Title of Investigation:	Investigation Number:	Report Number:
743 Main St. Fire (Firefighter Fatality)	765070-23-0021	124

ORIGIN AND CAUSE REPORT

SUMMARY OF EVENT:

On March 1, 2023, the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), National Response Team (NRT) was activated to assist in determining the origin and cause of a fire that occurred at 743/745/747 Main Street, Buffalo, New York 14203. The structure was a three-story commercial building with a single-story warehouse attached on the east side. During suppression efforts, Firefighter Jason Arno became trapped inside the structure and sustained injuries which resulted in his death. The fire was classified as ACCIDENTAL.

NARRATIVE:

1. On March 1, 2023, at approximately 9:56 am, a fire was reported at the above-listed address. The Buffalo Fire Department responded to the scene and began suppression efforts. Investigators from the Buffalo Fire Department, Buffalo Police Department, the New York State Fire Marshal's Office and ATF responded to the scene. Due to the line of duty death and the significant damage to the structure, the ATF National Response Team (NRT) was requested and activated on March 1, 2023. Members of the NRT traveled to Buffalo, NY on March 2, and the initial briefing was held later that evening. On March 3, 2023, the NRT and other investigative partners began the joint scene examination.

Prepared by:	Title:	Signature:	Date:
(b)(6)/(b)(7)(C)	Special Agent, NCETR		
Authorized by: (b)(6)/(b)(7)(C)	Title: National Response Team Supervisor, NCETR	Signature:	Date:
Second level reviewer (optional): John B. DeVito	Title: Special Agent in Charge, New York Field Division	Signature:	Date:

Figure 1 – West side of 743/745/747 Main Street, Buffalo, New York.

INVESTIGATIVE PARTICIPANTS:

2. The following personnel were present at the time of the fire scene examination, conducted interviews, and/or conducted other investigative activities related to the origin and cause determination:

National Response Team

SSACFI (b)(6)/(b)(7)(C)	Team Supervisor
SSACFI (b)(6)/(b)(7)(C)	Scene
SACFI (b)(6)/(b)(7)(C)	Scene – Lead CFI
SA (b)(6)/(b)(7)(C)	Leads Coordinator
SA (b)(6)/(b)(7)(C)	Scene – Safety Officer
SACES (b)(6)/(b)(7)(C)	Scene – 3D Vista
SACFI (b)(6)/(b)(7)(C)	Scene
SACFI (b)(6)/(b)(7)(C)	Scene – Mapping/UAS
SACFI (b)(6)/(b)(7)(C)	Scene – Mapping
SACFIC (b)(6)/(b)(7)(C)	Scene
LETS (b)(6)/(b)(7)(C)	Scene – Heavy Equipment Coordinator
SA (b)(6)/(b)(7)(C)	Leads
SA (b)(6)/(b)(7)(C)	Leads
IRS (b)(6)/(b)(7)(C)	Leads
SACFI (b)(6)/(b)(7)(C)	Scene – Evidence Custodian
SACFI (b)(6)/(b)(7)(C)	Scene – Photographer

SA (b)(6)/(b)(7)(C)	Leads
EE (b)(6)/(b)(7)(C)	Scene – Electrical Engineer
FPE (b)(6)/(b)(7)(C)	Scene – Fire Protection Engineer
Det (b)(6)/(b)(7)(C)	Scene w/ ATF ADC "Clipper"
SA (b)(6)/(b)(7)(C)	Scene – Medic
SA (b)(6)/(b)(7)(C)	Scene – Medic

New York Field Division

ASAC Bryan DiGirolamo	Leads – Team SAC
SA (b)(6)/(b)(7)(C)	Leads – RAC (acting)
SA (b)(6)/(b)(7)(C)	Leads
SA (b)(6)/(b)(7)(C)	Leads
SA (b)(6)/(b)(7)(C)	Leads
SA (b)(6)/(b)(7)(C)	Leads

Buffalo Fire Department

Dep. Commissioner Ramone Suarez	Leads
LT (b)(6)/(b)(7)(C)	Scene
FM	Scene
FM	Scene
FF	Scene
FM	Scene
FM	Scene
FM	Scene
FM/CFI (b)(6)/(b)(7)(C)	Scene
Captain (b)(6)/(b)(7)(C)	Scene
FF (b)(6)/(b)(7)(C)	Scene
FF	Scene
FF	Scene
FF	Scene

Buffalo Police Department

Chief of Detectives Craig Macy	Leads
Sergeant (b)(6)/(b)(7)(C)	Leads
Detective (b)(6)/(b)(7)(C)	Leads
Detective	Leads
Detective	Leads
Detective	Leads
Detective	Leads
Detective	Leads
Detective	Leads

New York State Fire

Investigator (b)(6)/(b)(7)(C)	Scene

Investigator	(b)(6)/(b)(7)(C)	Scene
Investigator		Scene
Investigator		Scene
Specialist	(b)(6)/(b)(7)(C)	Scene

New York City Fire Department

Division Chief	(b)(6)/(b)(7)(C)	Scene
Captain	(b)(6)/(b)(7)(C)	Scene

Department of Permit and Inspection Services

(b)(6)/(b)(7)(C)	Scene

Empire Dismantling (Heavy Equipment)

(b)(6)/(b)(7)(C)	Scene

SCOPE OF WORK:

3. This report relates to an origin and cause determination for the fire that damaged a commercial structure located at 743/745/747 Main Street, Buffalo, New York, which is further described within the body of this origin and cause report. This investigative team utilized the systematic approach of the scientific method throughout the fire investigation, as recommended by the 2021 edition of NFPA 921 Guide for Fire & Explosion Investigations, Kirk's Fire Investigation, eighth edition, and other fire investigation texts. NFPA 921, Section 3.3.167, defines the scientific method as "[t]he systematic pursuit of knowledge involving the recognition and definition of a problem; the collection of data through observation and experimentation; analysis of the data; the formulation, evaluation and testing of a hypothesis; and, where possible, the selection of a final hypothesis."

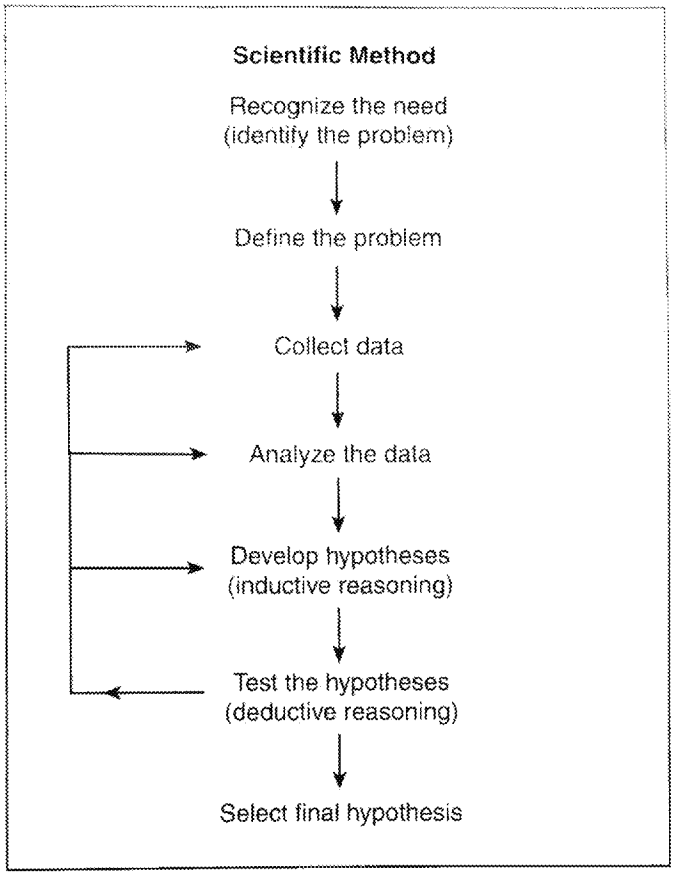

Figure 2 – Scientific Method as shown in NFPA 921, 2021 Version, Figure 4.3.

LEGAL PRESENCE and SCENE SECURITY:

4. On March 1, 2023, the initial scene examination was conducted under exigent circumstances. On March 2, 2023, Buffalo Police Homicide Detective Sergeant (b)(6)/(b)(7)(C) obtained a search warrant for 743 Main Street (see attached). Investigators examined records that showed 743 was the address for the structure where the fire occurred, including records from the assessor's office.

5. Later, investigators learned that DC Theatricks utilized the address 747 Main Street. Upon learning this information, the investigative team stopped searching the scene and another warrant was obtained to include 745 (vacant bike shop) and 747 Main Street (see attached).

6. The Buffalo Police Department provided scene security 24 hours a day from the time of the incident until the scene was released on March 13, 2023. Uniformed officers in marked police vehicle were positioned around the property and kept bystanders from entering the scene. Chain link fencing was also installed in areas around the building to prevent unauthorized access.

SCENE DESCRIPTON / BUILDING CONSTRUCTION:

Section authored by ATF SA/CFI (b)(6)/(b)(7)(C)

7. Building construction was determined through the post-fire examination of the surviving portions of the structure, pre-fire photographs, witness statements, electronic data, Erie County Assessor's information, and satellite imagery. All measurements listed in this report are approximations.

8. The Erie County Assessor's website (www.erie.gov/ecrpts) identified the property address as 743 Main Street. However, as indicated by medallions embedded in the sidewalk on the Main Street side, the structure also encompassed the addresses of 745 and 747 Main Street. For the remainder of this report, the overall structure will be referred to as 743/745/747 Main Street.

9. 743/745/747 Main Street was a three-story, mixed-use structure with an attached single-story warehouse. The structure was oriented at an angle to magnetic north. However, for the purposes of this report, the Main Street side of the structure will be referred to as the west side of the structure. A concrete sidewalk with masonry planter boxes and trees separated the west side of the structure from Main Street. Asphalt paved parking areas lined the north side of the structure. Metal security fencing encircled the parking areas and was attached to the northeast and northwest corners of the structure. The parking areas were accessed via a gate located at the north end of the Main Street portion of fencing. A concrete sidewalk separated the east side of the structure from Washington Street. The south side of the structure was lined by, and attached to, 739 Main Street. See Figure 3 and Figure 4.

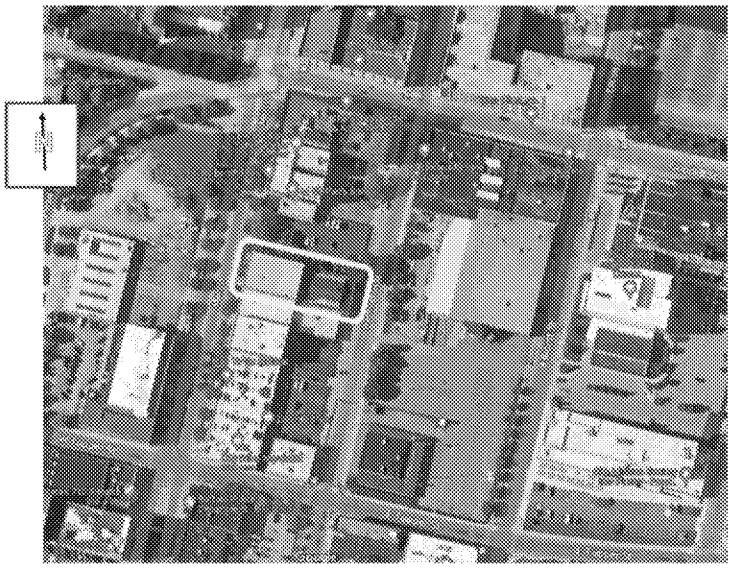

Figure 3 - Screen capture from www.google.com.
743 Main Street encircled in yellow.

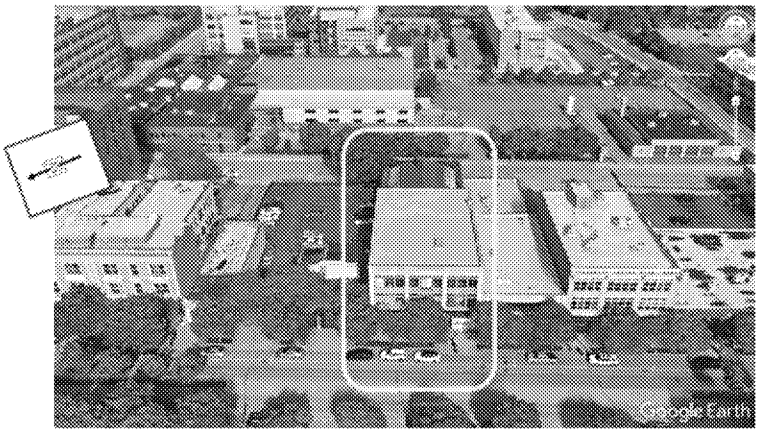

Figure 4 - Screen capture from Google Earth.
743 Main Street encircled in yellow.

Foundation

10. A basement with masonry walls supported the footprint of the three-story portion of 743/745/747 Main Street and the westernmost 10' of the attached single-story warehouse. The basement walls were constructed of a combination of bricks and concrete masonry units (CMU). A concrete slab served as the foundation for the remainder of the single-story warehouse. The grade was generally level on all sides of the structure. Entry into 743/745/747 Main Street was at grade level on the west and north sides of the structure. Entry was above grade level on the east side of the structure via a concrete staircase and concrete loading dock. There was no interior access from the exterior south side of the structure.

Exterior

11. Dimensionally, the structure spanned approximately 200' in length (east to west), 66' in width (north to south), and was comprised of two different construction methods. The western half of the structure was three stories in height and was comprised of masonry, wood, and metal construction with a flat roof. The eastern half of the structure was one-story in height and was comprised of masonry construction with a partial bowstring-style roof supported by metal framing. The structure's exterior masonry constructed walls varied from 12 to 24 inches in thickness.

12. The exterior west wall of the structure contained four doors, three merchandise display areas, and had windows on all three floors. The four ingress/egress doors were inset approximately 6' east from the west exterior wall and arranged in pairs. The northern pair of doors allowed access into the northern portion of the first floor, occupied by DC Theatricks. Per witness information, the northern door in the pair was used as the main entrance for DC Theatricks as the southern door was blocked by merchandise. The northern most door associated with the southern pair opened to the interior staircase that allowed access to the second and third floors of the structure. The southern door was used as the main entrance for the vacant bike shop in the southern portion of the first floor that had been formerly occupied by Rick Cycle.

13. Shaped brick surrounded the metal I-beam posts in front of each pair of doors. The exterior masonry walls on the second and third floors were covered with stucco-like material and decorative metal plates. See Figure 5.

Figure 5 - Screen capture from www.googlemaps.com.
West side of 743/745/747 Main Street, facing east.
Front door to DC Theatricks highlighted.

14. The exterior north wall of the three-story portion of the structure contained one door and 13 windows. Based on witness statements and pre-fire photographs, at the time of the fire, the metal ingress/egress door had been removed and replaced with a sheet of particle board. (b)(6)/(b)(7)(C) reported that the sheet of plywood measured 85 ½" in height, 46" in width, and was ½" thick (ROI 99). A gap of unknown size was located along the bottom of the particle board. A piece of plastic sheeting covered the plywood and adjacent brick. Five of the windows were on the first floor, five were on the second floor, and three were on the third floor. The glass for the easternmost first floor window had been previously replaced with a piece of plywood. The polyvinylchloride (PVC) intake and exhaust piping for the basement natural gas-fueled furnace extended outward through the plywood. Plywood covered the upper portions of the windows on the third floor. The exterior north wall of the single-story portion of the structure contained three arched windows that were covered with plywood. See Figure 6 and Figure 7.

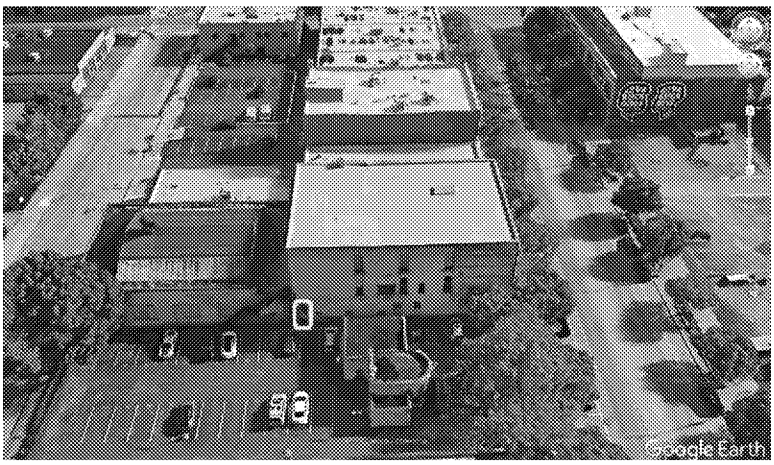

Figure 6 - Screen capture from Google Earth facing south.
North exterior metal door encircled in yellow.

Figure 7 - Side by side pre-fire images of the north exterior metal door in place, the metal door removed, and the plywood and plastic sheeting.

15. The exterior east wall of the single-story portion of the structure contained an ingress/egress door, an overhead rollup-style door, and two arched windows. The metal ingress/egress door was four steps above grade level and was accessed via concrete steps lined with metal handrails. The rollup door was accessed via an elevated concrete loading dock. Based on pre-fire photographs, the arched windows were covered with plywood.

16. The exterior east wall of the three-story portion of the structure contained a fire escape, three doors, three sections of windows, and three sections of CMU. The metal fire escape was located on the northeast exterior corner of the structure. The fire escape extended upward from the roof of the single-story warehouse to a metal balcony on the third floor. The portion of the fire escape that lowered to the ground appeared to have been previously removed from the structure. Based on pre-fire photographs, two ingress/egress doors allowed access from the interior of the second floor to the roof of the warehouse. The third ingress/egress door allowed access from the interior of the third floor to the metal balcony. The three sections of windows were all located on the second floor. The northern and southern section of windows surrounded the second-floor ingress/egress doors. The three sections of CMU were all located on the third floor. The northern section of CMU surrounded the third-floor ingress/egress door.

