



In-Station Training

TM 23-38a Basement Fire



Author

Chief Ed Hartin

Purpose

Basement fires are one of the most challenging and dangerous types of structure fires. This type of fire may be difficult to recognize, making 360-degree reconnaissance essential. Basements may be difficult to access, often have heavy fuel loading, and limited options for ventilation. Below grade fires also expose structural floor support systems to thermal insult, with the potential for rapid failure, a significant collapse risk to companies operating above the fire.

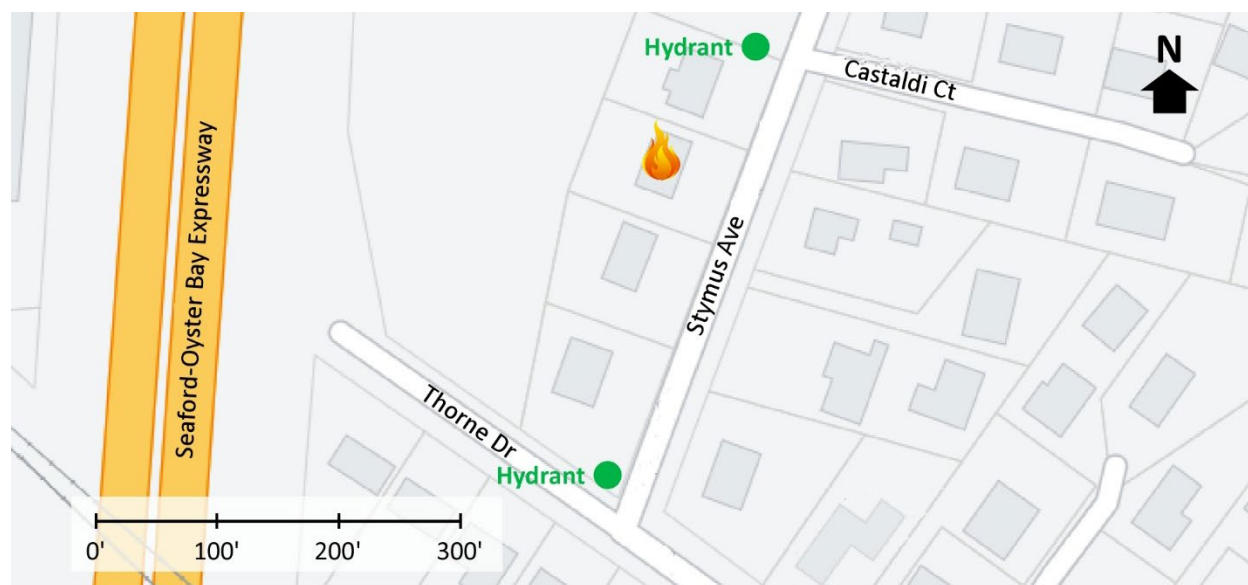
Learning Outcomes

Command officers perform effective ongoing size-up; select an appropriate strategy, and implement tactics based on the strategic decision-making model.

Conducting the Drill

This incident involved a fire in a vacant house at 11 Stymus Avenue in Bethpage, NY on June 28, 2023, at 21:08 (50 Response Videos, 2023). Review the map and photos (Figures 1-6) to gain an understanding of the area and building involved.

