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SIGMA

FORENSIC ENGINEERING

Post-Fire Structural Evaluation

Inspection Location:

Queensborough National Bank
20-28 N Main St.
Metter, GA 30439

Client File No.: FWG6889
SFE File No.: 240019GA1

Prepared for:

Travelers
P.O. Box 430
Buffalo, NY 14240-0430
Attn: Mr. Jed Pickett

Prepared By:

Sigma Forensic Engineering, LLC
5885 Cumming Hwy. 108-315
Sugar Hill, GA 30518

November 4, 2024

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RE: Mr. Jed Pickett
P.O. Box 430
Buffalo, NY 114240-0430
Claim No.: FWG6889
Sigma Forensic Engineering File No.: 240019GA1
Post-Fire Structural Evaluation

Per your request, Mr. Keith Ciccotello, P.E. of Sigma Forensic Engineering inspected the subject property on October 29, 2024 to determine the extent of structural damage to the building caused by an October 5, 2024 fire event at the adjacent property.

This report is based on relevant information known to Sigma Forensic Engineering (referred to as we, us, or our) and Keith Ciccotello, P.E. at the time this report was issued. Findings and opinions expressed within this report are to a reasonable degree of engineering and/or scientific certainty based on observations by Keith Ciccotello, P.E. during his physical inspection of the property and informed by his training, education, and experience as an engineer. Keith Ciccotello, P.E. reserves the right to amend or supplement this report if additional relevant information becomes available. This engineering report was written for your sole use and purpose, and only you have the authority to distribute this report to any other person, firm, or corporation. Only the engineer who signed this document has the authority to change its contents. These changes can be made only in writing to you. This report addresses the results of work completed to date. Should additional information become available, we reserve the right to amend, as warranted, any of our conclusions.

Property Description

The Queensboro National Bank building is a two-story structure that faces approximately south. The building is constructed on a property in Candler County, on North Main Street in Metter, Georgia. The clay brick and concrete block structure is erected on a concrete slab-on-grade foundation. The first story of the western wall of the building is shared with a separate business. The second-floor structure on the interior of the building is constructed with a combination of steel trusses and wood framing. There are two covered entrances at the front elevation. The exterior walls of the building are clad with a fiberglass reinforced plaster that is adhered to the masonry walls. Windows are metal framed. There is a covered drive through ATM at the north elevation of the building. The land immediately surrounding the building slopes gradually down to the east. The interior spaces of the building are finished with wood framing and drywall. Ceilings are finished with drop tiles. There is a six-foot plenum space between the first and second floors of the building. See Figure 1 below for a front elevation of the building.

Figure 1 (Left) and Figure 2 (Right). Front Elevation of the Building and Roof Geometry.

The roof structure consists of prefabricated trusses spaced approximately 22 inches on center. The roof decking is constructed of plywood. The roof geometry of the building consists of a combination hip and gable facets covered with standing seam steel panels. The panels are painted red. The steel panels measure 16 inches wide and are secured with screws to the roof decking. Steel gutters are installed along the eaves. PVC downspouts are hidden behind the siding. See Figure 2 above for the roof geometry of the building.

Background and Interview

We met with Mr. Dennis Allen, the Senior Vice President of the bank, at the time of our inspection, and he provided background information. We were not given a specific date for the original construction of the building, however, Mr. Allen stated that it was in the early 1900s. Mr. Allen stated that the second floor of the building, including the roof system, was constructed in 1994. At this time, the concrete block walls were installed on top of the original structural brick walls of the main floor.

We were aware of the concerns regarding fire-related damage to the western portion of the building, from a fire event that occurred in the adjacent buildings on October 5, 2024. Mr. Allen expressed concerns regarding the structural integrity of the western walls of the building and the roof structure. Refer to Figure 3 below for an overview of the fire damage that occurred in the adjacent stores to the west of the building.

Figure 3. Fire overview.

General Observations

We inspected the property and documented observed conditions with field notes and photographs. Representative photographs with captions are attached to this report for illustrative purposes. All photographs captured during our inspection will be retained in our files.

We were unable to walk along the entire portion of the western exterior wall of the building during our inspection, due to structural safety issues in the adjacent building. However, we were able to utilize a drone to attain close-up photographs of the exterior wall that were not covered by rubble and debris from the adjacent store. Overall, conditions on the western elevations of the Queensborough National Bank showed approximately 1600 square feet of melted and deformed fiberglass-reinforced plaster siding, and significant soot buildup on the exposed brick and concrete block wall. The adhesive backing for the plaster siding was still present on the second-floor portion of the building. We also observed approximately 30 linear feet of melted and deformed PVC downspouts at exposed locations where the plaster siding was missing. The roof structure of the adjacent store had collapsed, exposing discolored flashing details and charred wood framing along the western elevation of the building.

The roof system on the building was intact. There were no missing, deformed, or collapsed roof components observed on the Queensborough National Bank at the time of our inspection. We noted algae growth on the roof panels near standing seams, and isolated areas where the roof paint had peeled or was deteriorated from UV radiation. These instances were observed on all of the roof slopes of the building, and were not concentrated on the western side of the building where the fire event occurred. During our inspection, we noted that approximately 50 linear feet of the gutter along the western elevation of the building was deformed.

During our inspection of the interior portion of the building, we noted soot accumulation in the attic space, the plenum, and the finished interior, where gaps in the walls and around the roof framing and decking resulted in airflow into the building interior. We also observed multiple doors that had been kicked in by the fire department, as well as broken glass at the front elevation where the fire department entered the building. Water stains in the drop tiles were observed in the front room on the second floor along the western wall consistent with spray down from the fire department. There were no discolored or burnt areas on the drywall finishings or on the drop tiles observed in the rooms along the western exterior wall of the building, which would have been indicative of heat or flames behind the drywall.