17. The exterior south wall of the three-story portion of the structure contained seven windows on the third floor. Based on pre-fire imagery, some of the windows were partially covered. The remainder of the south side of the three-story portion and single-story portion of the structure were lined by, and attached to, 739 Main Street.

Roof

18. The overall roof for 743/745/747 Main Street was comprised of two different construction methods. The center of the single-story warehouse's roof was of bowstring construction supported by north to south oriented metal trusses. The metal trusses were supported by the north and south exterior walls. The remainder of the roof sloped downward away from the base of the bowstring and were supported by wood roof joists. The wood roof joists were supported by the bottom of the metal roof trusses and the east and west exterior walls. Various

combinations of plywood and wood strips sat atop the metal trusses and wood roof joists. The outermost roof covering for the warehouse was comprised of a combination of rolled asphalt, composite shingles, and membrane roofing. Ventilation piping penetrated the roof.

19. The north, east, and south exterior masonry walls of the three-story portion of the structure extended upward above the flat roof. An east to west oriented, metal framed parapet wall, covered with stucco-like material, connected to the north and south exterior walls. The three-story portion's flat roof was supported by north to south oriented wood roof joists. The ends of the wood roof joists were inserted into, and supported by, the exterior north and south walls. Two rows of east to west oriented joists, constructed of metal I-beams, further supported the wood roof joists. The metal I-beam joists were each supported by seven metal I-beam posts. East to west oriented tongue and groove wood strips, covered with rigid insulation panels, sat atop the wood roof joists. Membrane roofing formed the outermost roof covering. Rain scuppers, a chimney, and ventilation pipes penetrated the roof. A roof access hatch that spanned 10' in length (east to west) and 5' in width (north to south) was in the southwest portion of the flat roof. The roof hatch was positioned approximately 22' east of the west exterior wall and 22' north from the south exterior wall. See Figure 8.

Figure 8 - Screen capture from Google Earth.
743/745/747 Main Street encircled in yellow.

Interior

20. The interior of 743/745/747 Main Street was subdivided into four functional areas: DC Theatricks, vacant bike shop, second and third story apartments, and the single-story warehouse. DC Theatricks occupied the northern two-thirds of the basement and first floor of the three-story portion of the structure. Rick Cycle previously occupied the southern third of the basement and first floor of the three-story portion of the structure. DC Theatricks was separated from the vacant bike shop by a masonry constructed wall further described below. The second and third floors were previously used as apartments.

21. For the three-story portion of the structure, north to south oriented wood floor joists supported the first, second, and third floors. The wood floor joists were inserted into, and supported by, the north and south exterior masonry constructed walls. As with the roof construction, two rows of east to west oriented metal I-beam joists further supported the wood floor joists. Unlike the roof construction, each row had two metal I-beam joists that were stacked on top of each other. The inner ends of the wood floor joists were notched and inserted into the

web of the upper I-beam instead of extending over the I-beam joists. The vertically stacked metal I-beam floor joists were supported by seven metal I-beam posts. For the first floor, the northern row of metal I-beam joists and posts were sheathed with a combination of metal mesh, lathe, and plaster. The southern row of metal I-beam joists and posts were filled with masonry blocks, sheathed with plaster, and served as the dividing wall between DC Theatricks and the vacant bike shop.

22. Strips of diagonally oriented, tongue and groove flooring sat atop the wood floor joists. A second layer of east to west oriented tongue and groove flooring covered the diagonal strips and created the uppermost flooring material on each level.

DC Theatricks

23. The first floor of DC Theatricks was one open continuous space that spanned approximately 40' in width (north to south), 100' in length (east to west), and had a 13.7' ceiling height. The north and south walls were sheathed with plaster. The east wall was comprised of CMU and was not sheathed. The northernmost 9' of the CMU wall jogged east and contained a metal door that allowed access to the warehouse. Metal ceiling tiles were attached to wood strips that were affixed to the underside of the wooden joists.

24. The basement of DC Theatricks was accessed via two staircases. The larger of the two was open, of metal construction, and surrounded by metal railings. The smaller of the two staircases was enclosed with wood-framed walls that were sheathed with lathe and plaster. The larger open staircase was approximately centered (east to west) within the space. The northern row of metal I-beam columns lined the south edge of the open staircase. The smaller enclosed staircase was in the southwest corner of DC Theatricks, with doors at the top and bottom of the stairwell.

25. A metal I-beam column was adjacent the southeast corner of the open staircase. A wood-framed wall, sheathed with wood paneling, extended 16.75' east from the metal I-beam column. An opening in the wood wall extended 4.31' east from the metal I-beam column. The opening had an overall height of 6.46', with a 1.92' header. A metal-framed wall, sheathed with gypsum board panels, extended north from the east end of the wood framed wall to the exterior north wall. The two walls formed an 'L' shape. An opening in the metal framed wall was located 6.46' south of the north exterior wall. The opening measured 4.8' in width, 6.46' in height, with a 1.92' header. Bathrooms and storage rooms were located along the west wall.

26. Two sections of plaster ceiling were present in basement. The smaller section extended 6.46' south from the north wall and spanned from the east wall to the west edge of the metal-framed wall. A natural gas-fueled heater was mounted to the ceiling below this section of plaster ceiling. The larger section was suspended and spanned across the entire width (north to south) and extended approximately 75' east from the west wall to the metal-framed wall. The suspended ceiling was comprised of two layers of plaster board suspended by metal rods. The interior ceiling height from the floor to the underside of the suspended ceiling measured 8.35'. The remainder of the wood framing that formed the basement ceiling was exposed with no sheathing.

27. A metal door was located in the northeast corner of the basement and allowed access to the portion of the basement located below the single-story warehouse. Two wooden doors were located on the south wall that divided DC Theatricks from the vacant bike shop. The western door was blocked by storage racks on the DC Theatricks side.

Vacant Bike Shop

28. The first floor of the vacant bike shop was one open continuous space that spanned approximately 20' in width (north to south), 100' in length (east to west), and had a 13.7' ceiling height. The north and south walls were sheathed with plaster. The east wall was comprised of CMU. Metal ceiling tiles were attached to wood strips that were affixed to the underside of the wooden joists. A natural gas-fueled heater was suspended from the ceiling approximately 75' east of the west wall.

29. The basement was accessed via an enclosed staircase in the northeast corner of occupancy. A metal door, at the top of the staircase allowed access to the single-story warehouse. A second staircase was located along the south wall. However, the wood flooring for the first floor covered the top of the stairwell and made it unusable. A bathroom was located on the west wall of the basement. The remainder of the basement walls and ceiling were devoid of sheathing.

Scene Diagram

30. Figure 9 and Figure 10 below are scene diagrams of the approximate layout of the first floor and basement associated with DC Theatricks and the vacant bike shop previously occupied by Rick Cycle.

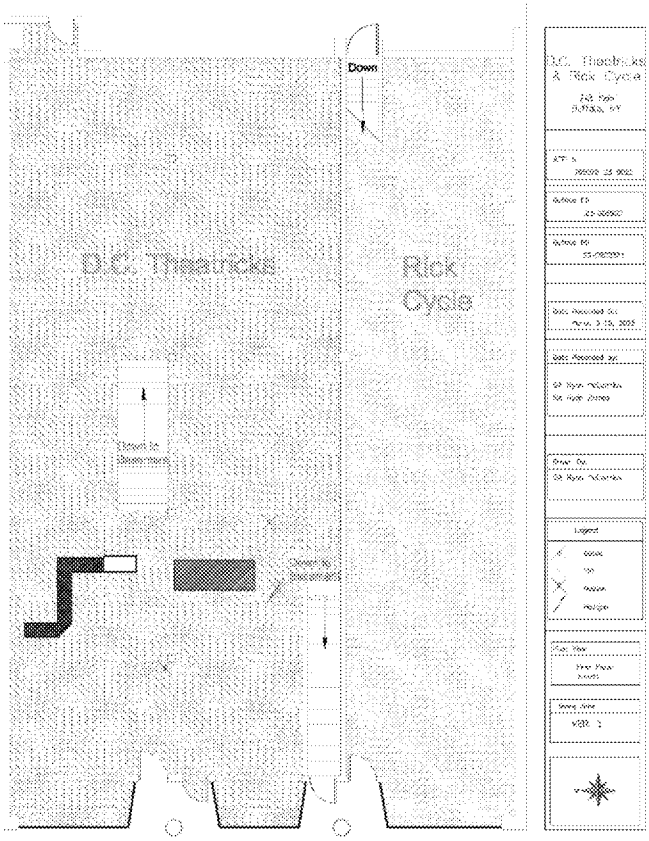

Figure 9 - Scene Diagram of the first floor.

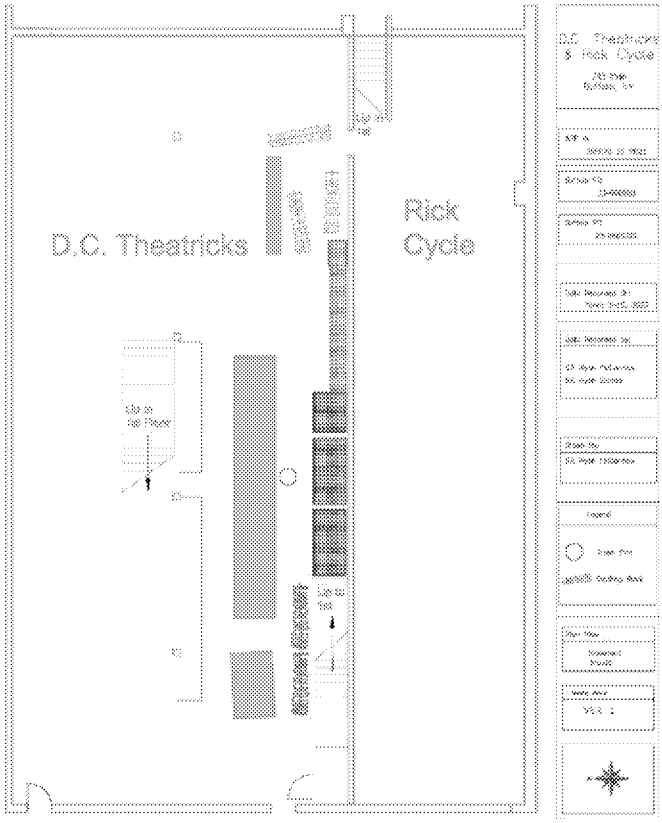

Figure 10 - Scene diagram of the basement.

Second and Third Floors

31. The walls that enclosed the staircase for the second and third floors were comprised of wood-framed construction, sheathed with lathe and plaster. Based on witness statements everything but the exterior walls, flooring, and support structure for the second and third floors had been removed prior to the fire. Plaster sheathing was present on the exterior walls. However, pre-fire photographs showed that the metal I-beam posts, metal I-beam joists, and the wooden joists were all exposed with no sheathing. Additionally, preexisting damage to the wood floor was present on the second and third levels. See Figure 11.

Figure 11 - Pre-fire damage to the flooring on the third floor, facing north.

Single-story Warehouse

32. The interior of the single-story warehouse was one continuous open space with a couple partial height, wood-framed walls. The ceiling and portions of the partial height walls were sheathed with plaster. Pre-fire damage was observed to the south side of the plaster ceiling. Metal ingress/egress doors in the west wall of the warehouse allowed access into DC Theatricks and the vacant bike shop.

Fire Protection Systems

33. 743/745/747 Main Street was devoid of fire suppression systems. During the scene examination, a manual pull station was observed on the exterior of the structure, in front of the vacant bike shop. A fire alarm panel with mechanical bell was observed in the basement of the vacant bike shop. The systems did not appear to have been functional at the time the fire.

UTILITIES:

34. According to the Electrical Engineer (b)(6)/(b)(7)(C) s report, the structure was supplied with 208V three phase electrical service via underground service lateral which entered the building on the south side of the structure. The main incoming service conductors were routed in conduit towards the East end of the basement where a fused three-phase main service disconnect switch along with enclosed distribution buss, wireways, several meters, and disconnect switches were located. These components were located in the basement of the vacant bike shop on the partition wall that separated that area from DC Theatricks' basement. The phase A fuse on the main service disconnect switch was observed to be open due to electrical fault while the remaining phase fuses were intact. There was no other thermal, electrical, or mechanical damage observed to the service entrance,

meters, meter bases, or disconnect switches. Electrical distribution in the structure was routed to panelboards located throughout the structure.

35. During interviews with DC Theatricks ownership and employees, the status of electrical items at closing was determined. They confirmed the closing procedures included turning off circuit breakers on panelboards near the front of the store, the south stairwell to the basement, and the south wall in the basement near the opening to the vacant bike shop basement area. Only a few circuits remained energized that included limited fluorescent lighting along the ceiling towards the Southwest corner of the store, the timer for front window lighting, and circuits near the red service counter including computer equipment, water cooler, and other misc. electronics in this area. Gas fired forced air furnace units serving the basement and first floor also remained energized. It was reported that power to lighting, tools and appliances in the basement were shut-off at the panelboards.

36. According to Electrical Engineer (b)(6)/(b)(7)(C)'s report, natural gas service entered the structure below grade from the west into the vacant bike shop basement. The meter and valve assembly were located within the basement at the point of entry and were on at the time of the examination. There was no mechanical or thermal damage observed to the natural gas service entrance or metering equipment in this area. Additionally, elevated usage was observed after examining historical gas usage data. During the structural collapse, a gas pipe was severed in the basement area near the opening at the partition wall between the vacant bike shop and DC Theatricks. This corresponds with the location of isolated and sustained fire, as observed by the gas company employees, that self-extinguished upon turning off the gas service. The free-flowing gas in this area is consistent with the documented gas consumption and resulting fire observed in this area.

OWNER / INSURANCE INFORMATION:

37. The structure located at 743/745/747 Main Street is owned by (b)(6)/(b)(7)(C) who operates 743 Main Street LLC and Avalon Development LLC. The building was insured by Dryden Mutual Insurance Company, Policy number (b)(6)/(b)(7)(C). The policy period was from November 28, 2022, through November 28, 2023. The building was insured for $1,300,000.

38. At the time of the fire, DC Theatricks was leasing 747 Main Street on a month-to-month basis. DC Theatricks did not maintain insurance. Additionally, (b)(6)/(b)(7)(C) was renting a storage space on the east side of the warehouse. He did not maintain insurance on his property.

39. **ATF ROI # 84** – Investigators received photographs of the interior of the structure from James O'Neill Investigations Inc. This company is representing Buffalo NY Claims Services, which is adjusting the claim for Dryden Mutual Insurance. The photographs were taken in September 2022 and show the interior of DC Theatricks. Some of the photographs show clothing/costumes displayed on vertical surfaces extending to near ceiling level (Figure 12 and Figure 13).

Figure 12 and Figure 13 – Clothing and costumes on vertical surfaces to near ceiling level.

WITNESS REPORTS:

40. Members of the investigative team conducted numerous interviews as part of this investigation. This section serves to document the pre-fire condition of the building, activities taking place within the building, fire discovery, fire department response and observations, and witness observations. The following are summaries of the statements made by witnesses. For additional information, refer to the individual ATF Reports of Investigation (ROI).

41. **Owner – (b)(6)/(b)(7)(C) – ATF ROI #98**

42. On March 5, 2023, investigators interviewed (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) purchased the building in December of 2022. He hired Lamparelli Construction to begin cleaning out the vacant parts of the structure. (b)(6)/(b)(7)(C) advised that only DC Theatricks and the area near the garage door on the east side of the single-story warehouse was supplied with electrical service. There were no gas or electric services to the second or third floors of the structure. (b)(6)/(b)(7)(C) also stated that there were no burglar alarms, fire panels, or sprinklers in the building.

Lamparelli Construction

43. **(b)(6)/(b)(7)(C) – Owner of Lamparelli Construction – ATF ROI #2**

44. On March 2, 2023, investigators interviewed (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) stated he began rehabilitation work on 743 Main Street approximately one month before the fire. The first part of the rehabilitation was to clear out stored property from the second and third floors of the building. (b)(6)/(b)(7)(C) hired a subcontractor, (b)(6)/(b)(7)(C)

(b)(6)/(b)(7)(C) to clear out the material and remove some walls and partitions from the second floor. There were no access doors to the second and third floors from inside the structure. It was estimated that approximately 20 dumpsters worth of material was removed from those floors. This stored property removal was completed on February 24, 2023. (b)(6)/(b)(7)(C) provided investigators with a video and photographs showing the completed work.

According to (b)(6)/(b)(7)(C), there were no stored flammable liquids, cleaning chemicals, hazardous materials, or battery powered tools in the area they had been working. (b)(6)/(b)(7)(C) also stated there was no electric or gas service on the second or third floors. No one observed any squatters in the building while they were completing work on the structure. According to (b)(6)/(b)(7)(C) all employees were out of the building at 3:30 pm on February 27, 2023.

45. **(b)(6)/(b)(7)(C) – ATF ROI #29**

46. On March 3, 2023, investigators interviewed **(b)(6)/(b)(7)(C)**. He corroborated (b)(6)/(b)(7)(C)'s statements. (b)(6)/(b)(7)(C) added that there were some holes in the floor on the second floor. He also stated there was no gas or electric service on the second or third floors. (b)(6)/(b)(7)(C) took pictures on February 27, 2023 showing that the second and third floors had been cleared out. He provided these photos and a video to investigators. The video shows small holes and floor damage through the third floor. The video also shows the area to be clear of debris.

Figure 14 – Second Floor post-renovation facing east.

Figure 15 – Third Floor post-renovation facing west.

Tenant – DC Theatricks, 747 Main Street

47. **(b)(6)/(b)(7)(C) – Co-Owner of DC Theatricks – ATF ROIs #3, #43, and #83**

48. Investigators conducted interviews with **(b)(6)/(b)(7)(C)** from March 2 – 11, 2023. **(b)(6)/(b)(7)(C)** is a Co-Owner of DC Theatricks with **(b)(6)/(b)(7)(C)** All keys to the business were accounted for.

