



In-Station Training

TM 23-52 Apartment Fire



Author

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Purpose

Knowledge of building construction and fire behavior are central to effective strategic and tactical decision-making. With wood frame buildings, the age of the structure provides a valuable clue to the type of wood frame construction that may be encountered. Understanding paths of fire travel, resistance of building materials to the effects of fire, and how building construction and fire behavior intersect provides a solid foundation for decision-making and tactical action.

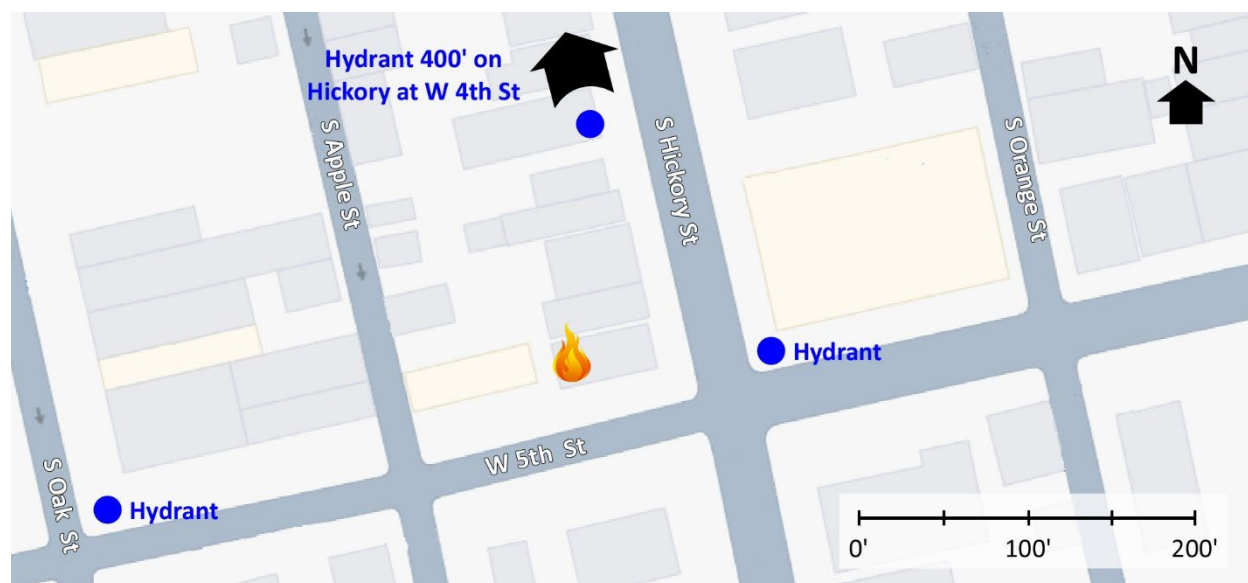
Learning Outcomes

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

Conducting the Drill

This incident involved a apartment fire at 150 South Hickory Street, Mount Carmel, Pennsylvania on November 10, 2023, at 11:55 (mcfdtv, 2023). Review the map and photos (Figures 1-7) to gain an understanding of the area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2023a). [Map, 150 South Hickory Street, Mount Carmel, PA].

<https://bit.ly/46nMtrn>.

Figure 2. Aerial View



Note: Adapted from Google. (2023b). [Aerial view, 150 South Hickory Street, Mount Carmel, PA]. <https://bit.ly/49ME6bF>.

The closest hydrant is on the corner of West 5th Street and South Hickory Street. Additional hydrants are located on West 5th Street and South Hickory Street as illustrated in Figures 1 and 2.

Figure 3. Alpha/Delta Corner



Note: Adapted from Google. (2016a). [Street view, 150 South Hickory Street, Mount Carmel, PA]. <https://bit.ly/3RcH6a0>.

Figure 4. Side Alpha



Note: Adapted from Google. (2016b). [Street view, 150 South Hickory Street, Mount Carmel, PA].
<https://bit.ly/3RbX7gp>.

Figure 5. Alpha/Bravo Corner



Note: Adapted from Google. (2016c). [Street view, 150 South Hickory Street, Mount Carmel, PA].
<https://bit.ly/3R8GSK9>.

Figure 6. Side Charlie & Rear of Exposure Charlie 1 from South Apple Street



Note: Adapted from Google. (2016d). [Street view, 150 South Hickory Street, Mount Carmel, PA]. <https://bit.ly/3Gk2TGI>.