Inspection and Analysis

We inspected the building for signs of structural damage related to the October 5, 2024 fire event that occurred in the adjacent stores. We inspected each portion of the building and have listed each in individual sections, starting from the roof and the exterior, down to the main floor.

Roof Covering

Our inspection of the roof panels on the building showed no indications of damage related to the recent fire event. There was very little soot buildup on these panels and no discoloration, paint peeling, or deformations in the steel panels consistent with heat from the adjacent fire event. The rubber seals around the panel screws along the western portion of the building near the eave were not deformed or melted, indicating that the panels were not subjected to the excessive heat from the fire event. The standing seam panels on the roof of the Queensborough National Bank were not damaged by the fire event.

Exterior Wall

We inspected the western exterior wall, starting with the fiberglass-reinforced plaster exterior wall finish. The majority of the siding had either burned away or had melted and become deformed from the heat of the fire event.

Approximately 50 feet of sub fascia framing was exposed where the plaster siding burned and melted. We observed charring on approximately 25 feet of the sub fascia boards along the west elevation. The remaining portions of the exposed sub fascia framing did not appear to be charred, but were soot-covered.

Below the sub fascia, we examined the concrete block wall that had been exposed by the melted fiberglass-reinforced plaster wall. This exposed wall was covered in soot from the fire event. We observed that the adhesive backing used to secure the siding to the concrete block wall was still present, and had not been burned away by the fire. We searched the masonry walls for cracks and spalling associated with heat from the fire event. Cracks and spalling are the result of the expansion of moisture trapped inside the masonry due to the extreme heat associated with fire. Closer inspection of the exposed concrete block wall showed no cracks or spalling consistent with heat from the fire event. We were also able to observe the interior side of the concrete block exterior wall, behind the drywall finishes on the second floor, and found no cracks or spalling associated with the fire. The structural concrete block wall on the second story of the Queensborough National Bank was not damaged by the fire event.

Below the concrete block wall, we closely observed the first-floor shared clay brick wall that of the building. We observed a charred roof framing ledger for the adjacent building, as well as counter flashing details for the adjacent roof that were discolored and deformed. The clay brick wall was also covered in soot. Inspection of the brick wall showed approximately 16 bricks that were spalled, consistent with heat from the fire event. These damaged clay bricks were clearly visible due to the lack of soot accumulation at the areas where the spalling had

occurred. It should be noted that portions of the brick wall were covered by debris from the adjacent building, and there may be additional spalled bricks on the western wall; however, the primary location where the heat of the fire occurred was visible and exposed at the time of our inspection. We also observed the interior side of the brick wall from the plenum and found no spalling or cracks associated with the fire event. Inspection of the brick exterior wall of the Queensborough National Bank showed approximately 16 spalled bricks consistent with damage from the heat of the fire vent. Additional spalled bricks may be present behind the debris from the adjacent unit.

Attic Space

Inspection of the attic space of the Queensborough National Bank showed soot accumulation on the roof decking and on the tips of the roof trusses along the entire western wall. Closer inspection of the roof framing showed small areas where the interior side of the sub fascia was charred. These charred locations were near the center of the 20 linear feet of visible charring on the exterior elevation. We closely examined the tips of the roof trusses at these locations, where there was soot buildup, and found no charring. While it is possible that there was minimal charring in the tips of the trusses not visible during our inspection, we found no charred truss members that would compromise the structural integrity of the roof system. Approximately 20 linear feet of sub-fascia was damaged by the October 5, 2024 fire event. The roof trusses and the roof decking at the Queensborough National Bank were not damaged by the October 5, 2024 fire event.

Plenum Space

Inspection of the plenum space above the first floor showed small amounts of soot accumulation in areas where outside air was able to pass though the exterior wall. The steel trusses were not discolored, and the wood floor framing was not charred from the recent fire event. The second-floor framing was not damaged by the recent fire event on October 5, 2024.

First and Second Floor Interior Finishes.

Inspection of the first and second floors showed areas where soot accumulation occurred where air was able to enter through the exterior; however, there were no burn holes charring, or discoloration on the drywall associated with the fire event. Furthermore, there were no charred or damaged drop ceiling tiles consistent with the fire event.

Repair Recommendations

Inspection of the Queensborough National Bank showed that approximately 16 clay bricks on the west side of the first-floor exterior wall were spalled, consistent with exposure to heat from the October 5, 2024 fire event. These bricks can be removed and replaced by a licensed and experienced mason. It should be noted that upon removal of the debris from the adjacent storefront, additional spalled or cracked bricks may be discovered. These bricks can also be replaced.

Inspection of the roof framing system at the Queensborough National Bank showed that approximately 20 linear feet of sub fascia were charred from the October 5, 2024 fire event. This sub fascia can be removed and replaced in kind without removal of the roof trusses, and the decking, or framing, after removal of the deformed western gutter. Additionally, the PVC downspouts can be replaced in kind prior to the removal and replacement of the fiberglass-reinforced plaster siding on the west elevation. It should be noted that upon removal of the sub fascia member, additional replacement considerations should be made for any roof framing members that show charring, which were not visible beforehand.

Additional framing members, roof decking, and interior finishes with soot accumulation can be scrubbed by a licensed and experienced technician. The structural components with soot accumulation will continue to function as intended and were not damaged by the October 5, 2024 fire event.

Conclusions

1. The October 5, 2024 fire event caused damage to the following structural components of the Queensborough National Bank building:

    - Approximately 20 linear feet of sub fascia board on the western elevation
    - Approximately 16 bricks in the first-floor shared wall
    - Approximately 1600 square feet of fiberglass-reinforced plaster siding
    - Approximately 50 feet of steel gutter
    - Approximately 30 linear feet of PVC downspout along the western elevation

2. The charred sub-fascia can be removed and replaced upon removal of the deformed gutter, and the spalled and cracked bricks can be removed and replaced in kind by a licensed and experienced mason.

