



Rimkus Building Consultants, L.L.C.
The Flatiron Building
927 E. New Haven Avenue, Suite 315
Melbourne, FL 32901

October 7, 2020

Kurt Waterman
Synergy NDS, Inc.
1400 Sarno Road
Melbourne, FL 32935

Claim No.: GC2020096996
Asset No.: 092001
Address: 80 Depot Avenue, Delray Beach, FL 33444
Rimkus File No: 100042144
Subject: Report of Findings

Dear Mr. Waterman:

The City of Delray Beach City, Florida reported that on February 25, 2020 the Delray Train Depot was damaged by fire. The Delray Train Depot is located at 80 Depot Avenue, Delray Beach, FL.

Rimkus Building Consultants, L.L.C. (Rimkus) was retained to evaluate the reported damage and provide a conceptual scope of repairs. The work to complete the assignment was conducted by Remy E. Phillip, E.I.T. This report was prepared under the direction of, and reviewed by, Craig Williams, P.E., Rimkus Engineer.

In the course of our work, we completed the items listed in the **Basis of Report** included in this report.

Conclusions

1. The damage to the building caused by the subject fire met the requirements to be classified as "substantial structural damage" as defined in the 2017 Florida Existing Building Code. Therefore, the repairs performed on the building would be required to meet current code requirements.
2. The damage to the building required that the existing structure be razed and replaced with a new structure.

Discussion

Structural Description

The Delray Train Depot was a one-story masonry, concrete and wood structure (**Photograph 1**). The building was constructed over a concrete slab-on-grade foundation. The exterior walls of the building were clad with stucco. The roof was covered with terracotta tiles and was framed with one wooden truss and four metal trusses. The interior walls were constructed of wood and covered with gypsum board.

According to the Palm Beach County Florida Property Appraiser website, the building was constructed in 1926 and was 6,562 square feet (sf) in gross area. For the purpose of the report, as well as consistency with property appraiser website, the building was divided into north and south sections. Throughout this report, the front of the building was referenced to face north.

Observations and Analysis

The Delray Train Depot was inspected to evaluate the fire damage reported to the building. The stucco on the exterior of the building was cracked and displaced in various locations (**Photographs 2, 3, and 4**). The brick parapet wall was broken on the east side of the building, consistent with damage caused by displacement of the roof framing (**Photograph 5**).

The roof over the south section of the building and the south end of the north section of the building had collapsed (**Photograph 6**). A portion of the roof framing remained in place above the north section of the building. The remaining roof framing was covered in soot and partially charred (**Photograph 7**). The wooden truss at the middle of the north section of the building was partially charred and a portion of a wood member was newly exposed indicating that a portion of the member had been dislodged. (**Photograph 8**). As wood burns, it is progressively converted to char above the charred-uncharred interface (or char base) temperature of 550 degrees Fahrenheit. Char is the ashed or "alligatored" remains of the burned wood that are considered to have negligible strength, i.e., no allowable mechanical properties. Thus, reduction in the strength of wood framing members, caused by fire and heat, does not generally occur until the temperature of the wood fibers reaches the heat threshold for charring. Therefore, structural elements with char should be reinforced or replaced in order to restore the integrity of the elements to their pre-damaged condition.

The southernmost steel truss above the north section of the building was warped and was no longer suitable for support of the roof framing (**Photograph 9**).

The roof above the south section of the building had mostly collapsed with only severely charred portions of some rafters remaining (**Photograph 10**). The interior wood framed walls were severely charred, and there was a significant amount of debris on the floor in the south section of the building (**Photograph 11**).

The damage to the building caused by the subject fire met the requirements to be classified as “substantial structural damage” as defined in the 2017 Florida Existing Building Code. Therefore, the repairs performed on the building would be required to meet current code requirements. While the undamaged portions of the building walls may be reinforced to meet these requirements, the cost of these upgrades would likely approach or exceed the cost to demolish the existing structure and construct a structure of similar size intended for the same use. Therefore, we concluded that the damage to the building required that the existing structure be razed and replaced with a new structure.

Photographs taken during our inspection, including photographs that were not included in this report, were retained in our files and are available to you upon request.