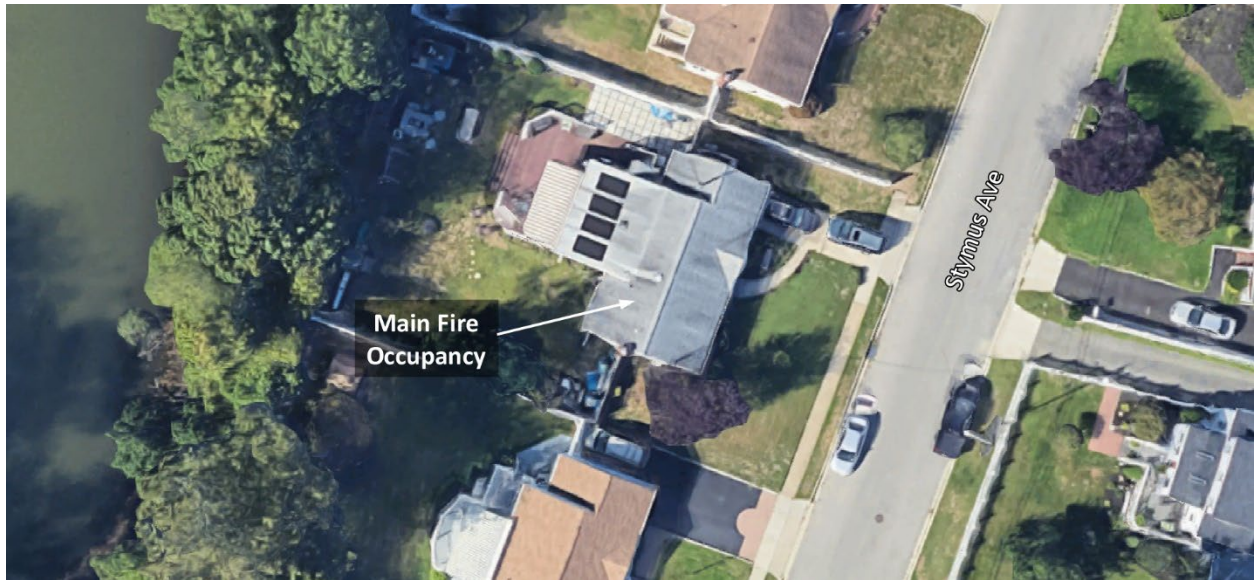
Figure 1. Map of the Incident Area



Note: Adapted from Google. (2023a). [Map, 11 Stymus Avenue, Bethpage, NY]. <https://bit.ly/3ErwBbD>.

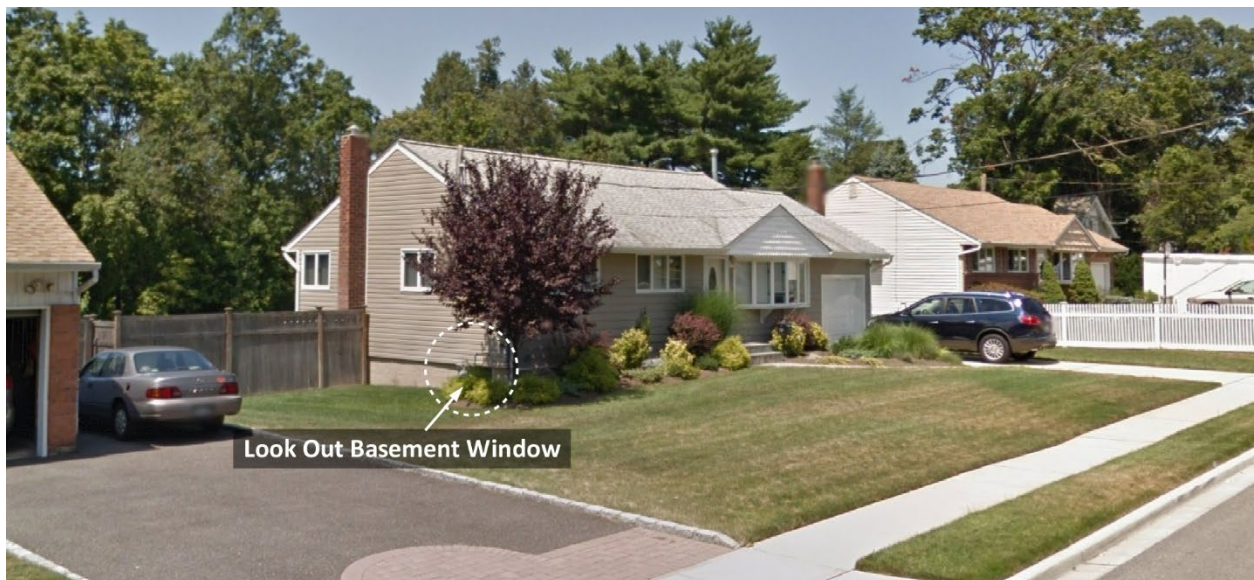
There is a hydrant just to the north northeast of the incident location at Stymus Avenue and Castaldi Court and a second hydrant to the south southeast at Stymus Avenue and Thorne Drive as illustrated in Figure 1.