49. (b)(6)/(b)(7)(C) stated DC Theatricks was a custom costume fabrication and rental shop, and their occupancy was addressed as 747 Main Street. DC Theatricks occupied the north side of the first floor and basement of 743 Main Street. According to (b)(6)/(b)(7)(C) DC Theatricks had been in business for 42 years. (b)(6)/(b)(7)(C) was aware that the building had been sold, and they were going to have to vacate the premises at some point. The new owner, **(b)(6)/(b)(7)(C)** had asked them to remove property from the single-story warehouse portion of the structure. (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) stated there were no problems with the mechanicals in their occupancy; however, the roof of the structure had leaks. Additionally, (b)(6)/(b)(7)(C) stated that some electrical receptacles did not work. She advised there had been no break-ins or squatters. Also, (b)(6)/(b)(7)(C) stated there were no flammable chemicals, solvents, adhesives, or gasoline stored in the building. According to (b)(6)/(b)(7)(C) there was no insurance on their property.

50. (b)(6)/(b)(7)(C) told investigators work had been taking place on the second and third floors of the structure. She added that the last time (b)(6)/(b)(7)(C) or his workers were in the building was on February 27, 2023. (b)(6)/(b)(7)(C) also stated there was a hole in the flooring of the second floor that was big enough that she could see into the second floor from the first floor. This hole was located in the southeast corner of their store. (b)(6)/(b)(7)(C) was also aware of a different group of workers repairing the brick on the north side of the structure next to a door to their occupancy.

51. The day before the fire, (b)(6)/(b)(7)(C) had washed three loads of clothing/costumes in the washing machine located in the northeast corner of their store. DC Theatricks did not have a working dryer, so the materials were hung to dry. (b)(6)/(b)(7)(C) provided investigators with several photographs of the interior of the store prior to the fire. (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) described racks of clothing/costumes throughout the store. Some of these racks had two rows of

clothing/costumes stored side by side with additional racks above. There were also numerous foam mascot heads throughout the business.

Figure 16 – Photograph of clothing in plastic bags on racks.

52. (b)(6)/(b)(7)(C) – **Co-Owner of DC Theatricks – ATF ROIs #4 and #104**

53. Investigators conducted interviews with (b)(6)/(b)(7)(C) from March 2 – 11, 2023. He corroborated many of the statements made by (b)(6)/(b)(7)(C) Additionally, (b)(6)/(b)(7)(C) identified another co-owner of the business as (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) advised that as (b)(6)/(b)(7)(C) s workers removed items during their rehabilitation, a hole was uncovered that was so large, he could see the workers upstairs. (b)(6)/(b)(7)(C) also stated there was no access to the upstairs from within DC Theatricks or the vacant bike shop (745 Main Street).

54. Additionally, (b)(6)/(b)(7)(C) stated workers had removed a metal door on the north side of the structure and replaced it with a piece of particle board. Investigators showed (b)(6)/(b)(7)(C) a photo of the doorway prior to the piece of wood being installed. (b)(6)/(b)(7)(C) was able to list items that he believed were still near that doorway prior to the fire. The list of items included bags of costumes as well as costumes inside clear plastic bags that were hanging above the doorway (Figure 17).

Figure 17 – North exterior door to DC Theatricks and interior contents.

55. (b)(6)/(b)(7)(C) stated that the day before the fire (February 28) several people were working inside DC Theatricks, including himself, (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C) According to (b)(6)/(b)(7)(C) there was a very important order that they were trying to rush because of a tight deadline. He added that (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C) were working in the basement, and he (b)(6)/(b)(7)(C) worked upstairs near the west side of the store.

56. During the interview, (b)(6)/(b)(7)(C) acknowledged that he did smoke inside the building and had smoked inside the day before the fire. He stated that he had smoked on the west side of the first floor near the cash register and shipping area. (b)(6)/(b)(7)(C) advised that he smoked approximately 1 to 1 ½ hours before leaving the store. (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) stated he always had an ash tray with him. He was also adamant that he was very careful with his cigarette usage and was certain that he put the cigarette out when he finished smoking.

57. (b)(6)/(b)(7)(C) stated he was the last to leave the building. (b)(6)/(b)(7)(C) stated the close out procedure was to shut off breakers in electrical distribution panels located near the front of the store, the south stairwell to the basement, and in the basement along the south wall. (b)(6)/(b)(7)(C) stated they did not use light switches. (b)(6)/(b)(7)(C) stated he exited the front main door and locked it.

58. On March 11, 2023, (b)(6)/(b)(7)(C) provided additional information to ATF SA (b)(6)/(b)(7)(C) regarding the electrical circuits that remained on at night. On the first floor, the items that were left energized were the heater, two ceiling lights on the front (west) side, a timer (located in the south stairwell) for front window lights, phone chargers, a water cooler, a time clock, a computer, and fax machine. All other circuits would have been deenergized at the circuit breaker boxes. He labeled these items on a drawing of the first floor (Figure 18). In the basement, the items that were left energized were the refrigerator at the bottom of the stairs, the hot water tank in the bathroom, and two light fixtures that they could not figure out how to turn off.

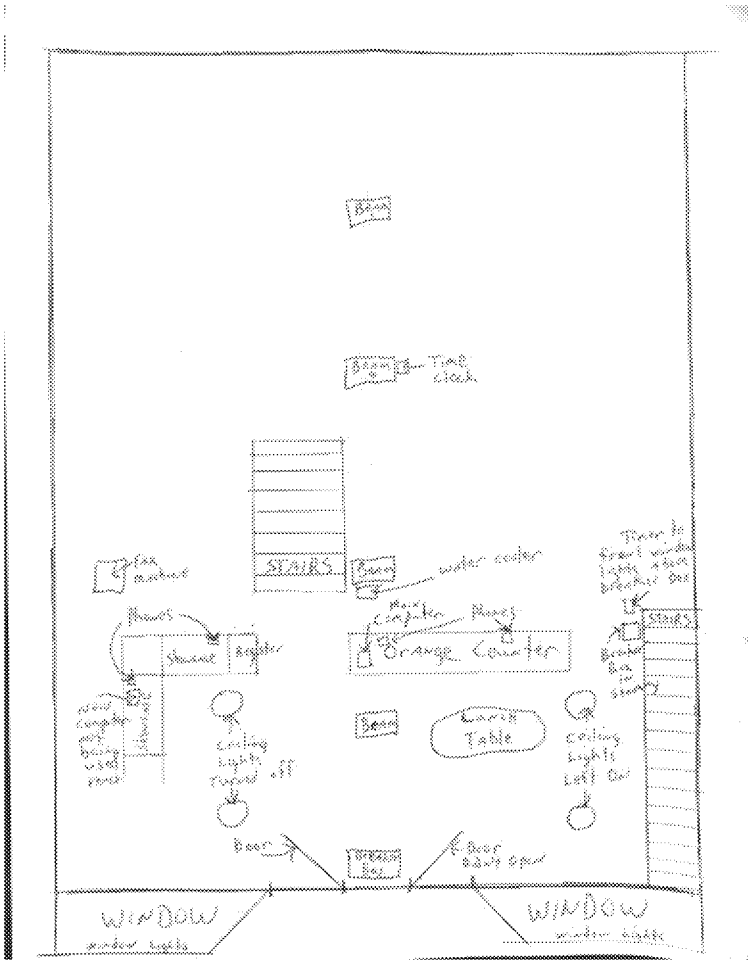

Figure 18 – (b)(6)/(b)(7)(C) diagram of energized electrical items on the first floor.

59. **(b)(6)/(b)(7)(C) – Co-Owner of DC Theatricks – ATF ROIs #45, #73, and #91**

60. Investigators conducted interviews with (b)(6)/(b)(7)(C) from March 4 – 6, 2023. (b)(6)/(b)(7)(C) stated he worked at DC Theatricks the day before the fire from about 12:00 pm until about 10:30 – 10:45 pm. He stated that he worked in the basement and used an iron, but no other electrical/heat producing items. While working that day, (b)(6)/(b)(7)(C) popped a breaker while operating the iron and vacuum table at the same time. (b)(6)/(b)(7)(C) advised this was a

common occurrence and the breaker was reset. (b)(6)/(b)(7)(C) stated that as he left, he physically turned off the iron, heat press, and pull chain lights.

61. When (b)(6)/(b)(7)(C) left, (b)(6)/(b)(7)(C) was still working at the store and was working on the first floor pulling costumes. Specifically, (b)(6)/(b)(7)(C) stated (b)(6)/(b)(7)(C) was working in front (west) of the red counter around a glass table preparing an outgoing order. (b)(6)/(b)(7)(C) stated that he has observed (b)(6)/(b)(7)(C) smoke in the store on previous occasions but did not see him smoking on February 28, 2023.

62. During the interview, (b)(6)/(b)(7)(C) drew two diagrams. One diagram showed an overview of the entire basement, and the other showed the cutting tables with specific tools labeled. In the overall diagram, (b)(6)/(b)(7)(C) identified the irons as being near the north wall. This was confirmed during the scene examination. In the diagram of the cutting tables, (b)(6)/(b)(7)(C) identified a heat press, computer, vinyl cutter, Eastman rotary cutter, and battery charger. All of these items were located on the east side of the table. There was also a vinyl cutter located on the west end of the smaller table. The placement of these items was confirmed during the scene examination.

63. **(b)(6)/(b)(7)(C) – Employee of DC Theatricks – ATF ROIs #49, #73, and #90**

64. Investigators conducted interviews with (b)(6)/(b)(7)(C) from March 4 – 6, 2023. (b)(6)/(b)(7)(C) worked at DC Theatricks the day before the fire from approximately 1:00 pm until 8:00 pm. (b)(6)/(b)(7)(C) worked in the basement and used a sewing machine and hot cutter. The hot cutter was located on the cutting table, and (b)(6)/(b)(7)(C) stated it was unplugged after use. Additionally, (b)(6)/(b)(7)(C) described a power rail that ran above the cutting table. There were also electrical receptacles under the cutting table. (b)(6)/(b)(7)(C) also drew a diagram of the basement and equipment that was being utilized. (b)(6)/(b)(7)(C)'s diagram was very similar to (b)(6)/(b)(7)(C)'s.

65. (b)(6)/(b)(7)(C) stated that (b)(6)/(b)(7)(C) does occasionally smoke inside the business, however, he did not see (b)(6)/(b)(7)(C) smoking the night before the fire. (b)(6)/(b)(7)(C) added that (b)(6)/(b)(7)(C) was a nervous smoker and would smoke when he is stressed out. (b)(6)/(b)(7)(C) also stated that (b)(6)/(b)(7)(C) carries around a ceramic ashtray while smoking.

66. **(b)(6)/(b)(7)(C) – Employee of DC Theatricks – ATF ROI #88**

67. Investigators interviewed (b)(6)/(b)(7)(C) on March 6, 2023. (b)(6)/(b)(7)(C) advised she worked at the store on February 28, 2023, from approximately 11:50 am until 6:50 pm. During that time, she worked in the basement with (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C). (b)(6)/(b)(7)(C) was a seamstress and used one of the sewing machines. Additionally, (b)(6)/(b)(7)(C) stated that on the first floor, there were clothing racks that were stacked three high, and there were rolling stairs and hanger retrieval poles to get clothing down from the highest racks. Some of these racks can be seen in Figure 4 of this report.

Tenant, 743 Main Street

68. **(b)(6)/(b)(7)(C) – ATF ROI #28:** On March 3, 2023, investigators interviewed (b)(6)/(b)(7)(C) who rented a small storage area in the northeast corner of the single-story warehouse. (b)(6)/(b)(7)(C) stated that his tenancy was terminated, and he was asked to remove his items from the warehouse. On January 13, 2023, (b)(6)/(b)(7)(C) took a video inside the warehouse to document the condition. He also stated that the south side of the three-story structure on the first floor was empty, along with all the second and third floor.

69. On the day of the fire, (b)(6)/(b)(7)(C) took photographs of the building including the warehouse area. (b)(6)/(b)(7)(C) provided the previously mentioned video and photographs to investigators. The photographs show items at floor level to be free of thermal damage.

Figure 19 – Post-fire photo of the warehouse taken by (b)(6)/(b)(7)(C)

JP Contracting

70. (b)(6)/(b)(7)(C) **– JP Contracting employee – ATF ROIs #77 and #99**

71. Investigators conducted interviews with (b)(6)/(b)(7)(C) from March 2 – 6, 2023. (b)(6)/(b)(7)(C) stated the steel door on the north side of DC Theatricks had been previously removed. On February 16, 2023, (b)(6)/(b)(7)(C) installed one layer of ½ inch plywood to the metal doorframe with screws. He stated that there may have been a small gap at the bottom of the doorway. (b)(6)/(b)(7)(C) remembered seeing a lot of costumes and other items inside the doorway. He provided investigators with several photographs of the doorway, including the photograph referenced as Figure 17 in this report. (b)(6)/(b)(7)(C) was not at the building the morning of the fire.

72. (b)(6)/(b)(7)(C) **– JP Contracting employee – ATF ROIs #54 and #97**

73. Investigators conducted interviews with (b)(6)/(b)(7)(C) from March 1 – 6, 2023. On March 1, 2023, (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C) arrived at 743/745/747 Main Street at approximately 7:00 am. (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C) were working to repair brickwork on the north side of the building, near the north doorway to DC Theatricks. (b)(6)/(b)(7)(C) stated they needed to melt ice around the exterior wall and by the doorway. (b)(6)/(b)(7)(C) used a propane torch for about an hour before beginning to lay bricks. During the operation of the torch, (b)(6)/(b)(7)(C) stated a shovel was used to shield the plywood from the torch. Additionally, a leaf blower was used in combination with the torch to help melt the ice.

74. At approximately 9:57 am, (b)(6)/(b)(7)(C) stated he went on break and drove to his home while (b)(6)/(b)(7)(C) stayed at the site. At approximately 10:09, (b)(6)/(b)(7)(C) received a call stating the building was on fire and he returned. Upon returning, (b)(6)/(b)(7)(C) told (b)(6)/(b)(7)(C) he (b)(6)/(b)(7)(C) saw smoke coming from the plywood covering the door opening. (b)(6)/(b)(7)(C) then removed the plywood and saw fire inside the building.

75. Investigators told (b)(6)/(b)(7)(C) they had reviewed surveillance video that showed him and (b)(6)/(b)(7)(C) working at the building near the doorway. Investigators told (b)(6)/(b)(7)(C) they observed what was possibly a small amount of smoke coming from the area around the doorway or immediately west of the doorway. (b)(6)/(b)(7)(C) advised there were two pipes coming out of the building from a window opening in that area. (b)(6)/(b)(7)(C) stated one of the pipes had a 90-degree bend downwards and the other pipe came straight out. (b)(6)/(b)(7)(C) said the pipe that came straight out had warm steam coming out. He remembered this steam because he used it several times to keep his hands warm. (b)(6)/(b)(7)(C) advised that he considered this regular steam, and it did not have a smoke or burning odor.

76. Additionally, (b)(6)/(b)(7)(C) did smoke at the site, including the morning of the fire.

77. **(b)(6)/(b)(7)(C) – JP Contracting – ATF ROI #68**

78. On March 1, 2023, investigators interviewed **(b)(6)/(b)(7)(C)**. He is (b)(6)/(b)(7)(C) the owner of JP Contracting, **(b)(6)/(b)(7)(C)** **(b)(6)/(b)(7)(C)** told investigators (b)(6)/(b)(7)(C) called him at 9:59 am on March 1, 2023, and told him (b)(6)/(b)(7)(C) that there was a fire at the building. According to (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) told him that if he could just get the door open, he could put it out. (b)(6)/(b)(7)(C) called (b)(6)/(b)(7)(C) again at 10:07 am and stated the fire was out of control.

79. **(b)(6)/(b)(7)(C) – JP Construction employee/911 caller – ATF ROI #111**

80. During the course of the investigation, several attempts were made to interview **(b)(6)/(b)(7)(C)**. He was an employee of JP Construction and was working on the north side of the building. He was also the first person to call 911 to report the fire. (b)(6)/(b)(7)(C) requested an attorney, and his attorney has not made (b)(6)/(b)(7)(C) available for an interview. However, (b)(6)/(b)(7)(C)'s actions were recorded on a surveillance camera, and those actions will be further described in the Video Review section of this report.

81. Additionally, investigators listened to (b)(6)/(b)(7)(C)'s 911 call. The call was made at 9:55:05 am. The recording is one minute and 40 seconds in length. (b)(6)/(b)(7)(C) reports a fire at 745 Main Street. During the call, the dispatcher asked (b)(6)/(b)(7)(C) if he sees flames, and he responded "Yes." Later in the call, (b)(6)/(b)(7)(C) reports seeing "flames under the door."

Fire Department

82. During the interviews of fire department personnel, it was learned that firefighters only entered through the northern-most door on the west side of the building for the purpose of suppressing the fire. That door, referred to herein as the front door, was the main entry for DC Theatricks on the Main Street side of the building as seen in Figure 5. Fire department personnel did not make entry through any other door.

83. **Captain (Cpt.) (b)(6)/(b)(7)(C) – Ladder Truck 2 – ATF ROI #85**

84. Investigators interviewed Cpt. (b)(6)/(b)(7)(C) on March 3, 2023. Cpt. (b)(6)/(b)(7)(C) was assigned to Ladder Truck 2. Members from Ladder Truck 2 were the first to approach the west side of 743/745/747 Main Street. Cpt. (b)(6)/(b)(7)(C) stated when they arrived, they parked behind Engine 2 and initially did not see any smoke or fire. He reported that the windows on the west side of the structure were all intact. Cpt. (b)(6)/(b)(7)(C) said they could see fire

coming from the door on the north side of the building. Cpt. (b)(6)/(b)(7)(C) went to the west side of the structure and assisted with forcing open the second door from right. This door led directly to a stairwell to the second floor. Cpt. (b)(6)/(b)(7)(C) reported minimal smoke and no fire in this area. He then went to the front door of DC Theatricks and forced that door open. Upon opening this door, he observed heavy, dark smoke. Cpt. (b)(6)/(b)(7)(C) stated firefighters from Engine 2 and Rescue 1 made entry, and he followed them in. Cpt. (b)(6)/(b)(7)(C) only made it about 10 feet inside the structure and then encountered other firefighters and could not go in any farther. The command to exit the structure was given, and Cpt. (b)(6)/(b)(7)(C) made it back to the doorway when a backdraft occurred. He heard the mayday call, and Rescue 1 went back into the structure. At that time, Cpt. (b)(6)/(b)(7)(C) reported another backdraft and then Rescue 1 exited the structure.