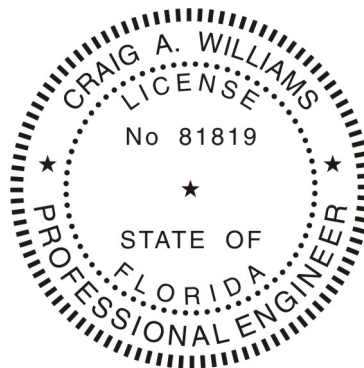
This report was prepared for the exclusive use of Synergy NDS, Inc. and was not intended for any other purpose. Our report was based on the information available to us at this time. Should additional information become available, we reserve the right to determine the impact, if any, the new information may have on our opinions and conclusions and to revise our opinions and conclusions if necessary and warranted.

Thank you for allowing us to provide this service. If you have any questions or need additional assistance, please call.

Sincerely,

RIMKUS BUILDING CONSULTANTS, L.L.C.

Craig A. Williams, P.E.
Florida Licensed Engineer No. 81819
Engineer



Attachments: Basis of Report, Photographs, Curriculum Vitae

This item has been digitally signed and sealed by Craig A. Williams, P.E., 81819, on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Basis of Report

1. Inspected and photographically documented the existing conditions of the Delray Train Depot on July 31, 2020.
2. Reviewed the Palm Beach County, FL Geographic Information System (GIS) website (<http://maps.co.palm-beach.fl.us/cwgis/papa.html>).
3. Reviewed the applicable sections in the 2017 Florida Existing Building Code.

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Photograph 1

A view of the north (front) and east elevations of the Delray Train Depot building.



Photograph 2

A view of broken and displaced stucco on the north elevation of the building.



Photograph 3

There were cracks in the stucco at the northeast corner of the building.



Photograph 4

There was broken and displaced stucco above a door on the east side of the building. Note soot on the stucco at this location.



Photograph 5

The brick parapet wall was broken on the east side of the building.



Photograph 6

The roof over the south section of the building and the south end of the north section of the building had collapsed.



Photograph 7

A portion of the roof framing remained in place above the north section of the building. The remaining roof framing was covered in soot and partially charred.



Photograph 8

The wooden truss at the middle of the north section of the building was partially charred and a portion of a wood member was newly exposed.



Photograph 9

The southernmost steel truss above the north section of the building was warped.



Photograph 10

The roof above the south section of the building had mostly collapsed with only severely charred portions of some rafters remaining.



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Photograph 11

The interior wood framed walls were severely charred and there was a significant amount of debris on the floor in the south section of the building.



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Curriculum Vitae



Craig A. Williams, P.E.

Consultant
Property Division

Background

Mr. Williams earned his B.S. degree in Civil Engineering from the University of North Carolina at Charlotte. He is a registered professional engineer with over 15 years of structural engineering experience and specializes in the design and evaluation of residential and commercial properties.

Mr. Williams' engineering expertise extends to single- and multi-family residences, prefabricated metal building foundations, modular and mobile home foundations, commercial buildings, bridges, and other structures. He is skilled in identifying, diagnosing, and providing remediation plans for a variety of structural defects in residential, commercial, and industrial properties. He has designed with building construction materials of timber, steel, reinforced masonry, and concrete (reinforced and prestressed) to achieve proper gravity and lateral-resisting elements for wind and seismic loads based on the various model building codes.

At Rimkus, Mr. Williams' responsibilities include structural and construction evaluations, construction document and code compliance reviews, and water intrusion investigations. In addition, he evaluates cases focusing on construction vibration, roof and exterior wall cladding and swimming pools.

Professional Engagements

- Engineering Design/Analysis
 - Residential/Light Commercial – Charlotte, NC (2000-2008), Provided structural designs and calculations for numerous residential and light commercial projects.
 - Manufactured Homes – Charlotte, NC (2000-2008), Designed FHA/HUD compliant foundations.
 - Metal Buildings – Charlotte, NC (2000-2008), Designed foundations for prefabricated metal buildings for compliance with local codes and conditions.
- Engineering Inspections
 - Structural Inspections – North Carolina (2001-2008), Inspected standing structures during construction for code compliance and adherence to design documents
 - Real Estate Transfers – North Carolina (2001-2008), Inspected residences prior to real estate transfers for structural defects and provided repair recommendations for issues identified.