3. The roof decking and trusses, along with the interior finishes that are covered with soot, can be scrubbed by a licensed and experienced technician. The structural components that are covered with soot will continue to function as intended and were not compromised by the October 5, 2024 fire event.

Sincerely,
Sigma Forensic Engineering, LLC

Sigma Forensic Engineering, LLC
Georgia Certificate of
Authorization No: PEF008834

Keith S. Ciccotello, P.E.
Georgia License No: PE043311

Photographs

1. South elevation of the building.

2. South elevation of the building and the adjacent storefronts.

3. South elevation of the building.

4. North elevation of the building.

5. East elevation of the building.

6. West elevation of the building.

7. Melted fiberglass reinforced plaster siding.

8. Melted fiberglass reinforced plaster siding.

9. Western elevation of the rear portion of the building.

10. Western elevation of the rear portion of the building.

11. Western elevation of the rear portion of the building.

12. Western elevation of the rear portion of the building.

13. Western elevation of the rear portion of the building.

14. Western elevation of the building.

15. Flashing from the adjacent building.

16. Flashing from the adjacent building.

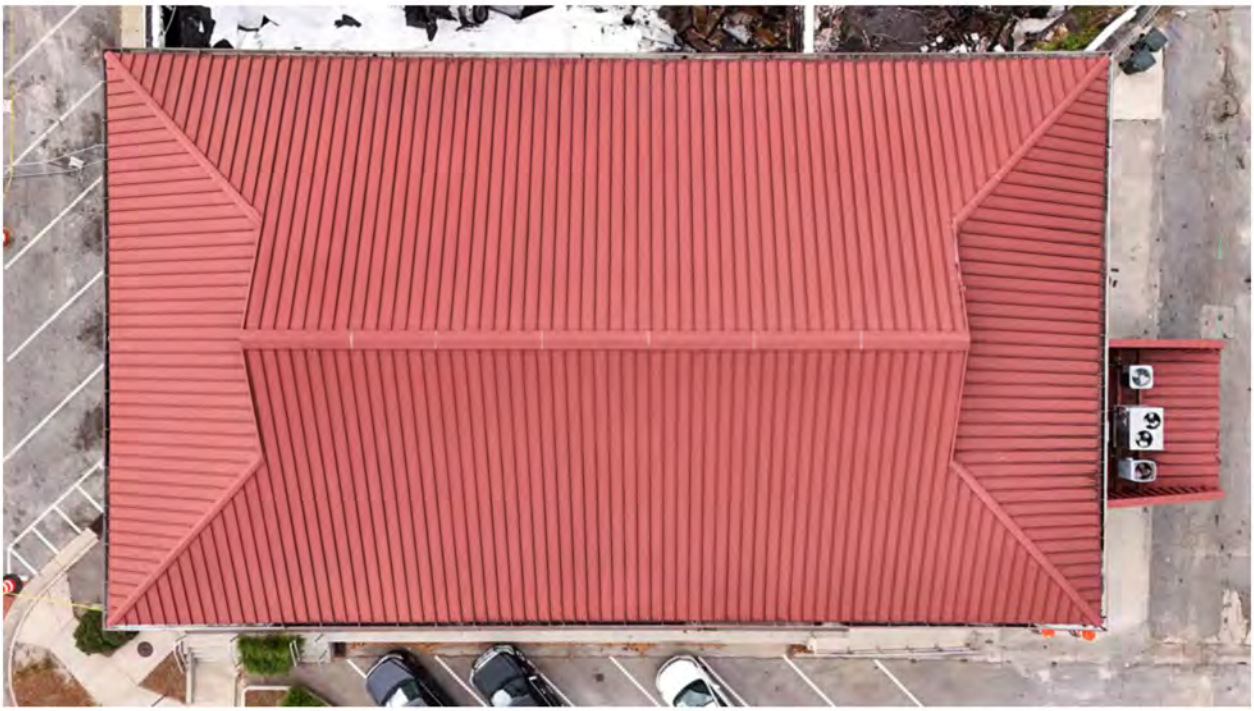
17. Southern elevation of the building.

18. Northern elevation of the building.

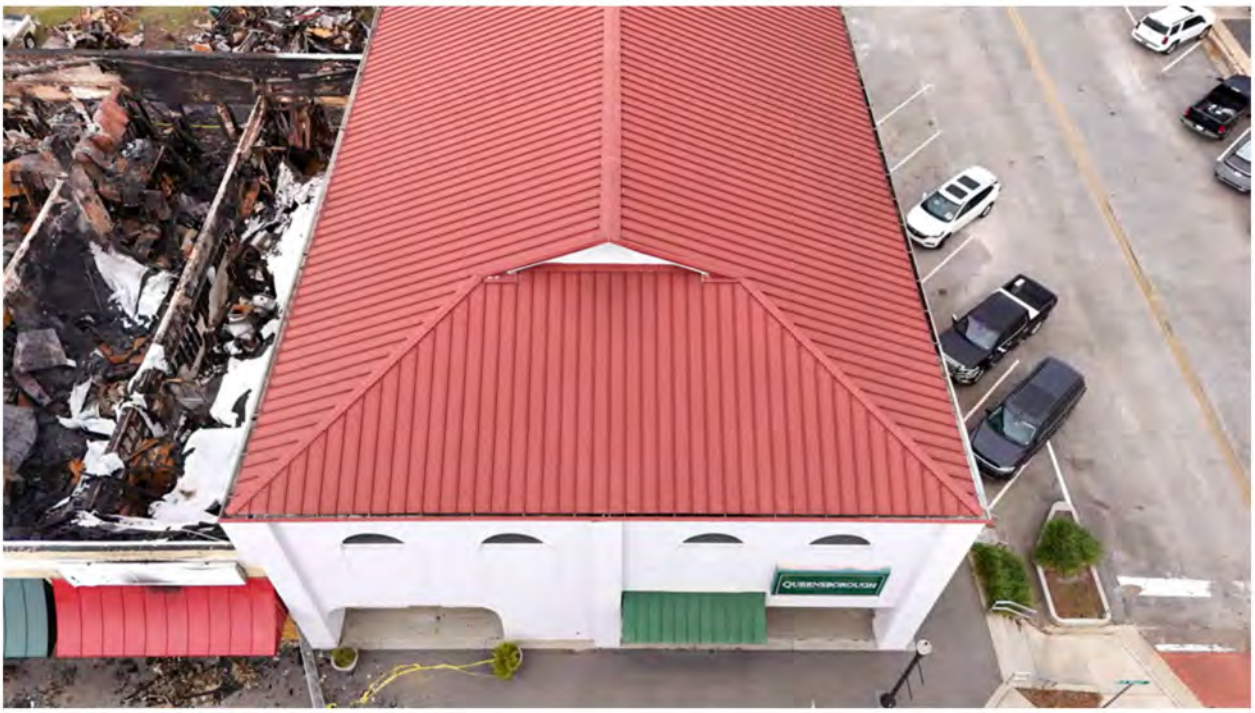
19. Eastern elevation of the building.