85. **Firefighter (FF) (b)(6)/(b)(7)(C) – Ladder Truck 2 – ATF ROIs #11 and #79**

86. Investigators conducted interviews with FF (b)(6)/(b)(7)(C) on March 3, 2023. FF (b)(6)/(b)(7)(C) was assigned to Ladder Truck 2. Upon arrival, FF (b)(6)/(b)(7)(C) observed an individual, later identified as (b)(6)/(b)(7)(C) behind a locked gate to 753 Main Street. FF (b)(6)/(b)(7)(C) went to get a saw to force entry into the gate when he realized the fire was coming from the building to the south, which was 743/745/747 Main Street. FF (b)(6)/(b)(7)(C) observed flames coming from the north side of 743/745/747 Main Street. FF (b)(6)/(b)(7)(C) observed the windows and doors on the west side of the structure were closed. FF (b)(6)/(b)(7)(C) made entry through the front door to DC Theatricks after it was forced open. He reported heavy, hot, black smoke but could not see any flames. Visibility was so poor that he could not see any of the interior contents of the building. Shortly after entry, others told him to back out. As he was backing out, he and other firefighters vented the northernmost display window on the west side of the building. FF (b)(6)/(b)(7)(C) reported one blast, then the mayday call, followed by a second blast. FF (b)(6)/(b)(7)(C) was then assigned to work in the bucket of the truck. During the suppression, FF (b)(6)/(b)(7)(C) reported the first collapse was in the rear of the building.

87. **FF (b)(6)/(b)(7)(C) – Engine 2 – ATF ROIs #6 and #32**

88. Engine 2 was the first arriving apparatus. Investigators conducted interviews with FF (b)(6)/(b)(7)(C) from March 3 – 4, 2023. FF (b)(6)/(b)(7)(C) advised he was the driver of Engine 2. The other FFs assigned to Engine 2 were Lieutenant (b)(6)/(b)(7)(C), FF (b)(6)/(b)(7)(C) and FF Jason Arno. FF (b)(6)/(b)(7)(C) stated that Engine 2 had been on another call and were only a few blocks away when the fire was reported at 743/745/747 Main Street, so they were able to arrive on scene very quickly. Upon arrival, the firefighters encountered (b)(6)/(b)(7)(C) in a parking area north of the structure. The firefighters initially thought the building at 753 Main Street was where the fire was located. A locked gate was blocking entry to this area. FF (b)(6)/(b)(7)(C) then observed smoke coming from the area behind 753 Main Street. He stated that he only observed smoke coming from the first floor of 743/745/747 Main Street. FF (b)(6)/(b)(7)(C) stated Lt. (b)(6)/(b)(7)(C), FF (b)(6)/(b)(7)(C) and FF Arno entered 743/745/747 Main Street with a hoseline while he (FF (b)(6)/(b)(7)(C)) stayed with the engine.

89. **FF (b)(6)/(b)(7)(C) – Engine 2 – ATF ROIs #9 and #48**

90. Investigators conducted interviews with FF (b)(6)/(b)(7)(C) from March 3 – 4, 2023. FF (b)(6)/(b)(7)(C) was detailed to Engine 2. FF (b)(6)/(b)(7)(C) indicated that initially upon arrival he did not see any smoke or fire. He then began to see smoke from the north side of the building which he drew on a map of the structure. FF (b)(6)/(b)(7)(C) stated he then went to the west side of 743/745/747 Main Street and another firefighter forced open the front door to DC Theatricks. FF (b)(6)/(b)(7)(C) stated the hoseline was charged and they made entry into the structure. Upon entry, FF (b)(6)/(b)(7)(C) stated there was heavy, dark, hot smoke. FF (b)(6)/(b)(7)(C) got on his hands and knees because of the heat. He also felt that his ears were starting to burn. It was so hot that fire crews could not push further into the building. FF (b)(6)/(b)(7)(C) added that he could not see any flames and they could not find the fire. While inside the building, FF (b)(6)/(b)(7)(C) stated he heard a

crackling sound, which he later learned were windows being broken. FF (b)(6)/(b)(7)(C) said one of the chiefs called for everyone to exit the building. A short time later, a backdraft occurred. After the backdraft, the firefighters learned that FF Arno was unaccounted for.

91. **Lieutenant (Lt.) (b)(6)/(b)(7)(C) – Engine 2 – ATF ROIs #37 and #46**

92. Investigators conducted interviews with Lt. (b)(6)/(b)(7)(C) from March 3 – 4, 2023. Lt. (b)(6)/(b)(7)(C) was the acting officer on Engine 2. Lt. (b)(6)/(b)(7)(C) stated that upon arrival, he initially did not see any smoke or fire. A short time later, Lt. (b)(6)/(b)(7)(C) saw smoke coming from the front of 743/745/747 Main Street. Lt. (b)(6)/(b)(7)(C) said that Ladder Truck 2 forced open the front door to DC Theatricks. He and other members of Engine 2 entered the structure, followed by firefighters from Ladder Truck 2. Lt. (b)(6)/(b)(7)(C) reported that FF Arno was working the nozzle and he (Lt. (b)(6)/(b)(7)(C)) was behind him. Lt. (b)(6)/(b)(7)(C) stated they only made it about 15 feet into the building. At that time, they could only see heavy dark smoke. The smoke was so thick, they could not see any of the interior contents of the store. Lt. (b)(6)/(b)(7)(C) stated they did not see fire in the building; however, the further east they went in, the more intense the heat was. Lt. (b)(6)/(b)(7)(C) advised that once the call was made to exit the building, he tapped FF Arno and they both started walking toward the exit. Once outside, Lt. (b)(6)/(b)(7)(C) realized that FF Arno had not exited the building.

93. **FF (b)(6)/(b)(7)(C) – Rescue 1 – ATF ROIs #12 and #58**

94. Investigators conducted interviews with FF (b)(6)/(b)(7)(C) from March 3 – 4, 2023. FF (b)(6)/(b)(7)(C) was assigned to Rescue 1. He assisted in breaching the second door from right on the west side of the structure that led directly to the second floor. He then made entry with other firefighters through the front door to DC Theatricks. FF (b)(6)/(b)(7)(C) reported similar conditions as the other firefighters inside the structure. After the first explosion, FF (b)(6)/(b)(7)(C) learned FF Arno was still in the structure. FF (b)(6)/(b)(7)(C) and other members of Rescue 1 reentered the structure attempting to locate FF Arno. FF (b)(6)/(b)(7)(C) stated they crawled approximately 15 to 20 feet inside the door, following the hoseline. Upon reaching the end of the hoseline, FF Arno was not located. A second explosion occurred, and FF (b)(6)/(b)(7)(C) exited the structure. When it was safe to do so, members of Rescue 1 entered the structure again and recovered FF Arno. FF (b)(6)/(b)(7)(C) stated FF Arno was located approximately 20 feet away from the end of the hoseline. FF (b)(6)/(b)(7)(C) took photographs while FF Arno was being recovered (ATF ROI #89).

95. **Lt. (b)(6)/(b)(7)(C) – Rescue 1 – ATF ROIs #31 and #55**

96. Investigators conducted interviews with Lt. (b)(6)/(b)(7)(C) from March 3 – 4, 2023. Lt. (b)(6)/(b)(7)(C) was assigned to Rescue 1. Upon arrival Lt. (b)(6)/(b)(7)(C) observed smoke coming from the north side of the building, near the north doorway to DC Theatricks. Lt. (b)(6)/(b)(7)(C) attempted to force open a door on the west side of the building but saw that other firefighters had successfully breached another door. He entered the structure through the front door to DC Theatricks. He reported similar conditions as the other firefighters. Additionally, Lt. (b)(6)/(b)(7)(C) had a thermal imaging camera with him. He pointed it toward the ceiling, and it showed the ceiling area was all orange in color. Agents examined the thermal imaging camera and the darkest orange color on the camera represents temperatures reaching 1,200 degrees Fahrenheit.

97. The order was given to withdraw from the structure and, as they were exiting, an explosion occurred. After the explosion, Lt. (b)(6)/(b)(7)(C) heard the mayday call over the radio. Rescue 1, including Lt. (b)(6)/(b)(7)(C) went back into the building. At this time, he could see fire on the right side of the structure. There was a row of vertical metal support beams running east to west through the center of DC Theatricks. Lt (b)(6)/(b)(7)(C) described the fire as being near the beams and at least halfway back into the structure. Lt. (b)(6)/(b)(7)(C) then recalled hearing a sound like a

freight train and a huge wind came at him. After this event, firefighters were not allowed to go back into the structure until the fire was under control.

98. **FF (b)(6)/(b)(7)(C) – Rescue 1 – ATF ROI #41**

99. On March 3, 2023, investigators interviewed FF (b)(6)/(b)(7)(C). FF (b)(6)/(b)(7)(C) was assigned to Rescue 1. Upon arrival, FF (b)(6)/(b)(7)(C) reported similar conditions as other firefighters. He made entry in the building through the front door to DC Theatricks. He stated there was zero visibility to six inches off the ground and a lot of heat. However, he did not observe any flames. FF (b)(6)/(b)(7)(C) used a thermal imaging camera while inside. He had to hold it almost to his face to see the screen and did not observe any fire.

100. FF (b)(6)/(b)(7)(C) heard that the hoseline did not have pressure, so he went back to the hoseline and found kinks in the line and worked them out. A short time later, FF (b)(6)/(b)(7)(C) exited the structure to get a new air tank. FF (b)(6)/(b)(7)(C) reported that a backdraft occurred, and he and other firefighters were sent in to look for FF Arno. Upon reentering the structure, FF (b)(6)/(b)(7)(C) could hear the Personal Alert Safety System (PASS) alarm. He followed the sound and found FF (b)(6)/(b)(7)(C) who said he had hands on FF Arno; however, FF Arno was stuck. At this time, a second explosion occurred. Due to the intense heat and deteriorating conditions, FF (b)(6)/(b)(7)(C) and FF (b)(6)/(b)(7)(C) exited the structure.

101. **FF (b)(6)/(b)(7)(C) – Rescue 1 – ATF ROIs #15 and #74**

102. Investigators conducted interviews with FF (b)(6)/(b)(7)(C) from March 3 – 5, 2023. FF (b)(6)/(b)(7)(C) was assigned to Rescue 1. Upon arrival, FF (b)(6)/(b)(7)(C) reported similar conditions as other firefighters. He made entry in the building through the front door to DC Theatricks. FF (b)(6)/(b)(7)(C) reported that the building was full of smoke and extremely hot. FF (b)(6)/(b)(7)(C) stated they were waiting for water to begin flowing and once they had water, he vented two windows on the west side of the building. Shortly thereafter, an evacuation was called.

103. As firefighters were exiting the building, FF (b)(6)/(b)(7)(C) reported a flashover that "flew them forward." FF (b)(6)/(b)(7)(C) then learned there was a firefighter that was unaccounted for. FF (b)(6)/(b)(7)(C) reentered the building and went to the right. He could hear FF Arno's PASS alarm and located him. FF (b)(6)/(b)(7)(C) tried to pull on him, but FF Arno was stuck. FF (b)(6)/(b)(7)(C) then reported a second backdraft blew him away from FF Arno and disoriented him. FF (b)(6)/(b)(7)(C) helped (b)(6)/(b)(7)(C) find the door they entered through. Firefighters attempted to enter the structure again; however, the fire was too intense, and firefighters were not allowed to reenter until the fire was under control.

Video Review

Savarino Company Surveillance Camera – ATF ROI #69

104. During the course of the investigation, several videos of the event were reviewed. There were surveillance cameras on the Savarino Company building (753 Main Street), which was located directly north of the affected structure. One camera (Rear Parking 2) that captured relevant information regarding the fire was located on the east side of 753 Main Street and faced east toward the parking lot. A doorway on the north side of the building accessed DC Theatricks. The right edge of the camera view stops just before the doorway to DC Theatricks is in view. A portion of the concrete threshold can be seen in the video.

105. The video time was synchronized with www.time.gov. The Savarino surveillance camera was 1 hour 1 minute and 54 seconds ahead of www.time.gov (ROI # 107). It should also be noted that this video did not

continuously record. There were gaps ranging from a few seconds to a few minutes. There were also times that the video would freeze for approximately 10 seconds. During those times, video was not captured. Investigators reviewed all the available footage. The times listed in this section are the approximate normalized times.

Figure 20 – Rear Parking 2 surveillance camera view with concrete sill highlighted.

106. JP Contracting employees (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C) are seen arriving at 07:25. A propane tank and propane torch were removed from the vehicle and placed near the structure. At 07:29, the torch was ignited, and (b)(6)/(b)(7)(C) began melting snow and ice near the north wall of 743/745/747 Main Street. At approximately 07:36, 07:56, and 08:07, the torch was used near the east corner of the north doorway to DC Theatricks. At approximately 08:16, the torch was again used near the east corner of the of the same doorway. Some use of the torch is slightly off camera toward the plywood. While (b)(6)/(b)(7)(C) used the torch in this area, (b)(6)/(b)(7)(C) began to use the leaf blower nearby. At approximately 08:17, (b)(6)/(b)(7)(C) re-lit the torch and began to melt ice in the parking lot area in front of the doorway. At approximately 08:17, the torch was used again inside of the doorway, slightly off camera toward the plywood. (b)(6)/(b)(7)(C) continued to use the leaf blower in the area until approximately 08:19. The propane tank was turned off at approximately 08:35 and the torch was not used again.

107. ATF ROI #69 states that at 7:37:53, "smoke puffs from structure." The material observed was low density and white in color. At this point, the doorway was still covered by plastic. Additionally, intake and exhaust piping for the basement natural gas-fueled furnace was located directly west of the doorway. Moreover, (b)(6)/(b)(7)(C) said one of those pipes had warm steam coming out. He remembered this steam because he used it several times to keep his hands warm. During the review of the video, (b)(6)/(b)(7)(C) can be seen in the vicinity of the pipes, warming his hands. (b)(6)/(b)(7)(C) advised that he considered this regular steam (condensation), and it did not have a smoke or burning odor (ROI #97).

108. Also, at various times during the use of the torch, condensation can be seen forming from the melting snow and ice. The material that is seen forming is similar in density and color to the material observed emanating from

the building. Additionally, (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C) are working near the wall, doorway, and plastic and neither report seeing or smelling smoke from a fire at that time. At 09:00 and 09:05, (b)(6)/(b)(7)(C) was in between the doorway and the camera when a puff of material came between (b)(6)/(b)(7)(C) and the camera. These perspectives demonstrate the material was not emanating from the doorway but was coming from the area west of the doorway. This was the area that the intake and exhaust piping for the basement furnace are located. On the morning of the fire, temperatures were in the low 30's (F) with relative humidity near 70%. Investigators now believe the material referenced as smoke in ROI 69 is actually condensation/water vapor coming from an exhaust pipe located to the west of the doorway.

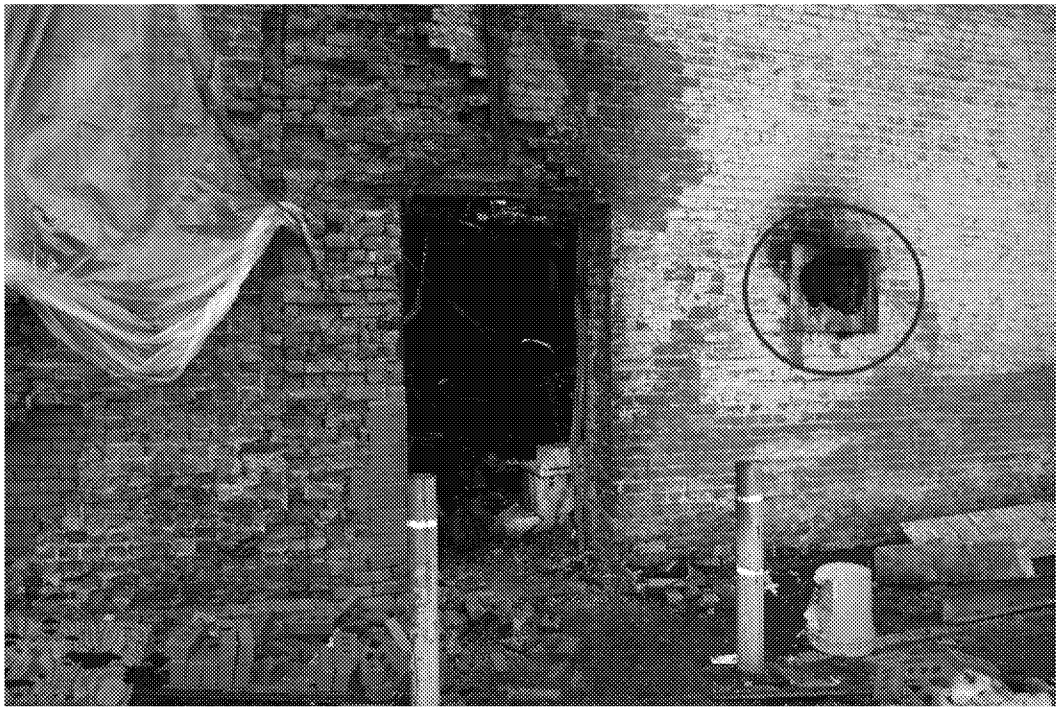

Figure 21 – North door to DC Theatricks, intake and exhaust vent circled.

