



Professional Engineering Services
Structural Engineering Inspections
Commercial Building Inspections

Structural Inspection Report

Report Submitted to: Maria Novoa Sanchez 414-303-6982 eyenithsandoval@att.net

Property Inspected	
Address: 1116 W Mitchel St.	
Age Info: built in: No online information available, but appears early 1900s	
Problem Description: <input type="checkbox"/> Water <input type="checkbox"/> Foundation Structural <input checked="" type="checkbox"/> Other Structural	
Cracks noted in <input checked="" type="checkbox"/> Ext Walls <input type="checkbox"/> North <input checked="" type="checkbox"/> South <input type="checkbox"/> East <input checked="" type="checkbox"/> West <input type="checkbox"/> Floor <input type="checkbox"/> Other	
Inspection Date: 9/28/2015	Report Date: 1/11/2016

Observations:

(Description):

The noted concern is the gap existing on the west side of the building, and what the cause of this gap is, and whether it is experiencing ongoing movement. The photos below shows this gap.



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Observations were made on the second floor but the wall and floor coverings did not allow sufficient visibility of the framing members.



The roof appears recent (\approx 5-10) years and was in satisfactory condition at the time of the inspection.



The photo below shows the gap where the building is separating (west wall).



The south parapet wall shows severe damage to the mortar joints and repairs, and cracks are visible in the mortar joints on the caps.



The east wall is in much better condition than the other parapet walls observed.



The south façade shows movement of the bricks away from the building, past repairs, and damaged mortar joints.



It appears that stone was added to the first floor at some point in the past as it does not appear original to the building. This stone façade shows cracking and sever outward bowing. Past mortar repairs also show cracking.





In the basement, measurements were taken with a laser from north to south and it was found that there is no settlement of the foundation on the south side of the building. The walls do show inward movement and some moisture infiltration, but not excessive for a wall constructed of brick. The maximum displacement measured, which occurred on the west wall, was 2". No excessive cracking or indications of recent movement were observed.



Opinion/Recommendations

My opinion is that:

1. Based on the observations and measurements taken during the inspection, it appears that water damage has compromised the wood framing and has caused the movement noted. However, interior wall finishes exist, so the damage is not readily visible at this time. This damage has been likely going on for some time, but the replacement of the roof has slowed down the rate of the deterioration. Any water entering the building is coming from the open cracks in the parapet wall, parapet wall caps, and the crack on the parapet wall cap on the west wall. The damage due to water infiltration is ongoing.
2. The foundation is not the reason for the movement observed, as there are no indications of settlement observed or measured in the basement.
3. Further investigation is required to identify where the damage exists, and steps taken to develop a plan for the design and implementation of the necessary repairs.
4. This building is located in a historic district, so additional requirements, mainly cosmetic, will be required during the planning and construction. I did discuss the matter with Historic Preservation, and they provided a list of requirements as part of the repairs.
5. Based on what was seen and measured at the time of the inspection, The following is the scope of work, and will likely evolve as the project moves forward:
 - a. Remove the interior finishes on the second floor. These should include the wall and ceiling materials as well as approximately 2 feet of flooring abutting the exterior walls. The interior finishes on the first floor should also be removed on the south wall.
 - b. Once this is done, the structure should be reviewed, and a determination made if any demolition is required.
 - c. If no further demolition is required, develop the repair plan and perform any required engineering calculations. This step will also include the creation of drawings defining the repairs.
 - d. Once the repairs are designed they can be installed. If possible, it would be advantageous to retain the brick façade during the framing repairs, but this will have to be evaluated once the demolition and repair plan is completed.
 - e. Any roof decking repairs will require repairs to the roof membrane. If the damage is significant, the entire rubber roof may require replacement.
 - f. In addition to these repairs, the entire front (south) façade of the building will require removal and replacement. Based on the conversation with Historic Preservation, an alternative (new) brick can be used. However, the existing detail items will need to be salvaged and this will be defined on the required elevation drawings. As part of these repairs, scaffolding will be required and may also require closure of the sidewalk. These items will have to be further discussed with the City.
 - g. The goal is to reuse the existing windows and doors if possible.
 - h. I recommend shoring the structure during the work and building a temporary wall to separate the work area from the restaurant currently in operation on the first floor. The details of this shoring can be further defined when discussing with the contractor.

This report is limited to an independent, impartial opinion, and is rendered to a reasonable degree of engineering certainty. This report is intended to help you understand the risks associated with these specific building components. It is not a warranty. My interpretation and opinion is based on what was observed, and therefore what was observable, at the particular point in time that I was there.

Submitted by:
Zerrecon, Inc.



Matthew E. Soiney, PE
President
WI Professional Engineer 39452-6



Edward F. Ellingson, PE
Vice-President
WI Professional Engineer E-12996

Zerrecon's Qualifications:

Edward F. Ellingson is the Vice-President and founder of Zerrecon, Inc. and Matt Soiney is President. Both perform all site visits and surveys, interviews with property maintenance staff, and report preparation. We are qualified professionals with credentials and experience as follows:

Ed Ellingson

- Registered Wisconsin Professional Engineer (PE) #E-12996 with over 40 years of experience
- Wisconsin Commercial Building Inspector Certification #302455
- Extensive background in ADA accommodations for people with disabilities
- Experience in the design and testing of HVAC equipment
- 7 years' experience in acoustics and noise control
- Experience testifying as an Expert Witness
- Commercial property management experience
- Founder and President of Zerrecon, Inc. with an 10+ year history of satisfied clients

Matt Soiney

- Wisconsin Professional Engineer (PE) #39452-6
- Wisconsin Commercial Building Inspector Certification #1110694
- 17 years structural and product design experience
- 15 years property management and maintenance experience
- Remodeling of historic buildings
- Design and construction of new buildings