20. Western elevation of the building.

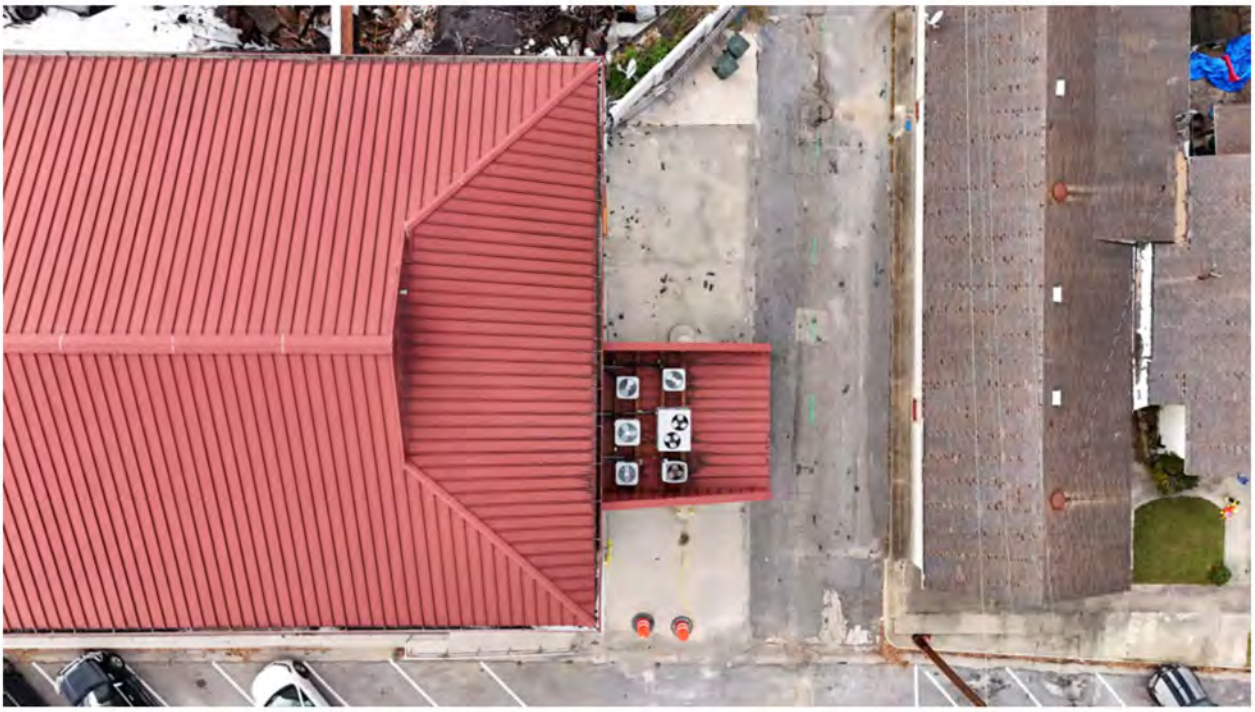
21. Fire overview.