109. Fire Discovery – At 09:53 (b)(6)/(b)(7)(C) appeared to notice something in the doorway and tossed his trowel to the ground. He bent down and appeared to look under the plywood attached to the door frame (Figure 22). (b)(6)/(b)(7)(C) then threw a bucket of water into the doorway, which can be seen washing back toward the parking lot. He then began to unscrew the east side of the plywood from the frame, partially opening the plywood covering and was met with flames (Figure 23). He then kicked the plywood fully open. At approximately 09:55, (b)(6)/(b)(7)(C) called 911 to report the fire.

Figure 22 – (b)(6)/(b)(7)(C) looking under plywood.

Figure 23 – Flames as board is opened.

(b)(6)/(b)(7)(C) Video (Video collected by Buffalo Police Department prior to NRT arrival)

110. Approximately two and a half minutes after (b)(6)/(b)(7)(C) kicked the plywood open (09:59), (b)(6)/(b)(7)(C) took a video of the building. She filmed the video from her apartment located just north of 743/745/747 Main Street. Her video showed the plywood still attached to the west side of the door frame and in a vertical position. At this point, fire was seen inside of 743/745/747 Main Street but smoke and fire were not venting from the doorway.

111. Of note is the condition of the inside surface of the plywood board. The interior surface of the plywood showed charring only on the east side, while the west side was relatively undamaged. While in the original closed position, this charring would have been closest to the east side of the doorway where the brickwork was taking place (Figure 24).

Figure 24 – Cropped image from (b)(6)/(b)(7)(C) video showing charring on the east interior face of the plywood.

112. **Fire Marshal (b)(6)/(b)(7)(C) – Fire Investigator – ATF ROI #44**

113. On March 3, 2023, Investigators interviewed Buffalo Fire Marshal (b)(6)/(b)(7)(C). Investigator (b)(6)/(b)(7)(C) was the on-duty fire investigator when the fire at 743/745/747 Main Street occurred. Investigator (b)(6)/(b)(7)(C) responded to the scene and began to take photographs. Investigator (b)(6)/(b)(7)(C) reported seeing smoke originating from the first floor on the west side of the building. He then walked down the north side of the building and continued to take photographs. Investigator (b)(6)/(b)(7)(C) observed the north doorway to DC Theatricks. He observed heavy fire in this area. However, most of the smoke and flames were within the structure and not venting out of the doorway. Investigator (b)(6)/(b)(7)(C) provided his photographs to the rest of the investigative team. One of the photographs of the north doorway showed smoldering debris on the concrete threshold (Figure 25). This photo was taken at approximately 10:05 and, by this time, the plywood had been removed from the door frame by a firefighter.

Figure 25 – Cropped image taken showing debris on concrete threshold.

(b)(6)/(b)(7)(C) Video - (Video collected by Buffalo Police Department prior to NRT arrival)

114. Approximately 30 seconds after Investigator (b)(6)/(b)(7)(C) took the photo of the doorway (10:06), **(b)(6)/(b)(7)(C)** began filming a video of the building. (b)(6)/(b)(7)(C) filmed the video from his apartment located just north of 743/745/747 Main Street. The video panned back and forth across 743/745/747 Main Street and captured different parts of the building at different times. At first, the only flames visible were inside the north doorway to DC Theatricks. Heavy smoke could be seen emanating from the west side of 743/745/747 Main Street. One minute and seven seconds into the video, all the windows were dark with no visible fire (Figure 26). From one minute and five seconds to one minute and thirteen seconds into the video, flames were seen venting from the west side of the structure and building in intensity until they eventually extended above the structure. The video then panned from west to east. From one minute and thirteen seconds to one minute and twenty-five seconds into the video, flaming combustion can be seen in all the second-floor windows (Figure 27). Additionally, at one minute and fourteen seconds into the video (10:07) an over-pressure event (backdraft) is observed at the north doorway to DC Theatricks (Rear Parking 2) and at the roof hatch to the building. NFPA 921 defines a backdraft as, "[a] deflagration resulting from the sudden introduction of air into a confined space containing oxygen-deficient products of incomplete combustion." [1] During this event, smoke was also seen pushing out of the third-floor windows.

Figure 26 - Smoke on second floor.

Figure 27 – Seconds later, flaming combustion.

115. **Timeline Summary**

116. Below is a timeline summarizing the events related to the fire. The information includes information from ATF ROIs containing witness information, video review, Buffalo Fire Department radio traffic and 911 Dispatch records. The times listed are approximate.

a. 04:46 – (b)(6)/(b)(7)(C) left the building.
b. 07:25 – (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C) arrived.
c. 07:29 – Propane torch was ignited.
d. 07:36 – 8:17 – The torch was used in and around the north doorway at various times.
e. 08:35 – Propane tank was turned off.
f. 09:53 – [redacted] appeared to notice the fire and attempts to extinguish it.
g. 09:55 – (b)(6)/(b)(7)(C) called 911 to report the fire.
h. 09:56 – [redacted] kicked open the plywood covering the north doorway.
i. 09:58 – Engine 2 arrived on scene and advised nothing was showing.
j. 09:59 – (b)(6)/(b)(7)(C) video was recorded.
k. 10:00 – Firefighters reported heavy smoke coming out of the first floor.
l. 10:03 – Firefighters reported flames on the second floor.
m. 10:04 – Inv. (b)(6)/(b)(7)(C) reported heavy fire in the back, number 2 (North) side.
n. 10:06 – Tones sounded for all firefighters to evacuate the structure.
o. 10:06 – (b)(6)/(b)(7)(C) video was recorded.
p. 10:07 – The first backdraft occurred.
q. 10:07 – FF Arno calls MAYDAY.
r. 10:11 – FF Arno's last radio transmission.
s. 10:17 – FF (b)(6)/(b)(7)(C) reached FF Arno.
t. 10:18 – The second backdraft is reported. After the second backdraft, all firefighters evacuated the building.
u. 13:44 – FF Arno's body was recovered by fire department personnel.

SCENE PROCESSING:

117. Scene processing was conducted using a systematic approach. Once the investigators arrived at the scene, facts and data related to the origin and cause of the fire were gathered. These facts and data included witness statements, electronic data, and the analysis of fire patterns and fire dynamics. Based on this methodology, the investigative team's inspection of the scene began by conducting an exterior examination and then moving to the interior. Subsequently, hypotheses were developed and tested by the investigative team.

Investigative activities conducted prior to the arrival of the ATF NRT on March 1, 2023

118. After it was learned that Firefighter Arno perished during the fire, several agencies responded to the scene to assist with the investigation including ATF, the New York State Fire Marshal's, and the Erie County Sheriff's Department. Investigators began documenting the scene by using still photography and an Unmanned Aircraft System (UAS). Once the scene was safe, members of the Buffalo Fire Department recovered Firefighter Arno.

119. Due to structural concerns, an emergency demolition order of the building was issued on March 1, 2023, and crews began demolition starting with the single-story warehouse on the east side of the structure. Once ATF SA/CFIC (b)(6)/(b)(7)(C) arrived on scene, she spoke to Catherine Amdur, the commissioner of the Department of Permit and Inspection Services for the City of Buffalo, and requested all excavation stop until further notice. Upon further discussion with ATF, the Buffalo Fire Department, New York State Fire Marshals, and the city commissioners, any further demolition was ceased.

120. SA/CFIC (b)(6)/(b)(7)(C) met with Buffalo Fire Commissioners Renaldo, Suarez, and Eason, Buffalo Fire Marshal (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) Buffalo Fire Department investigators, Buffalo Chief of Detectives Craig Macy and various detectives, representatives from NYS Fire, Buffalo ATF agents, and Commissioner Amdur from Building and Permits. After discussing the various options available, Commissioner Renaldo asked SA (b)(6)/(b)(7)(C) to request the National Response Team to the fire scene for assistance in the investigation.

Investigative activities conducted after the arrival of the ATF NRT

121. Due to the size of the scene, structural integrity concerns, and the number of fire investigators present, some areas of the structure were able to be processed simultaneously at the direction of Team Supervisor (b)(6)/(b)(7)(C) and Lead CFI (b)(6)/(b)(7)(C) Additionally, all investigators present were able to walk through and examine all areas of the structure that could be safely accessed. All investigators present were encouraged to ask questions, suggest hypotheses, and discuss methods for processing the scene.

122. For purposes of this report, a short summary of daily activities will be described. Then a detailed description of the scene will be given, starting with the exterior and the single-story warehouse. This report will then describe the three-story portion of the building from the third floor moving down to the basement.

123. On March 3, 2023, investigators began the joint scene examination. On that day, the NRT began scene documentation with the use of still photography, 360 photography, UAS photography, mapping tools, and a 3D scanner. Scene documentation continued during every day of the scene examination. Additionally, engineers from the New York City Fire Department (NYFD) evaluated the structure for stability and safety of the investigative team.

124. Before investigators entered the structure, a decontamination line was established. Investigators utilized this decontamination line to decontaminate boots and tools before entering the scene. Investigators continued the safety assessment by entering the structure through the front door of DC Theatricks. Investigators proceeded to the staircase located on the south side of DC Theatricks and descended to the basement. NYFD engineers

examined the structure and noted areas of collapse in the east side of the basement. It was determined that areas of the first floor would need to be shored for the investigative team to safely conduct an examination of the first floor. Significant collapse was also observed on the east side of the second and third floors. The second and third floors were deemed unsafe to work in. Those areas were examined with the use of a UAS.

125. On March 4, 2023, Investigators utilized an Ignitable Liquid Detection (IGL) Canine during the search. No alerts or changes of behavior were noted. See the IGL Canine report for details. Additionally, the Buffalo Fire Department Urban Search and Rescue/Tech Support Team (USAR) arrived on scene to shore the flooring of the first floor. To access the basement for shoring, the investigative team had to clear an area of the first floor that led to a centrally located staircase. Investigators hand-cleared debris while looking for any items of evidentiary value. Once a path was cleared to the staircase, the USAR team began to shore the structure.

126. While the shoring work was taking place, investigators were able to safely enter and examine the vacant bike shop on the first floor, south side of the structure. Investigators then discovered that DC Theatricks and the vacant occupancy had separate mailing addresses from the building itself. At that time, investigators stopped searching while a new warrant was sought. However, shoring operation continued to prevent the scene from further collapse, which could have caused the loss of evidence. Once the shoring operations were completed, the investigative team secured the scene and ended all operations for the day. A new warrant was obtained later that night and searching resumed the next day.

127. On March 5, 2023, investigators utilized a UAS to assess the building for any movement or safety concerns. Investigators then utilized an IGL canine in areas of the scene that were safe to work in, including the first floor and basement. No alerts or changes of behavior were noted. See the IGL Canine report for details. At that time, the decontamination line was discontinued.

128. Additionally, Electrical Engineer (b)(6)/(b)(7)(C) worked with the electric company to check and remove the electric meters from the building. Meanwhile, other investigators began to process and layer debris in the first floor, northeast corner of DC Theatricks.

129. On March 6, 2023, Investigators utilized an IGL canine during the search. No alerts or changes of behavior were noted. See the IGL Canine report for details. Additionally, Electrical Engineer (b)(6)/(b)(7)(C) worked with the gas company to check and remove the gas meters from the building. Meanwhile, after the basement was thoroughly documented, all fire investigators on scene were able to walk through and examine the fire damage. Investigators then examined the first floor, west side of DC Theatricks.

130. On March 7, 2023, investigators processed areas of the basement that sustained fire damage from direct flame impingement, including the cutting tables. Meanwhile, other investigators continued to process the first floor, northeast corner of DC Theatricks. Investigators also examined the first floor and basement of the vacant bike shop. Investigators also examined the single-story warehouse.

131. On March 8, 2023, investigators continued to process the basement and first floor of DC Theatricks.

132. On March 9, 2023, investigators documented the basement and first floor of DC Theatricks. After the documentation was completed, an excavator was used to demolish the single-story warehouse on the east side of the structure. Once the excavator started its activities, investigators were not allowed to go back into the structure for their safety. The only exception was to allow the photographer inside for a limited amount of time to document the scene. All excavator activities were performed under the supervision of and directed by LETS (b)(6)/(b)(7)(C) After the warehouse was demolished, the excavator was used to remove concrete masonry units

(CMU) from the center section of the east wall of the three-story structure. This was completed so the building would maintain structural integrity and then allow investigators to remove debris from the interior of DC Theatricks with the excavator.

133. On March 10, 2023, no scene examination work was completed due to a snowstorm and the funeral of FF Arno. The excavator was allowed to work to the east of the three-story structure to prepare a safe foundation to work from. No excavation of the three-story structure took place on March 10, 2023. All excavator activities were performed under the supervision of and directed by LETS (b)(6)/(b)(7)(C)

134. On March 11, 2023, the excavator continued to remove debris from the three-story structure. Once the excavator removed all the debris it could safely reach, all fire investigators on scene were able to examine the scene from the exterior of the building. On March 11, 2023, the scene examination was concluded. No scene work took place on March 12, 2023. On March 13, 2023, the scene was released to the Buffalo Fire Department.

Exterior Scene Examination

135. During the scene examination, investigators inspected the exterior of the structure. The examination began on the west side of the structure and proceeded in a clockwise direction. The front of the structure faced west toward Main Street.

136. **West side (Figure 1):** The west side of the structure was heavily damaged during the fire. Much of the façade on the west side of the building was consumed and/or failed during the fire. Large sections of structural brick and metal I-beams were exposed. All windows failed except for the northern-most first floor windows. Those windows were broken by the fire department during suppression operations. Soot and smoke deposits were observed on surfaces that did not fail during the fire.

137. Overall, the damage was slightly worse on the northern side of the west face of the building. At ground level, the upper portions of the front face of the north faux column had failed, while the southern faux column remained intact. There were also more significant smoke deposits on the remaining façade on the northwest corner of the building than on the southwest corner of the building. Additionally, more decorative metal coverings failed on the northern side of the west face of the building than on the southern side.

138. **North side:** The north side of the three-story portion of the structure had several windows of varying size. During the Video Review, some of the glass in these windows can be seen falling to the ground after the first backdraft. There were four small windows on the first floor, north side. There were little to no smoke deposits above these windows. There were five windows on the second floor. There were moderate soot and smoke deposits above these windows. These deposits were angled to the west due to the wind conditions on the morning of the fire. There were three windows on the third floor. There were only minor smoke deposits around these windows.

139. The north side of the three-story portion of the structure also contained an entry doorway to DC Theatricks at ground level and a plywood-covered opening to the west of the doorway used for intake and exhaust piping for the basement natural gas-fueled furnace. The plywood covering the opening to the west of the doorway sustained significant charring and mass loss on the interior surface while the remaining exterior surface was free from such damage.

140. Pieces of wood had been used to secure plastic over the brickwork that needed repair. The plastic extended down and covered the doorway. This plastic had been rolled upward and secured above the doorway the morning of the fire. The plastic above the doorway charred and melted, while the plastic further to the east remained intact. Also, the piece of wood directly over the doorway sustained charring and mass loss while the other pieces of wood were free from fire damage. Additionally, the metal doorframe sustained significant oxidation.

141. On March 1, 2023, emergency demolition had started, and the eastern half of the single-story warehouse had been knocked down. The north side of the warehouse had four large windows and one smaller window that had been covered over with plywood. No soot or smoke staining was visible on the remaining section of the north wall.

142. Additionally, there was a metal-framed fire escape that extended from the east face of the third floor to a platform attached to the north exterior wall of the single-story warehouse. There were no stairs or ladder that extended to ground level.

143. **East side:** Although the demolition had started on the east side of the warehouse, investigators were still able to examine the remains of the building. Additionally, investigators were able to review post-fire photographs of the building taken by (b)(6)/(b)(7)(C) (ATF ROI #28). On the east side of the single-story warehouse, there was a roll-up garage door and an entry door at ground level. There were also two windows, one above each door. The windows had been covered with plywood. There were no deposits of soot or smoke above the doors or windows.

144. The second and third floors of the three-story structure extended above the single-story warehouse. The third floor had a doorway that accessed the fire escape. There was light to moderate soot and smoke staining across the third floor exterior wall. The second floor had three large openings that had contained various doors or windows. All of those openings had failed during the fire, which resulted in three large openings. There was light to moderate soot and smoke staining across the second floor exterior wall.

145. **South side:** The south exterior wall of the three-story structure abutted the north wall of 741 Main Street. 741 Main Street was a two-story structure, so the top of the second floor and third-floor exterior wall of 743/745/747 Main were visible. There were seven windows that were centrally located on the third floor of the south wall. There were also four small windows at the top of the second floor of the south wall. Light to moderate soot and smoke deposits were observed around the window openings.

146. The south exterior wall of the single-story warehouse abutted the north wall of 742 Washington Street. There were no doors or windows on this section of exterior wall. It also did not sustain any significant soot or smoke staining.

147. **Roof:** Investigators examined the roof of the structure with the aid of an UAS. The center of the single-story warehouse's roof was of bowstring construction. The remainder of the roof sloped downward away from the base of the bowstring and was supported by wood roof joists. The outermost roof covering for the warehouse was comprised of a combination of materials. Much of the membrane covering the bowstring construction was still in place. The top side of many sections of wood material were left un-charred. A large metal vent on the east side of the roof did sustain significant oxidation from the fire.

148. The three-story portion of the building had a flat, membrane roof, previously described. Much of the roofing material had been consumed and subsequently collapsed during the fire. The only remaining section of membrane material was located on the western third of the three-story portion of the building.

Interior Scene Examination

149. Investigators examined the interior of the structure. Due to structural collapse, the second and third stories were determined to be unsafe to work in. These areas were examined with the use of camera systems and UASs. Additionally, the area to the east of the centrally located stairs on the first floor of DC Theatricks was deemed unsafe to work in. Again, these areas were examined with the use of camera systems and UASs. However, the Buffalo Fire Department USAR team was able to shore the flooring of the first floor in the far northeast corner of DC Theatricks, so this area could be processed by the investigative team. The warehouse will be described first, followed by the three-story structure.