Figure 7. Side Delta from West 5th Street.



Note: Adapted from Google. (2016e). [Street view, 150 South Hickory Street, Mount Carmel, PA]. <https://bit.ly/40RM27k>.

The temperature is currently 48° F with no appreciable wind from the north (Weather Underground, 2023). You have been dispatched to West 5th Street and South Hickory Street for a report of an apartment fire at 11:55. You are the company officer or AIC of the first arriving engine and have your company's typical staffing.

1. What critical factors would you consider when dispatched and during response and what conversations would you have with your crew while responding?

While responding, you hear a command officer and another engine with typical staffing for your agency go enroute. You will arrive from the east on West 5th Street. The second engine will arrive from the west on West 5th Street six minutes after you, followed by the command officer. All other units dispatched on the first alarm will arrive after the command officer.

You arrive and determine that the fire is located at 150 South Hickory Street with the involved unit accessed from West 5th Street. Watch the [incident video](#) (mcfdtv, 2023) from 00:50 to 01:20 and examine Figure 7 illustrating conditions on arrival.

Figure 8. Conditions on Arrival from West 5th Street.



Note: Adapted from mcfdtv. (2023). 20231108 2nd alarm 150 South Hickory Street Mount Carmel, Pa [video]. <https://bit.ly/47EBWJu>.

2. State your initial radio report (IRR) exactly as you would transmit it to dispatch.

3. What specific actions would you take (as the company officer) immediately upon arrival and exiting the apparatus and what task orders you would give your crew?

Law enforcement reports that all occupants have evacuated and smoke is visible from Floor 2 Side Charlie Watch the [incident video](#) (mcfdtv, 2023) from 02:50 to 04:00 and examine Figure 9 illustrating changes in conditions during your reconnaissance. Circumstances in the incident video are different than in this 10-Minute Training as an aerial ladder (without a pump, water, and attack lines) arrived first.

Figure 9. Changing Conditions



Note: Adapted from mcfdtv. (2023). 20231108 2nd alarm 150 South Hickory Street Mount Carmel, Pa [video]. <https://bit.ly/47EBWJu>.

4. Would you change the action you are taking or modify the assignments given to your crew? If so, what task orders would you provide?
5. State your update report exactly as you would transmit it to dispatch.
6. Engine 2 arrives and reports that they are Level 1 on West 5th Street at South Oak Street. State the tactical assignment you would give them exactly as you would transmit it.

7. Based on the anticipated effectiveness of your tactical operations, state your conditions, actions, and needs (CAN) report that you would provide to the first arriving command officer as part of command transfer to IC #2?
8. What building construction critical factors did you consider as part of your size-up? How would building construction influence fire control, checking for extension, and overhaul?

Watch the [incident video](#) (mcfdtv, 2023) from 04:00 to 08:45 and examine Figure 10 (pre-fire photo) before answering the next several questions.

Figure 10. Side Alpha Roofline of Main Fire Occupancy and Delta 1 Exposure



Note: Adapted from Google. (2016f). [Street view, 150 South Hickory Street, Mount Carmel, PA]. <https://bit.ly/3Ggz9KG>.

9. Do you believe that fire extended from the main fire occupancy into the Delta 1 Exposure? What routes of travel may the fire have taken? What building, smoke, air track, heat, and flame (B-SAHF) indicators support your perspective?

10. If your company was assigned to check for extension into the Delta 1 Exposure, where would you begin and how would you approach this task?

11. Was the initial attack line placed into operation effective at knocking down the fire on Floor 2? What factors influenced or may have influenced the effectiveness of this water application? What leads you to these conclusions?

12. How could the effectiveness of the initial attack line have been improved?

13. The elevated master stream was placed into operation and flowed water onto Floor 2 for approximately 25 seconds. Was this stream effective at knocking down the fire on Floor 2? What factors influenced or may have influenced the effectiveness of this water application? What leads you to these conclusions?

Additional Learning: Both the main fire occupancy and the attached Delta 1 Exposure in this incident had balloon framing and the Delta 1 Exposure had a mansard roof. [Watch Balloon Frame vs. Platform Frame Construction](#) (Fire Engineering, 2020) and the [mansard roof section](#) of *Roof Types & How They Are Constructed - Carpentry 101* (Bruni Architects, 2021)

Watch the [incident video](#) (mcfdtv, 2023) from 35:00 to 36:00 and how balloon framing and mansard roofs can present a challenge during firefighting operations.

References

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