22. Roof overview.



23. Roof overview.



24. Roof overview.

25. Roof overview.

26. Roof overview.

27. Melted reinforced plaster siding.

28. Missing siding and exposed masonry walls.

29. Concrete block wall of the second floor.

30. Concrete block wall of the second floor.

31. Concrete block wall of the second floor.

32. Concrete block wall of the second floor.

33. Concrete block wall of the second floor.

34. Concrete block wall of the second floor.

35. Wood sub-facia member below the gutter.

36. Wood sub-facia member below the gutter.

37. Deformed gutter.

38. Deformed gutter.

39. Deformed gutter.

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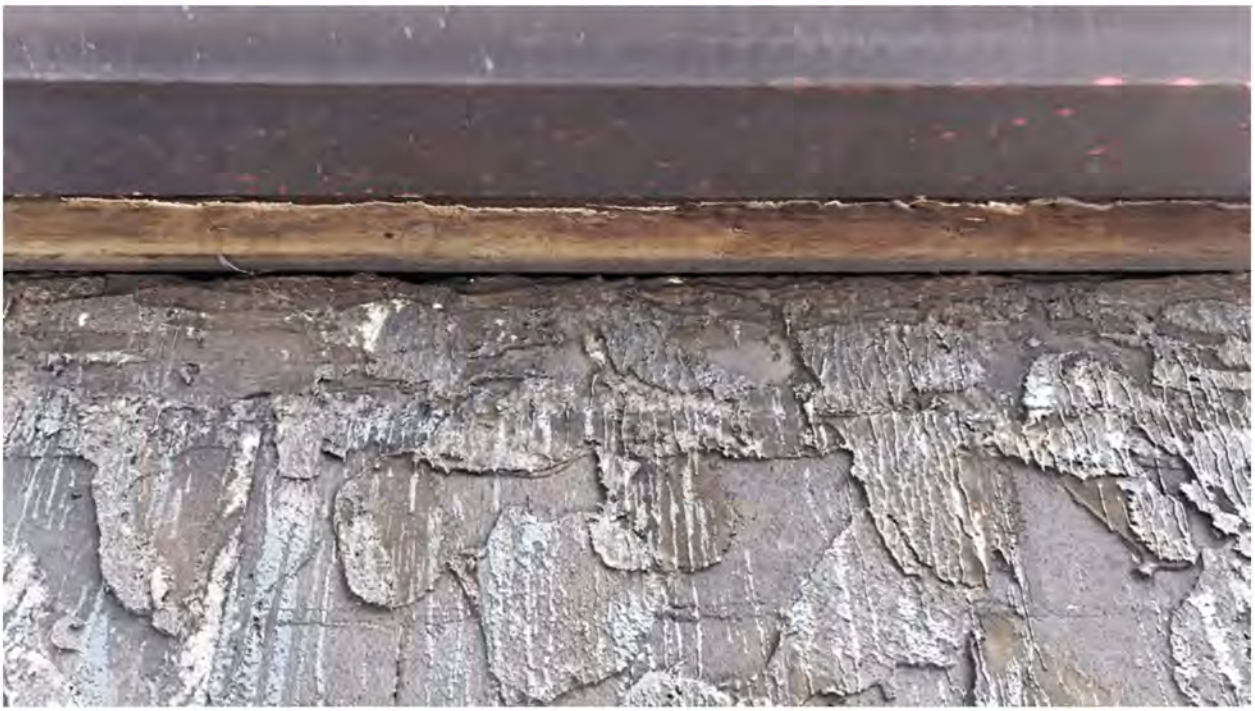
41. Wood sub-facia member below the gutter.

42. Wood sub-facia member below the gutter.

43. Wood sub-facia member below the gutter.



44. Wood sub-facia member below the gutter.

45. Concrete block wall.

46. Concrete block wall.

47. Flashing between tehe first and second floor.

48. Concrete block wall.

49. Concrete block wall.

50. Flashing between tehe first and second floor.

51. Flashing between tehe first and second floor.

52. Charred framing from the adjacent building.

53. Brick wall of the building.

54. Brick wall of the building.

55. Brick wall of the building.

56. Brick wall of the building.

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58. Brick wall of the building.

59. Brick wall of the building.

60. Brick wall of the building.

61. Roof covering overview.

62. Roof covering overview.

63. Roof covering overview.

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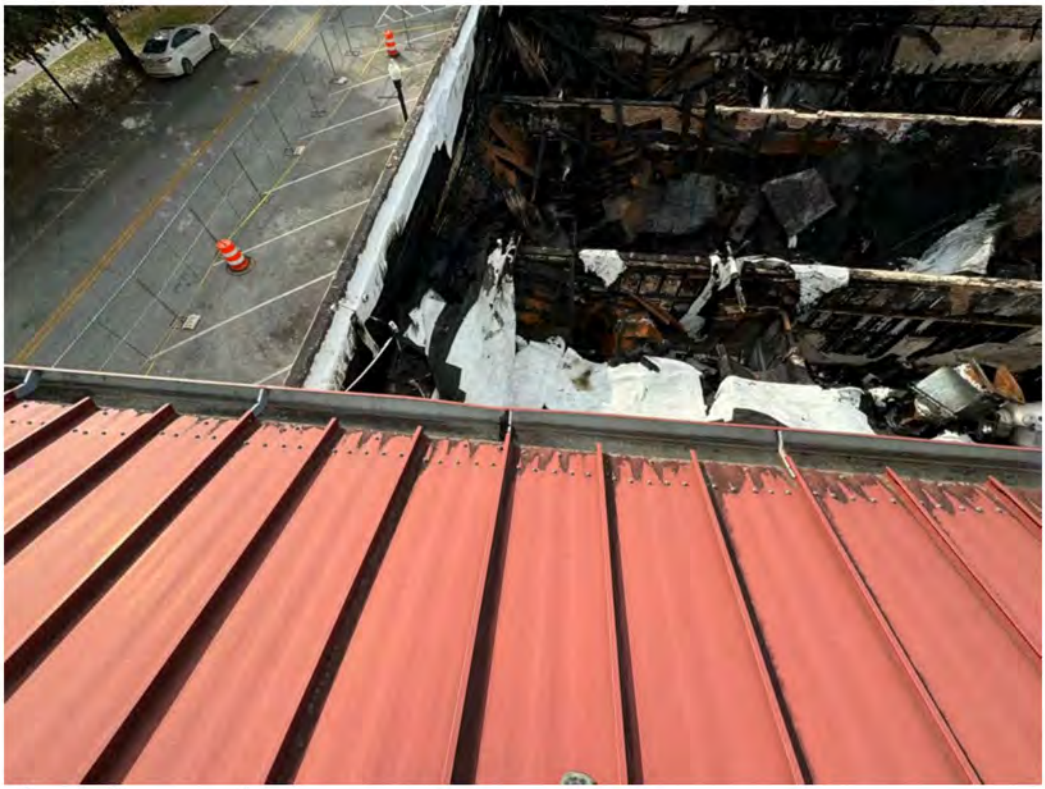
70. Roof covering overview.



71. Roof covering overview.

72. Roof covering overview.

73. Western portion of the attic space.

74. Western portion of the attic space.

75. Soot accumulation above the western wall.

76. Soot accumulation above the western wall.

77. Soot accumulation above the western wall.

78. Soot accumulation above the western wall.

79. Soot accumulation above the western wall.

80. Soot accumulation above the western wall.

81. Soot accumulation above the western wall.

82.

