to defensive operations, a second line would have benefitted operations. The use of E36’s Humat was abandoned due to troubles with the connection of the Humat and radio communications indicating an urgent need for water.

**Recommendations:**

- 1) Ongoing training with appliances needed for water operations including, but not limited to, Humats, defensive operations, and standpipe connections.
- 2) When using the Humat, always consider laying two lines and relaying that information to incoming companies.

**Observation 7:**

RIT assignment and operation

**Reference:**

DFD Standard Operating Guideline 2110.01

PIA's 15-1, 16-1 and 16-2

**Analysis:**

A RIT team should be on scene within 8 minutes of a 911 call. The initial RIT was Tower 23. Tower 23 was given other tasks upon arrival; leaving the RIT assignment vacant. Engine 25 filled the RIT position 23 minutes after the initial dispatch.

**Recommendations:**

- 1) The incident commander/safety officer should be required to establish a clear, on scene RIT within 8 minutes of the initial 911 call. Reassignment of RIT companies should be discouraged.
- 2) Training emphasizing the importance of RIT, proper staging of RIT companies and proper tools and equipment to be used by RIT teams.
- 3) Provide all chiefs with working iPad containing Tablet Command to help ensure tracking of their RIT companies.

**Observation 8:**

Building terminology

**Reference:**

Radio communications

**Analysis:**

This was a two-story house with a walk out basement. There was some confusion at times establishing a consistent designation of floors. On the Alpha side of the house, the main level was considered the first floor. At times, on the Charlie side of the house, the main floor was considered the basement floor.

**Recommendations:**

- 1) Create a SOG to standardize terminology regarding the definition of different types of buildings.
- 2) The SOG should also include standard terminology to be used when describing the different levels and/or areas of the building.

**Observation 9:**

The need for more training regarding the practice of repeating pertinent face to face communications over the air.

**Reference:**

FD707's and radio communications

**Analysis:**

Radio communications were a challenge. Messages that went out over the air were hard to understand and sometimes messages were not heard. This required strategies and tactics to be delivered face to face.

**Recommendations:**

- 1) Training for incident commanders in the practice of repeating face to face communications over the air. The goal would be to prevent duplication of tasks, keep a clear picture of where companies are operating and allow the scene to run as efficiently as possible.