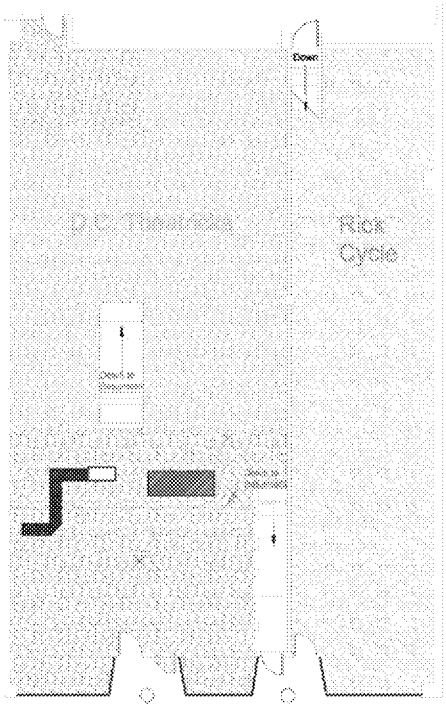

Figure 28 – First floor - Areas highlighted in yellow were deemed unsafe to work in.

150. **Single-story warehouse**: Investigators examined the single-story warehouse in person. Additionally, investigators examined photographs that were taken post-fire before any demolition occurred (ATF ROI #28). Investigators observed items at floor level throughout the warehouse to have almost no thermal damage. There was no melting of plastics and the paint had not been consumed. Investigators observed whiteboards on the south wall of the structure that were free from fire damage. Also, along the south wall were items in fabric storage bags, which were undamaged by the fire. Items along the north wall still had paint remaining on their surfaces and were free from thermal damage. These items included pallets, light fixtures, and pallet jacks.

151. Wooden ceiling joists in the northwest corner of the warehouse sustained significant charring and collapse. However, items at floor level in this area, including a table and washing machine were free from any significant fire damage. This area of the warehouse was adjacent to the northeast corner of DC Theatricks, including the north door to the occupancy.

152. **Three-Story Structure, Third Floor (Figure 29):** The third floor of the structure was examined with the use of an UAS. As previously stated, the third floor was devoid of contents/furnishings. Most of the eastern portion of the roof collapsed into the structure. The horizontal steel I-beams at ceiling level showed oxidation while the vertical support I-beams did not. The wooden ceiling joists on the west side of the structure showed deep charring and mass loss. The stairwell was centrally located on the west end of the third floor. The walls of the stairwell were framed with wooden 2x4's, and the walls had been covered with lathe and plaster. Much of the lathe and plaster had failed and exposed the wood structure. Most of the 2x4s were undamaged by the fire.

153. Sections of the floor in the southeast corner of the third floor had collapsed into the second floor. Some areas of the floor in this area were still attached to the south wall of the structure, indicating the failure of the floor occurred toward the center of the building. The flooring surface was covered in soot and smoke deposits. However, the surfaces were not deeply charred. Conversely, the exposed wooden floor joists showed deep charring, indicating a fire underneath the floor.

Figure 29 – Third floor, stitched and cropped image taken from UAS photographs facing east.

154. **Three-Story Structure, Second Floor (Figure 30):** The second floor of the structure was examined with the use of an UAS. As previously stated, the second floor was devoid of contents/furnishings. The ceiling joists on the second floor served to support the flooring of the third floor. The ceiling joists in the southeast corner of the structure had collapsed. The remaining ceiling joists sustained deep charring and mass loss on the east side of the structure, with increasing survivability moving to the west side of the structure.

155. The stairwell was centrally located on the west end of the second floor. The walls of the stairwell were framed with wooden 2x4's and the walls had been covered with plaster. Much of the lathe and plaster had failed and exposed the wood structure. Most of the 2x4s on the north, south and west sides were undamaged by the fire. However, many of the studs on the east-facing wall had collapsed into the first floor. Additionally, the doorway in the southeast corner of the stairwell sustained significant charring and mass loss.

156. Although damaged by the collapse of the third floor, most of the flooring on the south side of the second floor (above the vacant bike shop) remained in place. The flooring on the north and east sides of the second floor

(above DC Theatricks) had failed and collapsed into the first floor. Some areas of the floor in this area were still attached to the north wall of the structure, indicating the failure of the floor occurred toward the center of the building. The floor on the west side of the structure did not fail during the fire. Additionally, much of this flooring had light to moderate soot and smoke staining. However, there were many areas where the wood surface of the floor survived, relatively undamaged. Conversely, the exposed wood floor joists showed deep charring, indicating a fire underneath the floor.

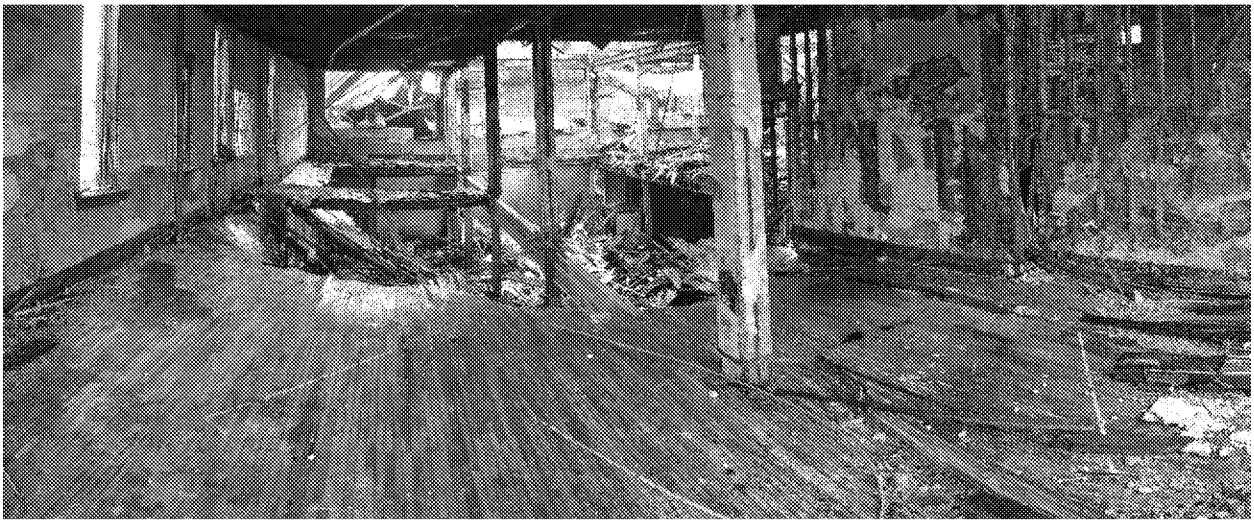

Figure 30 – Second floor, stitched and cropped image taken from UAS photographs facing east.

157. **Three-Story Structure, First Floor, Vacant Bike Shop:** Investigators examined the first-floor vacant bike shop in person and with the assistance of an UAS. This area was mostly free of contents; however, there were a few items including a metal cart, table, filing cabinet, refrigerator, ductwork, and other miscellaneous items.

158. The ceiling had been covered with square metal ceiling tiles. Most of these tiles had failed and fallen to the floor. The ceiling joists in the vacant bike shop served to support the flooring of the second floor. The greatest damage on the first floor of the vacant bike shop was to the ceiling joists. The wood joists sustained deep charring and significant mass loss during the fire. However, there was more survivability of the wooden strips that the ceiling tiles had been affixed to on the west side of the vacant bike shop.

159. Approximately 40 feet of the eastern-most portion of the wall that separated the vacant bike shop from DC Theatricks failed and collapsed during the fire. The other walls remained in place. There were directional patterns on the north and south walls of the vacant bike shop. Smoke and soot depositions and bubbling and peeling of paint were lowest on the east end of the vacant bike shop and rose to near-ceiling level when moving to the west. Additionally, items at floor level, including the metal cart and table, showed little to no thermal damage. There was a refrigerator located on the east end of the vacant bike shop near the south wall. Some of the insulation on the electrical conductors at the top of the refrigerator had begun to melt, while the same insulation on the same conductors at floor level sustained no damage.

160. Many items at floor level sustained almost no thermal damage. These items included a propane heater and 20lbs propane tank, plastics, and rubber. The wooden baseboards on the west side of the vacant bike shop survived and were free from thermal damage.

161. The combination of these patterns indicated a hot layer of gases at ceiling level throughout the vacant bike shop. This hot gas layer was lower on the east end of the vacant bike shop and rose to ceiling level near the west end.

162. Investigators also examined a heating unit that had been suspended from the ceiling. During the fire, it had fallen to the floor. Electrical Engineer (b)(6)/(b)(7)(C) examined the unit and observed the burner compartment was heavily fire damaged and melting on the aluminum gas valve assembly. Adjacent sections with the return air/blower compartment and coil sections were relatively less damaged. The gas valve in the basement serving the unit was confirmed to be open. The electric service from the basement to the unit was observed to have a blown 30A fuse. No arc melting was observed on the remaining portions of the metal clad branch circuit feeding the unit or within the unit itself.

163. **Three-Story Structure, Basement, Vacant Bike Shop**: The basement was mostly free from any contents/furnishings. The ceiling joists in the basement served to support the flooring of the first floor of the vacant bike shop. These joists were not charred during the fire.

164. There was a door on the north wall (centrally located) that led to the basement of DC Theatricks. The side of this door facing the vacant bike shop still had paint on the surface. However, the side facing DC Theatricks was heavily charred by the fire. There was also a doorway in the north wall toward the east end of the basement near the stairs. The doorframe of this doorway still had paint on its surfaces facing the vacant bike shop. There were light smoke deposits throughout the basement of the vacant bike shop; however, there was no significant thermal damage.

165. **Three-Story Structure, First Floor, DC Theatricks:** DC Theatricks was the only operating business inside the structure, occupying the northern two-thirds of the first floor and basement. The first floor was not subdivided by walls and was an open space filled with displays and storage of costumes and other materials.

166. The northwest corner was used for displaying items. The southwest corner was used as a shipping area. Counters, display cases, and the customer service areas were located to the east of the displays and shipping area. There were offices located along the north wall about halfway into the structure; however, the walls did not extend to the ceiling. There was a large area of costume storage located along the south wall of the occupancy extending north to the central staircase and extending east toward the back of the store. Costumes in this area were stored on metal racks two and three levels high. The east wall of the occupancy was used for storage and the northeast corner was used for washing costumes.

167. The ceiling had been covered with square, metal ceiling tiles. These tiles had been attached to the ceiling joists with wooden strips. However, most of these tiles had failed during the fire and fell to the floor. The ceiling joists in DC Theatricks served to support the flooring of the second floor. Most of the ceiling east of the customer service area had collapsed. The remaining ceiling joists sustained deep charring and mass loss during the fire. However, there was more survivability of the joists and wooden strips for the ceiling tiles on the west end of the occupancy.

168. The areas immediately behind the display windows on the west side of the structure were the least damaged areas of DC Theatricks. To the north of the front door were metal wire racks used for displaying items. The paint at the top of the racks had been consumed and the exposed metal had begun to oxidize. The oxidation extended about one foot down from the top of the racks. Below that area were soot and smoke deposits that extended another one to two feet downward. Below that area, and extending to the floor, were little to no soot or smoke deposits or other thermal damage from the fire on the wire racks. Lightweight combustibles on the floor in the area such as carboard boxes, fabrics, and plastics were still intact.

169. The area south of the entry door exhibited similar damage to the area north of the entry door. South of the entry door, the ceiling joists sustained significant charring and mass loss; however, lightweight combustibles at floor level, including fabrics, boxes, and pegboards, did not sustain thermal damage.

170. According to Electrical Engineer (b)(6)/(b)(7)(C)'s report, a panelboard located at the top of the stairs along the south wall of DC Theatricks was observed to have two tripped circuit breakers. One circuit breaker was associated with a timer associated with two metal clad branch circuits. One branch circuit was mechanically severed at the free end. The other was connected to an intact duplex receptacle. Arc melting penetrations were observed on a mid-span portion of the metal clad cabling. The other tripped circuit breaker was associated with a separate metal clad branch circuit in the same area. This circuit was routed to a thermally damaged, but otherwise intact, duplex receptacle on the south wall towards the west end. This receptacle had an attached arc severed power cord that was devoid of insulation. Other electrical items in the southwest corner of DC Theatricks also showed evidence of arc melting.

171. Again, according to Electrical Engineer (b)(6)/(b)(7)(C)'s report, the location of observed arc melting was mid-span on the identified branch circuits. It should be noted that the circuits remained energized during fire progression since power was not secured for several hours after the fire was reported. The blown phase A fuse on the main service disconnect can be associated with the failure of multiple branch circuits simultaneously in a particular area that have common phase A bus connections upstream.

172. Four structural, vertical I-beams were evenly spaced, east to west through the middle of DC Theatricks. Investigators located the hoseline used by the fire department during suppression operations inside the front door and located the nozzle next to the first I-beam. The hoseline and nozzle appeared to be intact. These items were documented and released to the fire department.

173. Investigators layered through and removed fire debris from the area behind the display windows to the customer service counters. During this process, investigators located a thermal imaging camera and Halligan tool used by the fire department. These items were documented and released to the fire department.

174. Two service counters were located in between the first and second I-beams from the west side of the store. The counter on the north side of the store contained glass display cases. The counter on the south side of the store was bright red in color. According to interviews, the store computer, cash register, and other electronic items were kept in and on these counters. Investigators located a computer, computer monitor, relocatable power taps, extension cords, and other electrical devices in these areas. The electrical items were free from thermal damage and were easily identifiable. Electrical Engineer (b)(6)/(b)(7)(C) examined the items in this area and found no evidence of electrical failure. Additionally, there were plastic tubs near the glass display cases and the tubs only sustained slight deformation from thermal radiation.

175. The counters on the north side of the store sustained uniform fire damage. There was also some mechanical damage on the end of the counter nearest the center of the store. The mechanical damage was caused during the collapse of the structure.

176. During suppression operations, FF Arno was located near the south end of the red counter. His gloves were recovered by investigators during the scene examination and released to the fire department.

177. The area to the east of the red counter was used as a large storage area for costumes. This area consisted of metal storage racks running east-west stacked two to three levels high. The second and third floors had collapsed into this area as well. The metal racks that were exposed exhibited oxidation and deformation.

178. The area to the east of the counters with glass display cases was used as an office space. The ceiling joists and second floor had collapsed into this area. Investigators were able to observe the wooden 2x4 studs used for framing the office area. The damage from charring and mass loss was the greatest at the top of the vertical studs with lessening damage moving toward floor level.

179. During the scene exam, investigators were unable to safely examine the southeast corner of DC Theatricks from inside the structure. Due to this safety concern, the investigative team utilized an excavator to remove a section of CMU blocks from the east wall of the structure. The excavator was then used to remove debris so investigators could examine the contents.

180. During this part of the examination, investigators observed that the second and third floor flooring and the roof materials had collapsed into this area. The excavator was used to remove these items and investigators saw deep charring of the floor joists for the second and third floors. Materials from the first floor were then recovered. These materials included racks, boxes, clothing, plastic bags, ceiling tiles, and heavy machinery. Items near the floor level, including some of the heavy machinery, sustained relatively minor thermal damage. However, items near the ceiling level, such as the ceiling tiles, sustained significant thermal damage. The floor surface in this area was mostly free from thermal damage. In many areas, the red paint from the floor was still visible, especially where boxes had been sitting directly on the floor.

181. The northeast corner of DC Theatricks was used to wash costumes. Some of the ceiling joists above this area remined in place after the fire. However, they suffered severe damage in the form of mass loss and deep charring. Most of the thinner flooring material above was consumed during the fire.

182. A sewing machine, a dyeing vat and electrical cords were located just to the east of the north doorway. These items were not in use and were not plugged into a receptacle.

183. A washing machine was located just to the west of the north doorway. The washing machine was powered by an extension cord that extended under a door into the single-story warehouse area. The extension cord was plugged into a receptacle in the warehouse, which was energized. Investigators examined the washing machine and extension cord. Arc melting was observed on a fragmented section of extension cord. This type of damage is consistent with fire impinging on an energized cord. According to Electrical Engineer (b)(6)/(b)(7)(C), there was no other evidence of electrical failure on the examined artifacts and components in this area.

184. A large commercial dryer was located next to the washing machine; however, the dryer was not in use and was not plugged in. Several large canvas laundry carts were located around the washing machine.

185. Investigators layered and removed debris from the northeast corner of the structure. Investigators were able to clear the debris down to floor level. Investigators discovered a hole in the floor in front of the door leading into the single-story warehouse. The hole allowed investigators to visually inspect a storage area below the first floor and to the east of the three-story structure basement. Items in this storage area still had paint intact. There was also an undamaged peg board in this area.

186. Once the northeast corner was clear, investigators were able to observe large patterns in the area. Investigators observed the exposed structural I-beams in the northeast corner had significant oxidation. The oxidation was

present on both the vertical and horizontal I-beams. The oxidation of the I-beams lessened in severity when moving west through the structure. The furthest west vertical I-beam exhibited almost no oxidation.

Figure 31 – Oxidized I-beams in the northeast corner facing southwest.

187. Additionally, investigators observed a clean burn pattern along the east wall. The line of demarcation separating the area of clean burn from the area with soot and smoke deposits rose when moving toward the south (Figure 32). The directional oxidation and clean burn patterns indicate longer duration and intensity of burning in the northeast corner of DC Theatricks.

Figure 32 – Clean burn pattern along the east wall facing northeast.