83. Soot accumulation above the western wall.

84. Light charring on the sub-fascia.

85. Light charring on the sub-fascia.

86. Light charring on the sub-fascia.

87. Interior side of the concrete block wall.

88. Interior side of the concrete block wall.

89. Inside the plenum above th first floor.

90. Inside the plenum above th first floor.

91. Inside the plenum above th first floor.

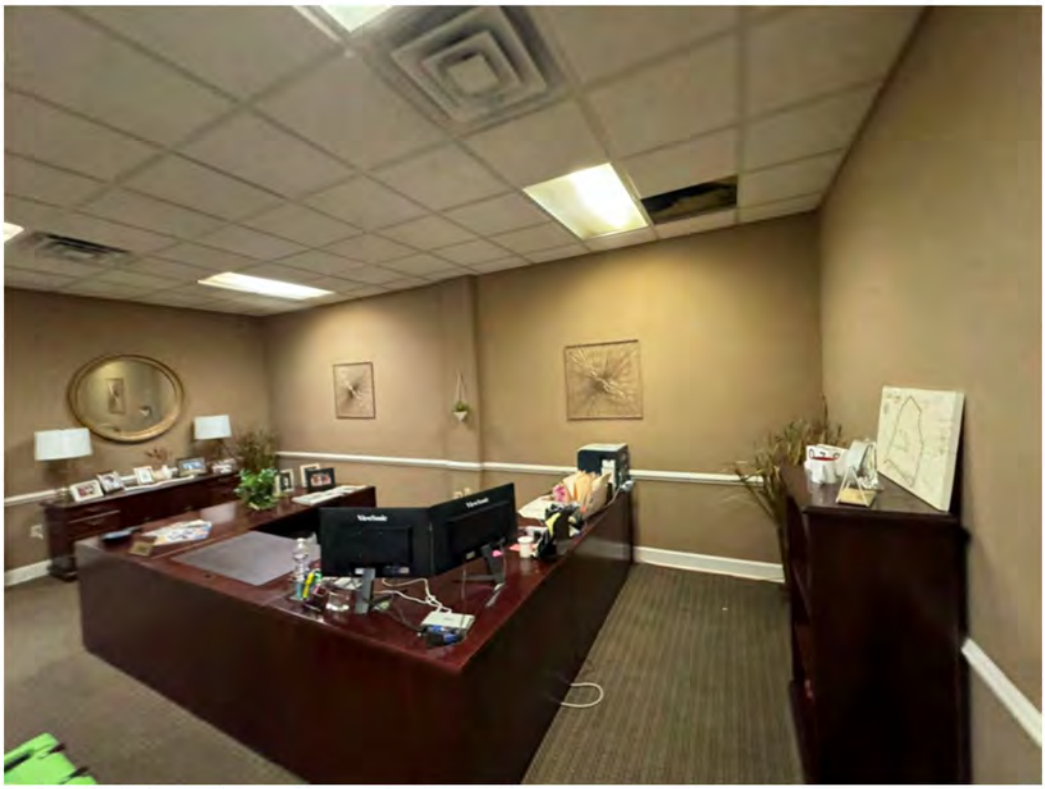
92. Inside the plenum above th first floor.

93. Inside the plenum above th first floor.

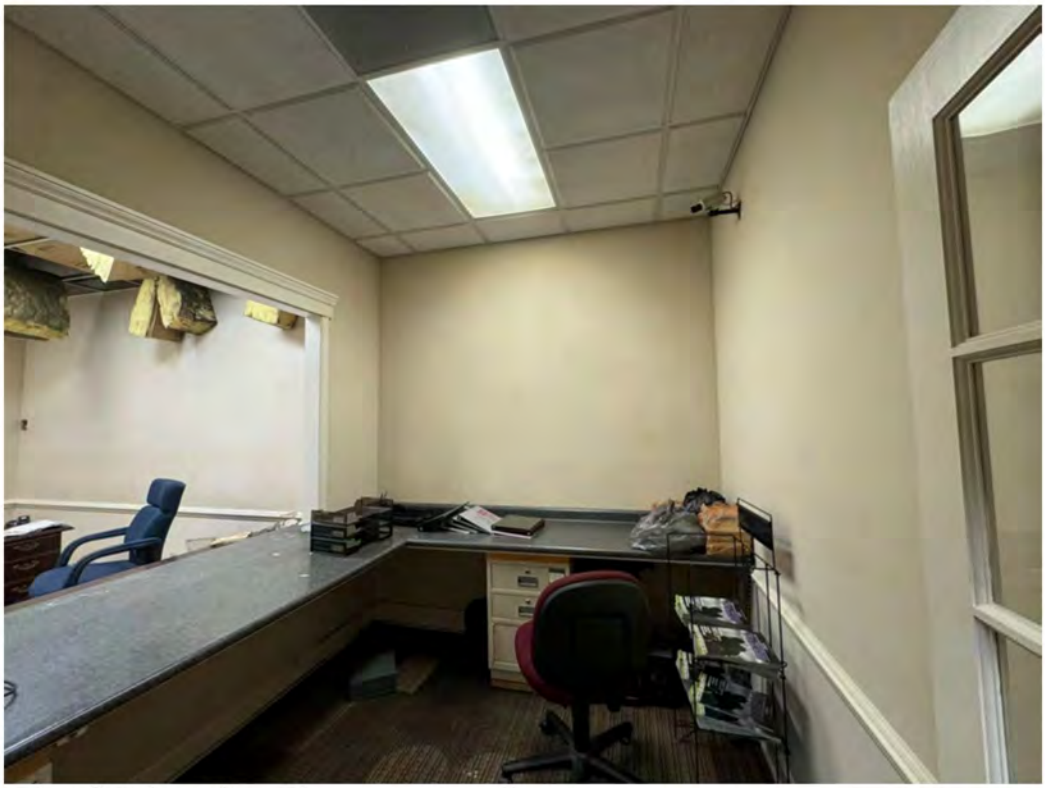
94. Inside the plenum above th first floor.