Figure 2. Aerial View



Note: Adapted from Google. (2023b). [Aerial view 11 Stymus Avenue, Bethpage, NY].
<https://bit.ly/45GkpzL>.

Figure 3. Alpha/Bravo Corner



Note: Adapted from Google. (2018a). [Street view 11 Stymus Avenue, Bethpage, NY].
<https://bit.ly/3sFDWBQ>.

Another lookout basement window is located behind the fence on Side Bravo.

Figure 4. Side Alpha



Note: Adapted from Google. (2018b). [Street view 11 Stymus Avenue, Bethpage, NY].
<https://bit.ly/3EMfWQt>.

Figure 5. Alpha/Delta Corner



Note: Adapted from Google. (2023c). [Street view 11 Stymus Avenue, Bethpage, NY].
<https://bit.ly/45DZzkj>.

Figure 6. Bravo/Charlie Corner



Note: Adapted from Google. (2023d). [3d aerial view 11 Stymus Avenue, Bethpage, NY].

<https://bit.ly/3EgoOLc>.

You have been dispatched to 11 Stymus Avenue for a residential fire at 21:08. You are responding to this incident as the first arriving command officer. Temperature is 73° F with wind from the southeast at 7 mph (Weather Underground, 2023). While responding you hear four engines, an advanced life support (ALS) ambulance, and a second command officer go enroute. The engines have staffing typical of your agency.

While enroute, dispatch provides an update that building occupants have evacuated and are reporting a fire in the basement. The first engine will arrive from the south southeast on Stymus Avenue. The second engine and ALS ambulance approximately six minutes after the first. The third engine will arrive ten minutes after the first arriving engine. Make a note of your resource and staffing assumptions prior to continuing with this 10-Minute Training. **You will arrive from the east after the third company.** Any additional resources on the first alarm (based on your response plan) will arrive later in the incident.

1. What critical factors would you consider when dispatched and during response?

As you were responding Engine 1 provided the following initial radio report:

On-scene of a small one story, house with nothing showing, investigating in the offensive strategy, initiating Stymus Command, continue the assignment.

Engine 1 provides the following update report:

360 complete, lookout basement on Side Bravo, occupants report a fire in the basement, light smoke on Floor 1, Engine 1 is stretching an attack line on Side Alpha for fire control.

Engine 2 and Medic 2 arrive and advises Stymus Command they are Level 1. Stymus Command provides the following orders to Engine 2 and Medic 2.

Medic 2, park out of the way, integrate with Engine 2.

Engine 2, Forward lay to Engine 1 from the hydrant at Thorne Drive and Stymus Avenue, stretch an second attack line off Engine 1, go on-deck Side Alpha, we are through Side Alpha for fire control and primary search in the basement.

Engine 3 arrives and advises Stymus Command they are Level 1. Stymus Command provides the following orders to Engine 3 and Engine 2

Engine 3, park out of the way, stretch an attack line off Engine 1, go on deck Side Alpha.

Engine 2, stretch through Side Alpha for primary search and check for extension on Floor 1.

Watch the [incident video](#) (50 Response Videos, 2023) from 02:30 to 03:15 and examine Figure 7 illustrating conditions on your arrival.

Figure 7. Conditions on Arrival of Chief 1



Note: Adapted from 50 Response Videos. (2023). Basement fire-Bethpage, NY. <https://bit.ly/3r0OF9E>

2. What actions will you take prior to contacting IC #1 (Engine 1) to begin command transfer?
3. State your command transfer communication after IC #1 acknowledges your radio contact (exactly as you would transmit it).