188. **Three-Story Structure, Basement, DC Theatricks:** The below-grade basement of DC Theatricks was accessed via two staircases. A small, enclosed staircase was located along the south wall of DC Theatricks. The entrance to that staircase was located near the south end of the red countertops. A large, open staircase was centrally located in the DC Theatricks occupancy. The east end of the basement was largely used for storage. The east wall was also used for storage of fabrics and costume patterns. Cutting tables was located directly next to the east wall and the stored fabrics. The cutting tables were where the employees would use electric and heat producing tools, including the hot cutter, heat press, computer, vinyl cutter, Eastman rotary cutter, and battery chargers. The central area of the basement, to the west of the central staircase, was also used to store materials. Additionally, the north wall was used to store various materials. Commercial irons were also located against the north wall. A bathroom was located in the northwest corner of the basement. A microwave, refrigerator and another bathroom were located in the southwest corner of the basement. The bathroom in this corner was not used by the occupants.

189. The northeast corner of the basement was free from thermal damage. Lightweight materials, such as plastics, cardboard boxes, and fabrics were intact and received only minor soot and smoke deposits. Moving west toward the central staircase, the ceiling joists sustained some charring and mass loss. The least amount of damage was on the north end of the joists with worsening damage moving toward the south. Items at floor level under these joists were relatively free from thermal damage. Items, including plastic garbage cans, fabrics, and thread on spools, were intact and readily identifiable.

190. There was a two-inch gas line running north-south through the east end of the basement. The line originated from the vacant bike shop and penetrated the wall separating DC Theatricks from the vacant bike shop. There was a mechanical sever on the DC Theatricks side of the wall where the pipe entered DC Theatricks. There

were no significant areas of thermal damage (charring, melting, deformation) on the wall or the ceiling joists directly above the broken area of the gas line. This indicates the first floor collapsed into the basement and severed the gas line at that time.

191. The southeast corner of the basement sustained more damage than the northeast corner. In the southeast corner, the first floor had collapsed into the basement. In this area, ceiling joist members suffered significant charring and mass loss. The damage was greatest approximately five to 10 feet away from the south wall and lessened when moving toward the north. Peg boards located to the north and south of this area had survivability at floor level; however, they sustained charring and mass loss on their upper portions. The lowest area of damage in this area was located in and around three racks of costumes and patterns. Most of the costumes and patterns on these racks suffered significant mass loss and had fallen off their hangers onto the floor.

192. Metal storage racks were located along the south wall next to the southernmost clothing rack in the southeast corner of the basement. Plastic tubs of fabric materials were located on these racks. The racks at floor level suffered minor deformation and melting. However, the tubs and fabric at ceiling level suffered significant charring, melting and mass loss.

Figure 33 – Photo facing east into the southeast corner of the basement.

193. Continuing west along the south basement wall, lightweight fuels (plastic tubs and cloth) were stacked to ceiling level. All of the materials on the top shelves sustained significant thermal damage in the form of mass loss and charring. These racks continued to a bump out in the wall for the south staircase. After the bump out, fabric and costume patterns were hanging along the bottom portion of the wall. Above the fabric and patterns were four wooden shelves. These shelves contained plastic baskets and fabric. The top three shelves failed and collapsed during the fire while the bottom shelf remained in place. Some of the plastic baskets on the bottom

shelf had melted from the top down with the bottoms surviving. The wall behind the shelves sustained thermal damage. The paint on the wall had been consumed and there were areas of significant soot and smoke deposits.

Figure 34 – South wall of basement.

194. Investigators examined the west end of the basement and observed heavy soot and smoke deposits at ceiling level. These deposits lessened in severity when moving down the wall toward floor level. Additionally, lightweight fuels, such as plastics and cardboard boxes sustained little to no thermal damage along the entire west wall.

195. An area of notable damage was located in the southwest quadrant of the basement. There were two cutting tables in this area that sustained significant damage. The cutting tables were used by employees to manufacture costumes. The eastern cutting table was longer in length than the western cutting table. Additionally, the employees conducted most of their work on the eastern table.

196. Above the tables were ceiling mounted florescent light fixtures and a power rail. The light fixtures and power rails were examined by Electrical Engineer (b)(6)/(b)(7)(C). Although damaged from the fire, no arc artifacts were located on these items. There was no evidence of electrical failure on these components. This is consistent with statements that much of the basement electricity had been turned off at the circuit breakers. Therefore, these items were eliminated as potential causes of the fire.

197. Investigators layered through the debris on the tables. The debris was placed in buckets, brought to the sidewalk in front of DC Theatricks and sifted through. No significant items were located during the sifting operation.

198. Each cutting table had thermal damage to fabric and boxes located on top of the tables. The most significant damage was on the west end of the eastern table and on the east end of the western table. These areas sustained significant damage and the boxes and fabric in these areas were reduced to fine, white ash. However, lightweight fuels nearby on the tables, such as cardboard boxes, foam, and fabrics, remained relatively free from thermal damage (Figure 35).

Figure 35 – Southwest basement including cutting tables.

199. Another power rail and electrical receptacles were located under the eastern cutting table. This power rail was free from any significant damage. Lightweight fuels under the tables, such as plastic bags and fabrics, did not sustain significant thermal damage. Moreover, the under-side side of the tables did not sustain significant damage or smoke staining except in areas where the material burned through the top of the table. Additionally, these areas of damage were located away from where the electronic and heat producing tools had been used.

200. Investigators located the tools referenced by employees during their interviews. The computer, vinyl cutter, Eastman rotary cutter, and hot cutter were all located in the central portion of the eastern cutting table. These tools did not sustain any significant fire damage and did not show any signs of failure (Figure 36). These tools were also located to the east of the significant damage on top of the tables. A large cardboard roll on top of the table separated the area of significant fire damage from the tools. The only damage to the cardboard roll was on the top side nearest the south wall. In this area, the cardboard sustained some charring and mass loss. The tools were collected and turned over to the Buffalo Fire Department.

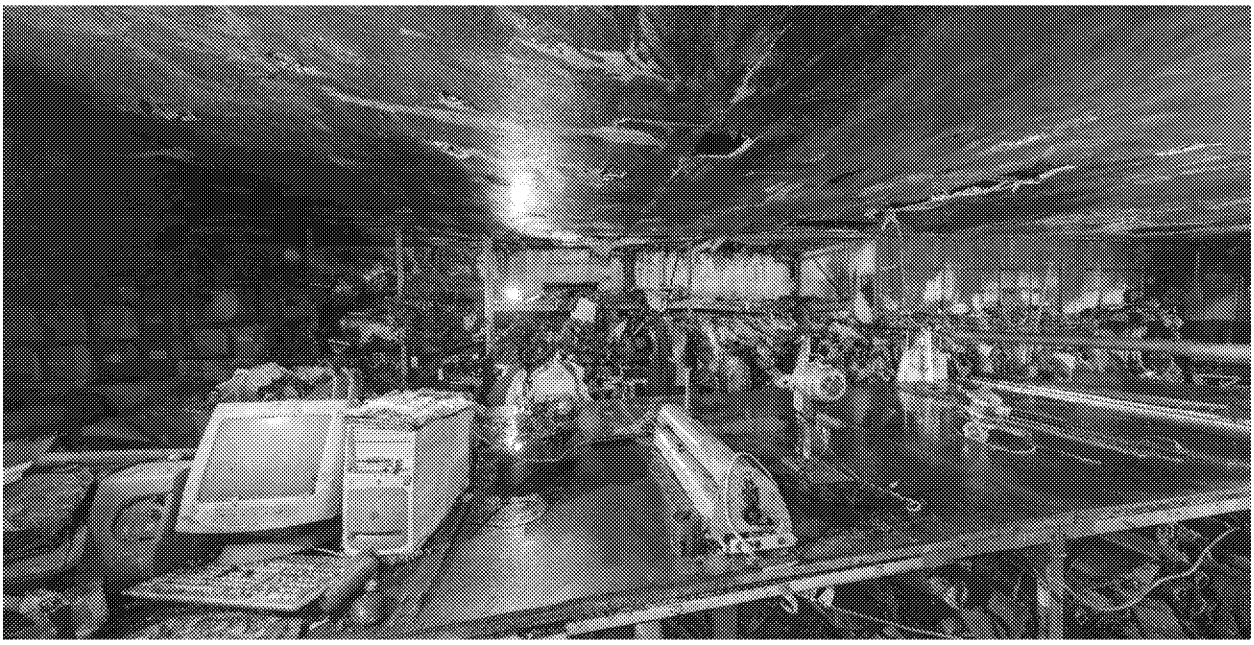

Figure 36 – Eastern cutting table with tools intact.

201. There were several electrical items located on top of the western cutting table, including a computer tower, printer, and a plotter. None of the items on this table were plugged into an electrical receptacle. The most significant damage to the table was located on the northeast corner of the table near the computer tower. In this area, items burned through the table surface. The western end of the table and the western edge of the plotter were free from thermal damage. Additionally, sections of foam under the table were still intact.

202. Investigators examined the north section of the basement and observed heavy soot and smoke deposits at ceiling level. These deposits lessened in severity when moving down the wall toward floor level. Additionally, lightweight fuels, such as fabric, plastics and cardboard boxes, were stacked to the ceiling along much of the north wall. These items sustained little to no thermal damage along the entire wall. Additionally, racks of clothing and cloth mannequins were located in this area and also sustained no significant thermal damage.

203. Investigators also located commercial irons and sewing machines in the northwest quadrant of the basement. These tools did not sustain any significant thermal damage and showed no signs of failing. Cloth material and thread on spools located next to these tools were free from any thermal damage.

204. During the examination of the basement, investigators discovered evidence of a waterline. As suppression operations continued during the fire, the basement would have begun to fill with water. Investigators discovered waterlines on mannequins in the basement at 54.5 inches above floor level. Additionally, investigators located charred debris that came to rest on top of cloth or fabric. This is indicative of the charred materials floating in the water and then coming to rest on objects as the water receded.

RESEARCH:

205. During the course of the investigation, testing was conducted, and research was reviewed to obtain information pertinent to the scene examination and testing of hypotheses.

206. Investigators conducted tests with the propane torch used by (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C). Investigators operated the torch and observed the visible flames. With the handle on the torch fully depressed the visible flames impacted the concrete floor and extended for approximately two feet (Figure 37).

Figure 37 – Propane torch flames.

207. Investigators utilized pocket rod measuring devices when conducting the tests. During one of the tests, the torch was located approximately three and a half feet away from the pocket rod. The handle on the torch was fully depressed however, flames were not constantly visible and would intermittently appear and disappear. Despite visible flames only sporadically appearing, the pocket rod began to discolor and ignited resulting in charring and melting (Figures 38 and 39).

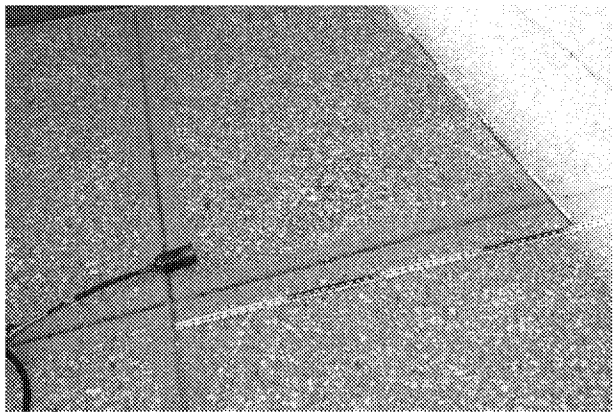

Figure 38 – Torch and pocket rods.

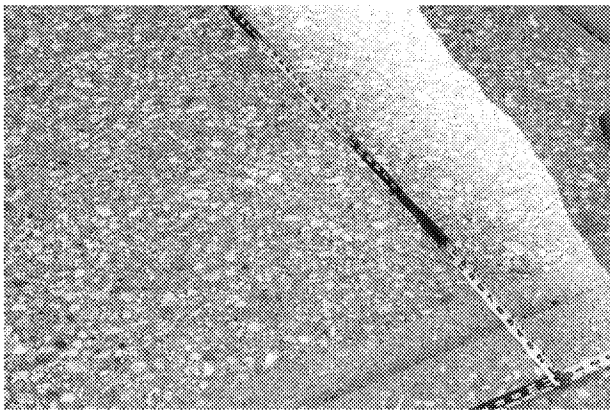

Figure 39 – Discolored and melted section.

208. In 2001, the National Institute of Standards and Technology (NIST) published research regarding clothing fires. [2] In the tests NIST conducted, men's suits were placed on a metal rack approximately six feet in length. The racks had two rows of suits. DC Theatricks had similar arrangements of clothing suspended from metal racks. However, some of the racks in DC Theatricks were longer and some racks were stacked two or three levels high. NIST preformed three tests. In each test, a heat release rate of one megawatt was sustained for about five minutes. However, one test briefly spiked to two megawatts.

Figure 40 - DC Theatricks – Pre-fire.

Figure 41 - NIST Testing.

209. In 2009, ATF conducted research on the ignition propensity of clothing by cigarettes. [3] In this research, ignited cigarettes were placed into piles of clothing. During the testing, researchers found that the clothing would not transition to flaming combustion without constant air flow across the surface of the materials and cigarettes. Additionally, researchers commented that high relative humidity could have also been a factor in the test results. The relative humidity during the testing was reported to be between 66% and 73%.

EVIDENCE:

210. During the scene examination, investigators documented the scene via photography and diagraming. Additionally, the following items were recovered from the scene and turned over to the Buffalo Fire Department (ATF ROI #120):

a. Right hand fire glove
b. Fire helmet liner
c. Halligan tool
d. Left hand fire glove
e. Scott thermal imaging camera
f. Vinyl Express machine
g. Plastic Eastman master tool
h. Two battery operated drills
i. Memorex radio
j. Hot Knife
k. Phone charger
l. Pencil Sharpener
m. Eastman cutting tool
n. Soldering tool
o. Charging base
p. Thread Lubricant

INJURIES AND/OR FATALITIES:

211. Buffalo Fire Department Firefighter Jason Arno, Engine 2, became trapped in the structure during suppression efforts and died as a result of his injuries. The preliminary report from the Erie County Medical Examiner's Office listed the cause of death as smoke inhalation and thermal injuries. For additional details, see the medical examiner's report. Other firefighters reported minor burns.

FIRE PROGRESSION TO OTHER STRUCTURES:

212. No other buildings were affected by the fire.

WEATHER:

213. After reviewing the following weather information from Weatherunderground.com and considering witness information, it was determined that weather was not a factor in the ignition of the fire:

Hourly Weather History & Observations for zip code 14203 on March 1, 2023:

Time	Temp.	Dew Point	Humidity	Wind	Wind Speed	Wind Gust	Precip.	Condition
12:54 AM	29 °F	24 °F	82 %	S	5 mph	0 mph	0.0 in	Mostly Cloudy
1:54 AM	30 °F	25 °F	82 %	SSE	7 mph	0 mph	0.0 in	Cloudy
2:54 AM	30 °F	25 °F	82 %	ESE	5 mph	0 mph	0.0 in	Cloudy
3:54 AM	30 °F	25 °F	82 %	E	9 mph	0 mph	0.0 in	Fair

4:54 AM	31 °F	25 °F	79 %	SE	9 mph	0 mph	0.0 in	Cloudy
5:54 AM	30 °F	24 °F	79 %	ESE	7 mph	0 mph	0.0 in	Cloudy
6:54 AM	30 °F	24 °F	79 %	E	6 mph	0 mph	0.0 in	Cloudy
7:54 AM	30 °F	24 °F	79 %	NE	9 mph	0 mph	0.0 in	Cloudy
8:54 AM	33 °F	25 °F	72 %	SE	6 mph	0 mph	0.0 in	Cloudy
9:54 AM	34 °F	24 °F	67 %	E	9 mph	0 mph	0.0 in	Cloudy
10:20 AM	35 °F	23 °F	61 %	E	7 mph	0 mph	0.0 in	Light Snow

Figure 42 – Weather data.

ANALYSIS AND HYPOTHESES:

Area of Origin

214. Investigators analyzed witness information, electronic data, fire patterns, and fire dynamics when considering potential areas of origin. Based upon a review of all the available information, the possibility of a fire originating on the exterior of the structure was eliminated.

215. Warehouse: The single-story warehouse was considered and subsequently ruled out as a potential area of origin. Video review shows the first indication of smoke and/or fire was at the north doorway of DC Theatricks. Additionally, the scene examination revealed that most of the items inside the warehouse were relatively free from fire damage, especially the items located at floor level. Moreover, the only direct access between the warehouse and three-story structure was located at ground level. These doors were closed and secured.

216. Third Floor: The third floor of 743/745/747 Main Street was considered and subsequently eliminated as a potential area of origin. Witnesses and firefighters first reported smoke emanating from the first floor of the structure. Additionally, the third floor had been cleared of contents. Also, gas and electrical services had been discontinued to this floor. An examination of the third floor revealed the underneath side of the floor joists sustained much more severe damage then the top side of the floor. This indicated the fire originated somewhere under the third floor and then spread upward.

217. Second Floor: The second floor was considered and subsequently eliminated as a potential area of origin. The second floor was in similar condition to the third floor with contents removed and gas and electrical service disconnected. As with the third floor, the most severe damage was located on the underside of the floor. There was considerable survivability of the floor surface, with the painted surface surviving in some areas. The severe damage to the underside of the floor indicated the fire originated somewhere under the second floor and then spread upward.

218. Vacant Bike Shop, First Floor: The first floor of the vacant bike shop was considered and subsequently eliminated as a potential area of origin. Most of the furnishings and other items had been removed from the vacant bike shop. However, a few items remained in the space. These items included a metal hand cart, a table, metal filing cabinets, HVAC ductwork, a propane tank and heater, a forced air gas furnace that had been suspended from the ceiling, and other miscellaneous items. Of the items observed, only the propane heater and forced air furnace could have been competent ignition sources. However, upon examining the items, investigators observed that the propane heater was free from thermal damage. The plastic components, labels, and paint were all intact. Additionally, the heater was found on top of a wood-framed door that was laying on

the floor. The wood-framed door was also free from any thermal damage. Moreover, the fire patterns within the space indicate a fire at ceiling level with the greatest damage being on the east side and decreasing toward the west.

219. The forced air gas furnace had been suspended below a metal tile ceiling and was enclosed in a metal housing. If a failure had occurred within the unit, there was no secondary fuel in close proximity that could have been ignited. The damage observed was the result of fire impinging on the unit.