95. Interior finishes along the western wall.

96. Interior finishes along the western wall.

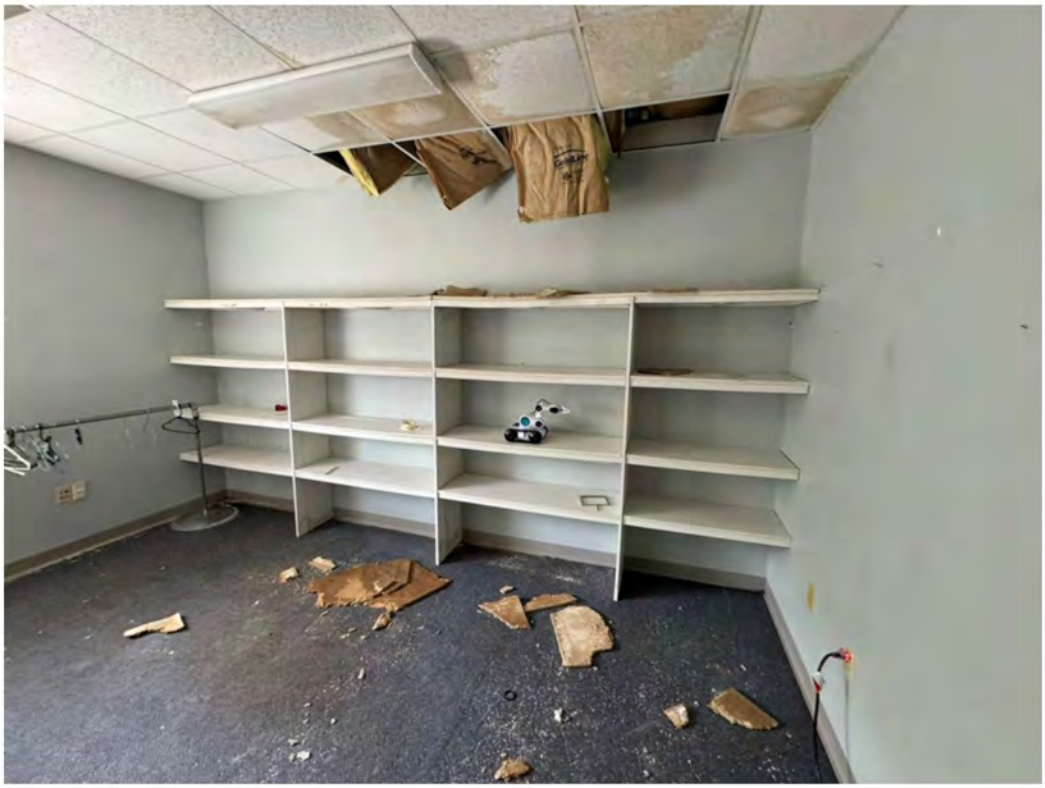


97. Interior finishes along the western wall.

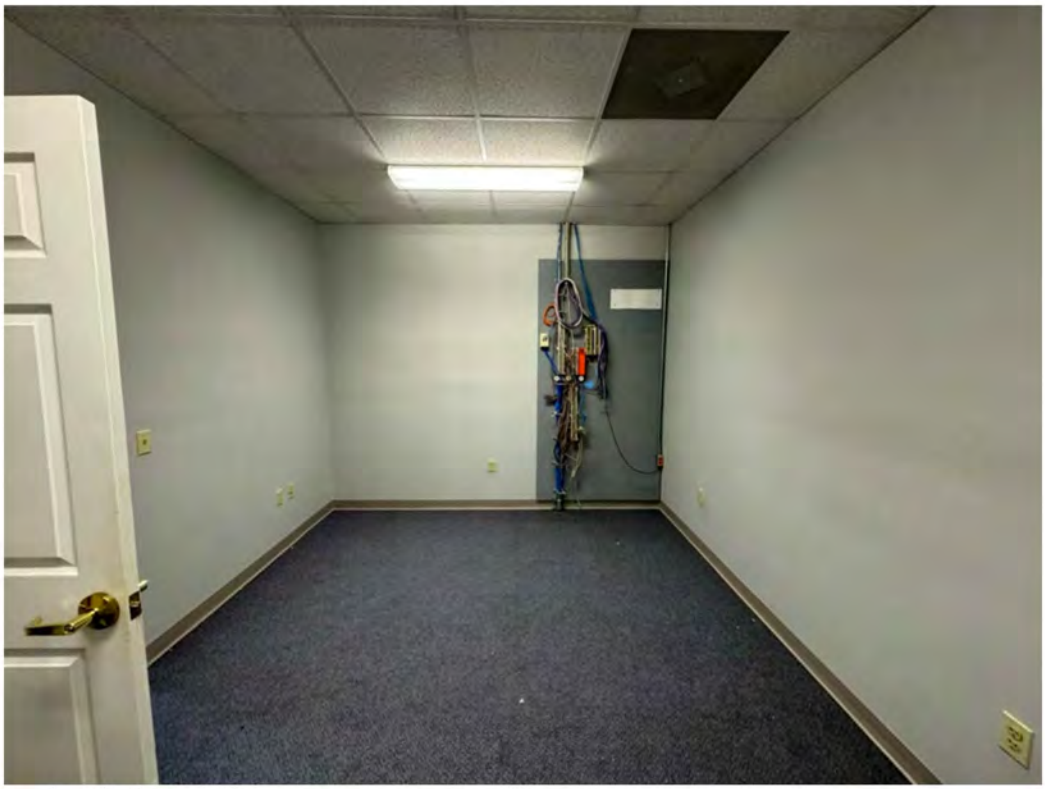


98. Interior finishes along the western wall.

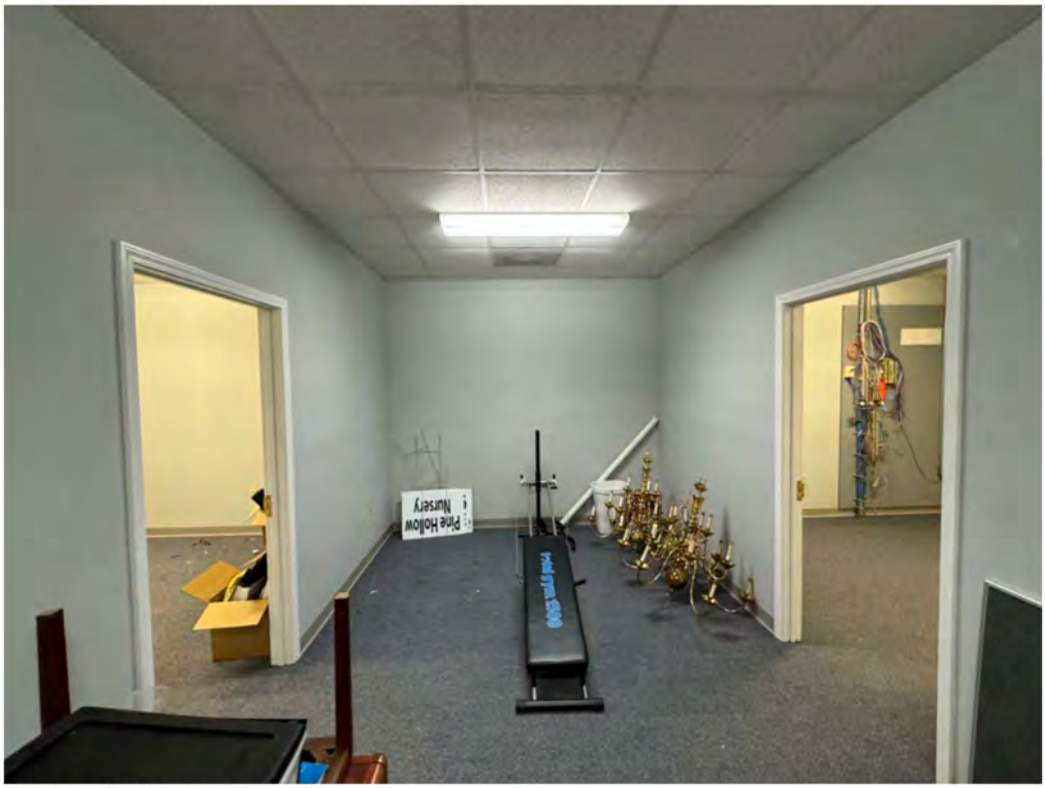
99. Interior finishes along the western wall.



100. Interior finishes along the western wall.