Watch the [incident video](#) (50 Response Videos, 2023) from 03:15 to 04:05 illustrating changing conditions as you complete the command transfer. Following your confirmation of the location and assignment of Engines 1, 2, and 3 and request for a conditions, actions, and needs (CAN) report, IC #1 provides the following CAN:

That is correct. We have located the basement stairs, applying water with limited effect, having difficulty gaining access to the basement due to high heat in the stairwell, need a company to get water on the fire from the exterior.

4. State the communication you would have with IC #1 and dispatch to complete the command transfer (exactly as you would transmit it).
5. What action would you take based on the CAN from Engine 1 (IC #1). State the communications you would have with the operating companies exactly as you would transmit them.

Watch the incident video from 04:05 to 06:00. You receive the following radio transmission from Engine 1.

We have accessed the basement, but are having difficulty locating the fire, air status 50%, need to recycle and a company to replace us in the basement.

6. What action will you take based on Engine 1's CAN. State the tactical orders to the companies exactly as you would transmit them.

7. Chief 2 arrives and advises that they are Level 1. State the assignment you will give Chief 2 exactly as you would transmit it.

Watch the incident video (50 Response Videos, 2023) from 06:40 to the end before answering the next three questions.

8. With a report of a fire in the basement, but having nothing showing from the basement level, Engine 1 elected to stretch a line through Side Alpha and down the interior basement stairs for fire control. Given the incident conditions provided, was this a reasonable course of action? Why or why not?
9. As IC #2 what information would you have liked to have that this 10-Minute Training did not provide? Why would this specific information have been relevant to your decision-making as IC #2 How would you have gone about gaining that information during incident operations?

Figure 8. Bravo/Charlie Corner Post Knockdown



Note: Adapted from 50 Response Videos. (2023). Basement fire-Bethpage, NY. <https://bit.ly/3r0OF9E>

10. Given the location of the lookout basement windows on Side Bravo (Figures 3 and 8), what would have been the limitations on exterior water application for fire control? If this approach had been ineffective, what other fire control tactical options could the companies involved in this incident have used?

Additional Learning: Watch *Tactical Consideration: Basement Fires - Don't Get Caught in the Flow Path Exhaust* (UL FSRI, 2019). Have a kitchen table discussion with your crews about the following types of basement/crawl space design and their impact on firefighting operations:

- Walk-Out Basement
- Walk Up Basement
- Lookout Basement
- Window Well Basement
- Windowless Basement
- Crawl Space

Discuss the impact of finished versus unfinished basements on potential time to collapse and how companies might identify if a basement is finished or unfinished (before or after entry) and how that information should be communicated to command.

References

- 50 Response Videos. (2023). Basement fire-Bethpage, NY. Retrieved September 10, 2023, from <https://bit.ly/3r0OF9E>.
- Google. (2018a). [Street view 11 Stymus Avenue, Bethpage, NY]. Retrieved September 10, 2023, from <https://bit.ly/3sFDWBQ>.
- Google. (2018b). [Street view 11 Stymus Avenue, Bethpage, NY]. Retrieved September 10, 2023, from <https://bit.ly/3EMfWQt>.
- Google. (2023a). [Map, 11 Stymus Avenue, Bethpage, NY]. Retrieved September 10, 2023, from <https://bit.ly/3ErwBbD>.
- Google. (2023b). [Aerial view 11 Stymus Avenue, Bethpage, NY]. Retrieved September 10, 2023, from <https://bit.ly/45GkpzL>.
- Google. (2023c). [Street view 11 Stymus Avenue, Bethpage, NY]. Retrieved September 10, 2023, from <https://bit.ly/45DZzkj>.

Google. (2023d). [3d aerial view 11 Stymus Avenue, Bethpage, NY]. Retrieved September 10, 2023, from <https://bit.ly/3EgoOLc>.

Underwriters Laboratories Fire Safety Research Institute (UL FSRI) (2019). *Tactical consideration: basement fires - don't get caught in the flow path exhaust*. Retrieved September 10, 2023, from <https://bit.ly/3Pge2fo>,

Weather Underground (2023). *New York City, NY weather history* [historical weather August 27, 2023]. Retrieved September 10, 2023, from <https://bit.ly/45Wbwls>.