220. Vacant Bike Shop, Basement: The basement of the vacant bike shop was considered and subsequently eliminated as a potential area of origin. The basement of the bike shop contained no furnishings. Light to moderate soot and smoke deposits were located throughout the space; however, there was almost no thermal damage to any of the items in this area. One exception was the door that separated the bike shop basement from DC Theatricks' basement. The wood door sustained charring and mass loss on the upper portions of the door. However, the DC Theatricks side of the door sustained far greater damage than the vacant bike shop side of the door. These patterns clearly indicated a fire on the DC Theatricks side of the door that started to breach into the vacant bike shop basement.

221. Additionally, there was no thermal damage to the main electrical service, enclosed distribution buss, wireways, meters, disconnect switches or other electrical service components in the basement. The only exception was the phase A fuse, which had blown. This failure had been caused by the fire impinging on several first-floor circuits simultaneously.

222. After eliminating the warehouse, third floor, second floor, and vacant bike shop (first floor and basement) as possible areas of origin, the only remaining area was the DC Theatricks occupancy. Within DC Theatricks, several areas were considered as possible origins.

223. Based on interviews, pre-fire photographs, the scene examination, and prior research, the volume, orientation, and geometry of the stored costumes and fabrics throughout DC Theatricks would have provided a tremendous fuel load, especially on the first floor. A fire in this environment would have quickly developed into a very large fire and subsequently become oxygen limited until additional oxygen was introduced.

224. DC Theatricks, First Floor: The western third of the first floor of DC Theatricks was considered and subsequently eliminated as a potential area of origin. During the initial fire attack by the fire department, firefighters made entry into the front door on the west side of DC Theatricks. They reported high heat and heavy smoke but no flaming combustion. In fact, firefighters could not see any flames or glow from a fire and believed the fire was further east in the structure. Firefighters eventually made their way to near the customer service counters of DC Theatricks. During the scene examination, these counters and the appliances in and on the counters had a high degree of survivability, with many items at floor level sustaining little to no damage.

225. The central third of the first floor of DC Theatricks was considered and subsequently eliminated as a potential area of origin. As previously stated, firefighters made their way to the service counter area, almost to the large central staircase and still could not see any flames or glow. Additionally, upon initially responding to the scene, fire department personnel only reported flaming combustion inside the north doorway to DC Theatricks. The doorway was on the far eastern end of the occupancy. Also, according to the building occupants, the circuit breakers serving the circuits in this area had been turned off. In addition, investigators were able to visually inspect the area and utilized camera systems and an UAS to obtain additional images from different perspectives. The greatest damage in this area was at ceiling level with lessening damage toward the floor.

This was evidenced in the vertical 2x4 wooden studs in the office area, as well as other items throughout the space.

226. Investigators considered the possibility of the fire originating in the eastern portion of the first floor of DC Theatricks. The fire was first discovered by (b)(6)/(b)(7)(C) who was working just outside the north doorway to DC Theatricks. According to the 911 call and the surveillance video, (b)(6)/(b)(7)(C) saw, "flames under the door." After discovering the fire, (b)(6)/(b)(7)(C) unscrewed the east side of the plywood and opened it. He was briefly met with flames but then kicked the plywood the rest of the way open. Shortly after he kicked the plywood open, (b)(6)/(b)(7)(C) (b)(6)/(b)(7)(C) took a video of the building. Her video showed the plywood still attached to the west side of the door frame and in a vertical position. The interior surface of the plywood showed charring only on the east side, while the west side was relatively undamaged. The fire pattern on the inside surface of the plywood would have been caused by a fire originating in the materials on the east side of the doorway and quickly spreading upward.

227. Additionally, the first responding fire department units on Main Street did not initially report any smoke or flames on the west side of the building. Upon beginning to walk around the structure, Investigator (b)(6)/(b)(7)(C) first observed flames inside the north doorway to DC Theatricks.

228. A large fire deeper in the structure would have resulted in significant radiation uniformly impacting the plywood covering the north doorway to DC Theatricks. This type of fire inside the structure would be inconsistent with the pattern observed on the interior face of the plywood. Additionally, according to DC Theatricks employees, the electrical circuits in this part of the building would have been de-energized at the breaker. The area just inside the north doorway to DC Theatricks could not be eliminated as a potential origin of the fire.

229. DC Theatricks, Basement: The basement of DC Theatricks was considered and subsequently eliminated as a potential area of origin. The significant fire damage was located along the southern side of the basement. There was thermal damage to items under the collapsed first floor in the southeast corner of the basement, thermal damage along the upper shelves and storage racks along the south wall, and thermal damage to items on top of the cutting tables in the southwest corner of the basement.

230. During the examination, investigators considered the area on top of the cutting tables as a potential area of origin(s). The damage appeared to be localized on the tables. However, during the processing and sifting of the debris from the tables, no competent ignition sources were discovered. Additionally, the circuits to the light fixtures and power strips above the tables had been de-energized at the breaker. Moreover, the fires on the tables did not develop into high heat release rate fires. They remained smoldering fires, as evidenced by the survivability of the nearby, lightweight fuels. These longer duration, low heat release rate fires consumed the immediate fuels, resulting in the fine white ash observed by investigators. If a larger fire had originated on the tables, the larger heat release rate would have consumed the nearby, lightweight fuels.

231. As the scene exam in the basement progressed, investigators discovered the area of thermal damage under the collapsed first floor in the southeast corner of the basement. In this collapse zone, investigators observed more racks that had contained fabrics and costume patterns, similar to Figures 37 and 38. In this area, the greatest damage was at ceiling level with the ceiling joists suffering significant charring and mass loss. Some of the fabrics and patterns had fallen off the hangers and the remains were near floor level. One of the racks extended to the west and was located next to a metal shelving unit containing plastic storage tubs filled with various materials. The shelving units extended to the ceiling of the basement. The fabrics and patterns hanging on the rack were about three to five feet above floor level. The plastic tubs at this height sustained some melting and deformation. However, the tubs and fabrics at ceiling level sustained far greater damage. These patterns

indicate that the tubs on the metal shelving units were more affected and sustained greater damage from ceiling jets and/or the hot smoke and gas layer than radiation from the racks of costume patterns and fabrics.

232. As fire spread along the top of the racks against the south wall, the hot smoke and gas layer would have impacted the wall until reaching the bump out for the south staircase. This bump out would have redirected some of the fire flow and hot gases over the cutting tables. Embers would have then dropped down on to the tables and created small smoldering fires on the tabletops. Meanwhile adjacent lightweight fuels, such as foam, remained intact.

233. According to DC Theatricks employees, the electrical circuits in the southeast corner of the basement would have been turned off. Additionally, investigators observed the circuits in this area to be inside of conduit. Also, employees had not been working in this area of the basement. The damage observed was the result of the collapse and subsequent fire spread into the basement.

Ignition Sources/Causes

234. Investigators examined the area of origin of the fire for heat-producing items and competent ignition sources. The following reasonable cause scenarios were considered by investigators during the investigation.

235. Building Electrical System: During the scene examination the building electrical system was examined. The circuits in the building were contained within conduit. Several arc artifacts were located in the southwest corner of the first floor. However, the southwest corner of the first floor was outside the area of origin. Additionally, firefighters made their way through this area during the initial fire attack and reported no fire in the southwest corner. The electrical service was not immediately disconnected and, as the fire progressed, it impacted these circuits. Near simultaneous fire impingement on these circuits resulted in the phase A fuse blowing.

236. The FEMA, Fire Investigation: Essentials, FI: E-Student Manual, 1st Edition, 4th Printing (2022) contains three common electrical failure points, conductor entry points, connection points, and transition points. The document also states that, "Failures in a straight run of conductor are **extremely** rare." [4]. It also states that, "Wiring in conduit or behind walls normally will not fail in the middle of a run without some sort of mechanical event." [5].

237. Moreover, as referenced in Electrical Engineer (b)(6)/(b)(7)(C)'s report, NFPA 921 states, "sparks from arcs in branch circuits are inefficient ignition sources and can ignite only fine fuels when conditions are favorable." [6]. With the circuits encased in conduit, this scenario is even less likely.

238. As previously stated, only a few circuits remained energized in the structure. None of the energized circuits were located in the area of origin identified by the investigative team.

239. According to Electrical Engineer (b)(6)/(b)(7)(C)'s report, there was no evidence of electrical failure resulting in fire causation on any of the examined electrical artifacts or building electrical components. A failure of the building electrical system was eliminated as a potential cause of the fire.

240. Electric and heat producing Tools – Investigators learned through the interviews of the DC Theatricks employees that several electrical and heat producing tools had been used in the basement the day before the fire. These tools included a heat press, computer, vinyl cutter, Eastman rotary cutter, and irons. During the scene examination, investigators were able to locate these tools. All the tools were outside the areas of significant fire damage and were not thermally damaged. Moreover, these tools were located outside the area of origin

identified by the investigative team. All the tools identified by the employees were eliminated as potential causes of the fire.

241. Incendiary Cause: Investigators also considered the hypothesis of an intentional human act causing the fire. According to the scene examination and firefighter and witness statements, the building was secured with no open doors or windows. Also, the only tenants of the buidling, DC Theatricks, did not maintain insurance. Additionally, the building had been recently purchased, and the new ownership was in the process of renovating the building with the intention of renting out the other occupancies of the building. Moreover, there was no evidence of any ignitiable liquids being used to ignite the fire. Based on the known facts and circumstances, investigators eliminated the possibility of an incendiary fire.

242. Discarded Smoking Materials: During interviews, it was learned that (b)(6)/(b)(7)(C) had smoked inside the building prior to the fire. None of the other employees observed (b)(6)/(b)(7)(C) smoking but stated he was working on the first floor, west side of the store. (b)(6)/(b)(7)(C) stated that he had smoked in that area (first floor, west side) after the other employees had left. He was adamant that he put out the cigarette and used an ash tray. Other employees stated that when they saw him smoke previously, he would carry around an ashtray with him. According to Kirk's Fire Investigation, Eighth Edition, a cigarette would be hottest during the puff or draw. After the draw is over, the temperatures are lower. [7]. Additionally, Kirk's Fire Investigation, Eighth Edition, lists the average heat release rate for a cigarette as five (5) watts. [8]. Once a cigarette is discarded, the temperature will immediately begin to lower. Based on the witness statements of (b)(6)/(b)(7)(C) and other employees, (b)(6)/(b)(7)(C) was working and smoking outside of the area of origin. Coupled with the use of the ashtray, investigators eliminated (b)(6)/(b)(7)(C) smoking as a potential cause of the fire.

243. Investigators also learned that (b)(6)/(b)(7)(C) and (b)(6)/(b)(7)(C) smoked cigarettes while working outside the north door to DC Theatricks. Investigators watched the video surveillance camera clips, and all the cigarettes were discarded into the snow except for one. One cigarette can be seen sitting on top of a pile of bricks that were going to be used to repair the wall. When the next video clip starts, the cigarette is no longer on the bricks and cannot be seen.

244. For a cigarette to be the cause of the fire, it would need to have been discarded and then roll under the plywood attached to the doorframe. The ground in this area was cold and wet. Additionally, as referenced above, a cigarette will begin to cool down as soon as there is not a draw on it.

245. The area just inside the plywood would have had conditions similar to the outside environment. According to NFPA 921, 2021 Edition, the relative humidity generally needs to be below 25% for the ignition of fuels from smoking materials. [9]. Kirk's Fire Investigation, Eighth Edition references similar humidity levels. [10]. While these sections are directed at wildfire investigations, these principles can also be applied to the circumstances of this fire. On the morning the fire occurred, temperatures were in the low 30's with the relative humidity near 70%. These cold, wet conditions are not conducive to a fire being ignited by a smoldering cigarette. Discarded smoking materials were eliminated as a potential cause of the fire.

246. Propane Torch: While conducting the video review, investigators observed a propane torch being used on the north exterior side of the structure. As previously stated, the torch is used in and around the north doorway to DC Theatricks. The door had been removed and a piece of plywood had been installed over the opening. There was a gap under the plywood, as evidenced by (b)(6)/(b)(7)(C)'s actions on video (kneeling down to look under the plywood) and (b)(6)/(b)(7)(C)'s 911 call. Investigators were able to determine that items inside the doorway were in close proximity to the plywood, and possible directly against it. This was evidenced by photographs obtained during the investigation, including Figure 25, which shows flaming debris spilling across the concrete threshold shortly after the fire was discovered.

Figure 17 – Pre-fire, north doorway.

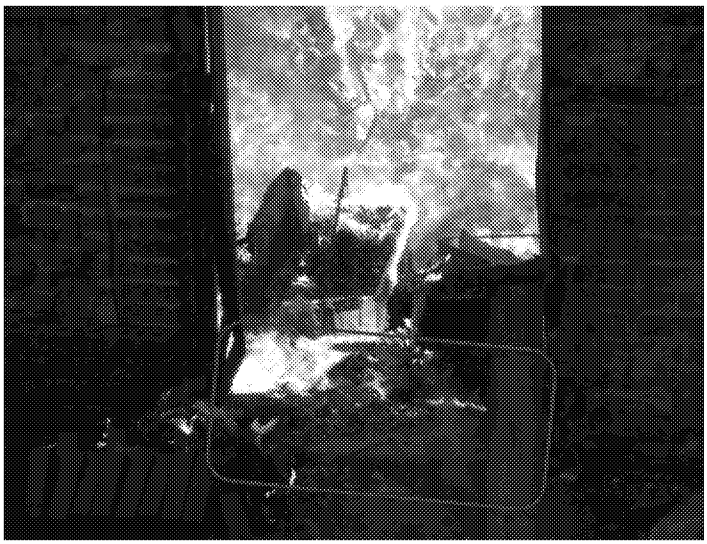

Figure 25 – Post-fire, north doorway.

247. Investigators considered (b)(6)/(b)(7)(C) s statements that a shovel had been used to shield the plywood from the torch. The visible flames emitted by the propane torch were measured and extended approximately two feet after impacting the ground. Additionally, investigators observed ignition of their measuring device approximately three and a half feet away from the torch. The shovel could not have shielded the entire gap under the plywood during the torch usage. Additionally, heat and energy from the torch went beyond the visible flames as evidenced by the testing conducted by investigators. The heat and energy from the torch were sufficient to ignite the pocket rod three and a half feet away from the torch itself.

248. Additionally, a leaf blower was used in and around the doorway as well. The additional air movement would have aided in ignition of the material just inside the doorway. Application of an accelerated air flow would have also aided in the growth of the fire once established. Additionally, shortly after the fire was discovered, (b)(6)/(b)(7)(C) opened the plywood which exposed the interior surface. A video was taken shortly after the plywood was opened, and investigators were observed a steep V shaped pattern on the east interior surface of the plywood (Figure 24). This is consistent with a fire originating in that area. Moreover, had a large fire originated elsewhere in the structure, the radiant heat from that fire would have caused uniform damage to the interior surface of the plywood. Additionally, costumes in plastic bags were hanging on the wall and extending down into the doorway, as evidenced by Figure 17. Once a fire was established just inside the doorway, it would easily spread to the material above it. Investigators were unable to eliminate the propane torch as a potential ignition source.

Figure 24 - Charring on the east interior face of the plywood

CONCLUSIONS:

249. The investigative team reached the following conclusions:

250. Origin - After conducting a systematic examination of the fire scene, evaluating the fire patterns within the scene, considering fire dynamics, and conducting interviews of witnesses, it was determined that the area of origin was located just inside the north doorway to DC Theatricks.

251. Cause - The cause of the fire was the application of an open flame from the propane torch (ignition source) to the common combustibles inside the north doorway, including bags of cloth material (first fuel ignited).

252. Classification - ATF classifies fires as either Natural, Incendiary, Accidental, or Undetermined. Considering all the known facts and circumstances of this investigation, the fire was classified as ACCIDENTAL.

DISPOSITION:

253. The investigation will be closed. If new information arises, follow-up investigative activities will be conducted by the Buffalo Police Department, the Buffalo Fire Department, the New York State Fire Marshal's Office, and ATF.

ATTACHMENTS:

Search Warrants

Erie County Sheriff's Office Canine Utilization reports

Buffalo Fire Department Canine Utilization Report

Erie County Medical Examiner's report

ATF Electrical Engineer Laboratory Report

REFERENCES:

[1] – *NFPA 921: Guide for Fire and Explosion Investigations*, Quincy, MA: National Fire Protection Association, 2021, p. 14.

[2] – *Fire Tests of Men's Suits on Racks, Test FR 4013*, D.W. Stroup et. al., Gaithersburg, MD, U.S. Department of Commerce, National Institute of Standards and Technology, 2001.

[3] – *Ignition Propensity of Clothing by Cigarettes,* K. Rush, Ammendale, MD, Bureau of Alcohol, Tobacco, Firearms, and Explosives Fire Research Laboratory, 2009.

[4] – *Fire Investigation: Essentials, FI: E-Student Manual, 1st Edition, 4th Printing*, Emmitsburg, MD, Federal Emergency Management Agency, 2022, SM 5-56.

[5] – *Fire Investigation: Essentials, FI: E-Student Manual, 1st Edition, 4th Printing*, Emmitsburg, MD, Federal Emergency Management Agency, 2022, SM 5-58.

[6] – *NFPA 921: Guide for Fire and Explosion Investigations*, Quincy, MA: National Fire Protection Association, 2021, p. 135.

[7] – *Kirk's Fire Investigation, Eighth Edition*, Icove, et. al., New York, NY, 2018, p. 264.

[8] – *Kirk's Fire Investigation, Eighth Edition*, Icove, et. al., New York, NY, 2018, p. 265.

[9] – *NFPA 921: Guide for Fire and Explosion Investigations*, Quincy, MA: National Fire Protection Association, 2021, p. 348.

[10] – *Kirk's Fire Investigation, Eighth Edition*, Icove, et. al., New York, NY, 2018, p. 516.