101. Interior finishes along the western wall.



102. Interior finishes along the western wall.

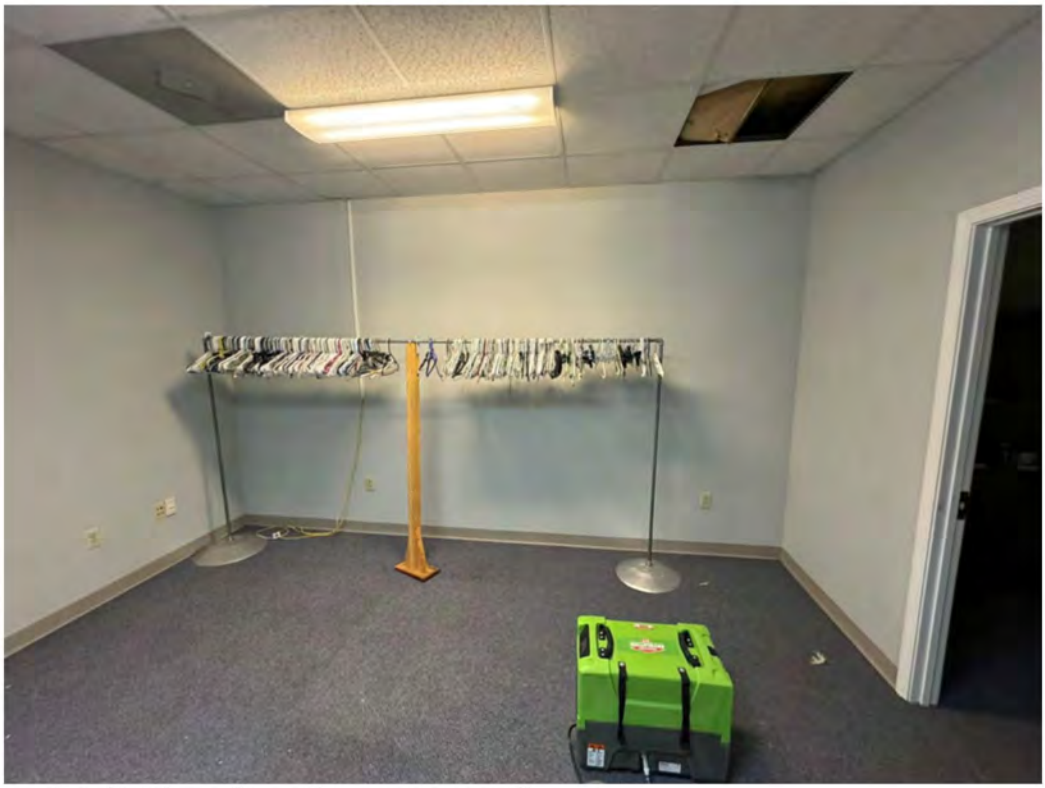
103. Interior finishes along the western wall.

104. Interior finishes along the western wall.

105. Interior finishes along the western wall.

106. Interior finishes along the western wall.

107. Interior finishes along the western wall.



108. Interior finishes along the western wall.