Contact Information

(704) 896-6227

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Boulevard, Suite P
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- Basements – North Carolina (2001-2008), Verified installation of reinforcing bars in concrete basement walls prior to placement of concrete.
- Transportation
 - US-21 Bridge – Rock Hill, SC (2009-2011), Project engineer responsible for performing and checking structural calculations of bridge crossing over the Catawba River. Reviewed shop drawings, wrote structural specifications, and performed quality assurance/quality control.
 - Railroad Bridge – Clemson, SC (2009-2011), Project engineer responsible for performing and checking structural calculations of bridge over SC-133. Reviewed shop drawings, wrote structural specifications, and performed quality assurance/quality control.
 - New US-17 Bridge – Mount Pleasant, SC (2009-2011), Project engineer responsible for performing and checking structural calculations of a new bridge for a grade separation for US-17 (Johnnie Dodds Boulevard) over Bowman Road. Reviewed shop drawings, wrote structural specifications, and performed quality assurance/quality control.

Forensic Engagements

- Claims Investigations
 - Inspected site conditions related to reported damage to a structure and determine the root cause of the damage
 - Inspected structures damaged by known causes (fire, tree impact, vehicle impact, etc.) to determine the limits of the damage to structures from the event, determine if the structure was repairable and provide a conceptual scope of repairs.
- Construction Defect Reports
 - Investigated failures in the materials or installation of the materials that resulted in damage to the structure.
- Roof and Exterior Wall Cladding Evaluations
 - Inspected exterior finishes for damage and determine the cause of the damage.
- Construction Vibration
 - Inspected structures reportedly damaged by ground vibrations from nearby construction activity. Determined if reported damage was consistent with the equipment used at the construction site and distance between the construction site and the reportedly damaged structure.
- Swimming Pool Assessments
 - Inspected damaged swimming pools and surrounding patios to determine the cause of the reported damage.

Professional Experience

- Rimkus Consulting Group, Inc.
 - Consultant – Property Division

2011 – Present

Responsible for structural and construction evaluations, construction document and code compliance reviews, and water intrusion investigations. Additional responsibilities include evaluations of construction vibration, roof and exterior wall cladding, swimming pools, slip/trip/fall incidents, and falls from high elevations.

- Triplett-King & Associates, Inc. 2009 – 2011
 - Project Engineer
Responsible for performing and checking structural calculations for bridge design projects including prestressed concrete and steel girders, pile foundations, bent caps, and columns. Significant projects include the US-21 bridge over the Catawba River in Rock Hill, SC, a railroad bridge over SC-133 in Clemson, SC, a new bridge for a grade separation for US-17 (Johnnie Dodds Boulevard) over Bowman Road in Mount Pleasant, SC, and various bridge projects in Charleston, SC, Kershaw County, SC, and York County, SC. Additional responsibilities included reviewing shop drawings, residential inspections, writing structural specifications, and quality assurance/quality control.
- Whitley Engineering, Inc. 2001 – 2008
 - Structural Engineer
Responsible for performing site visits and preparing reports concerning structural issues on residential and commercial projects. Report preparation included performing any necessary calculations, researching applicable codes, determining cause of structural issues, and recommending future actions to be taken. Additional responsibilities included structural reviews of residential and commercial plans, writing structural specifications, and training interns and assistants.
- Verna Engineering, PC 2000 – 2001
 - Engineering Intern
Responsible for performing structural designs of residential properties in the Charlotte, NC, area. Additional tasks included light industrial designs, roadway bridge designs, and structural inspections.

Education and Certifications

- Civil Engineering, B.S.: University of North Carolina at Charlotte (2000)
- Registered Professional Engineer: Florida, Georgia, Iowa, Missouri, North Carolina, South Carolina, Texas, Virginia, and West Virginia
- National Council of Examiners for Engineering and Surveying: Member

Continuing Education

- Annual coursework to maintain engineering licenses.

Publications