

STRATEGIC STRUCTURAL DESIGN, LLC

December 19, 2017

Derek Burdick  
Project Manager  
J.H. Findorff & Son Inc.  
300 S Bedford St.  
Madison, WI 53703

Subject: 126 Langdon Street Madison, WI Building Condition Report

Dear Derek,

Per your request, Strategic Structural Design has completed the scope of our work outlined in our agreement, Contract Number 170231, to prepare a building condition report of the Wisconsin Hall Men's Dormitory on 126 Langdon Street in Madison, Wisconsin. On December 7, 2017 we walked through the existing building.

### Building Background

The nine story building was constructed in 1963 to serve as a private men's dormitory for UW Madison students. From 1963 to 2008 the building served as dormitory, afterward it was left vacant. Services included on each floor included:

- |                     |  |
|---------------------|--|
| • Sub-basement      | Mechanical, electrical, and plumbing services along with meeting spaces, areas for storage, and a fitness room |
| • Basement          | Food service and dining service  |
| • First floor       | Main lobby, building management areas, and resident units  |
| • Second to Seventh | Resident units and two large communal toilet rooms on each end of the building                                 |
| • Penthouse         | Equipment, boiler, cooling tower, and sun deck   |

Floor to floor heights are the largest on the basement level at 16'-8", 12'-0" for the sub-basement, 11'-9" on the first floor, 9'-4" on the seventh floor, and 8'-8" on the remaining levels.

Resident unit finishes consisted of painted concrete floor ceilings and CMU partition walls. Throughout the building flooring typically consisted of carpet, with the exception of the tile in the toilet rooms, main lobby, dining room, and kitchen.

### Structural Frame

Original design drawings from 1962 were prepared by Eugene Wasserman Architecture and Robert J. Strass, Inc. Professional Engineers. Published design loads were on the Basement Floor Framing Plan Sheet S-3 and indicated the following:

- |          |           |
|----------|-----------|
| • 30 psf | Roof      |
| • 40 psf | Rooms     |
| • 80 psf | Corridors |

725 Heartland Trail, Suite 203  
Madison, WI 53717  
608.841.1859

- 100 psf Main lobby, dining room, and kitchen,
- 125 and 250 psf Mechanical spaces

The main superstructure was constructed of cast-in-place concrete. Flat slab floors are supported at the interior by an offset single line of cast-in-place concrete columns. At the exterior, concrete edge beams span between perimeter concrete columns. Typical structural bay sizes range from 22 by 23 feet to 22 by 16 feet. At the basement and sub-basement levels, the perimeter columns are built integrally with the exterior concrete basement walls. The penthouse was constructed with structural steel beams and columns. Typical interior partition walls are constructed with concrete masonry units. The foundations consist of spread and strip footings with a published bearing capacity of 6,000 psf based on the Sheet S-3 Design Data.

### **Exterior Condition**

Brick veneer, precast concrete panels, and glass punched openings represent a majority of the exterior cladding of the building (Figure 1). Large glass curtain walls are located on the first floor south elevation for the main lobby and on the north elevation for the basement level dining room. On the southeast and northeast corners of the building, large brick masses are broken up by long vertical precast concrete panels. Between concrete panels are punched window openings and smaller sections of brick veneer.

Overall, the exterior cladding was observed to be in good condition. Vegetation was observed to be growing on the roof of the east side of the building (Figure 2). In general, precast concrete panels were in good condition with broken sections noted on the bottom of a pair of sections on the west side of the building (Figure 3). Exterior brick veneer was in good condition with the exception of some spalled sections on the west side of the building (Figure 4). Eroded mortar joints were observed along the basement level just above the existing asphalt pavement. On the northwest and northeast corners of the building, vertical cracks in the brick veneer were observed to extend from the basement to third floor level (Figure 5).

### **Interior Condition**

In general, the structural frame of the building was in good condition. Where structural concrete was exposed, it was typically observed to be free of cracks and spalls. Finished floors were observed to be unlevel with a combination of ridges and valleys that could be sensed walking along the corridors of the supported floors. CMU partition walls were in good condition with some visibly patched areas. Several exterior windows had been replaced with temporary glass or displayed failed window seals (Figure 6).

Water damage and mold growth was observed on the fifth through seventh floor walls, floors, and corridor ceiling tiles (Figures 7 and 8). A broken window was observed in Unit 407 on the fourth floor (Figure 9).

Second through fourth floor had less water damage and mold growth when compared to the above floors. An active water leak was observed in the dining room on west side basement level exterior wall. Standing water was observed during the site visit along with floor stains that appeared to indicate larger ponding had occurred in the past (Figure 10). Water stains were observed on the north wall of the sub-basement fitness room (Figure 11). The area was dry, so it was unclear whether this was an active water leak. In general, sub-basement plumbing piping and fittings had visible surface corrosion (Figure 12).

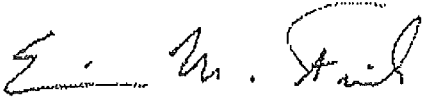
### **Multi-Family Housing**

To convert the resident floor levels from a dormitory to multi-family housing layout would be difficult given the existing building's 8'-8" floor to floor heights and the large communal toilet rooms. New vertical shafts would be required to decentralize and distribute mechanical and plumbing services throughout each floor plate. Ultimately, the shallow floor to floor heights will place significant limits the mechanical duct sizes and the plumbing runs that require gravity flow.

In addition to the floor to floor constraints, the existing architectural plans do not show insulation in the exterior walls. New building codes will require the addition of insulation. Upgrading the current building to achieve the required insulation performance would be difficult to achieve with the current exterior cladding systems.

Thank you for the opportunity to assist your team with the preparation of a building condition report. Please contact me with any questions regarding this project.

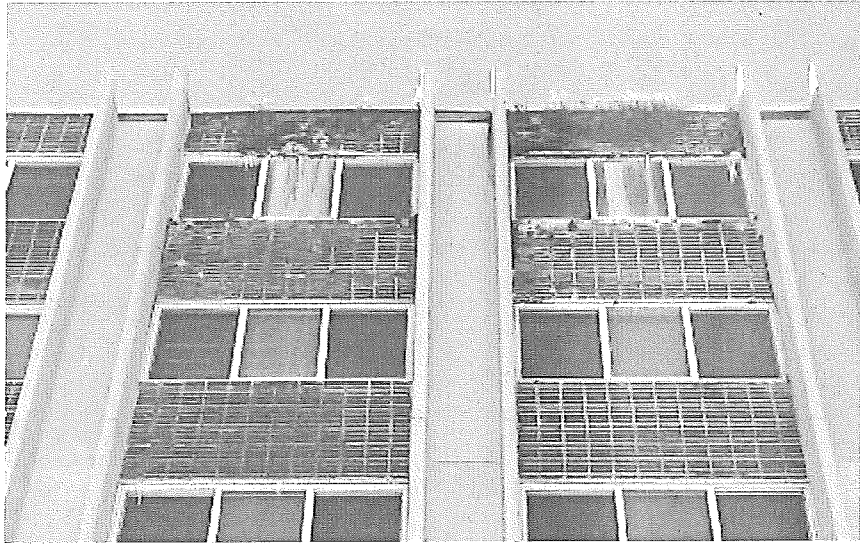
Sincerely,



Eric M. Fink, PE, SE  
Principal  
Strategic Structural Design



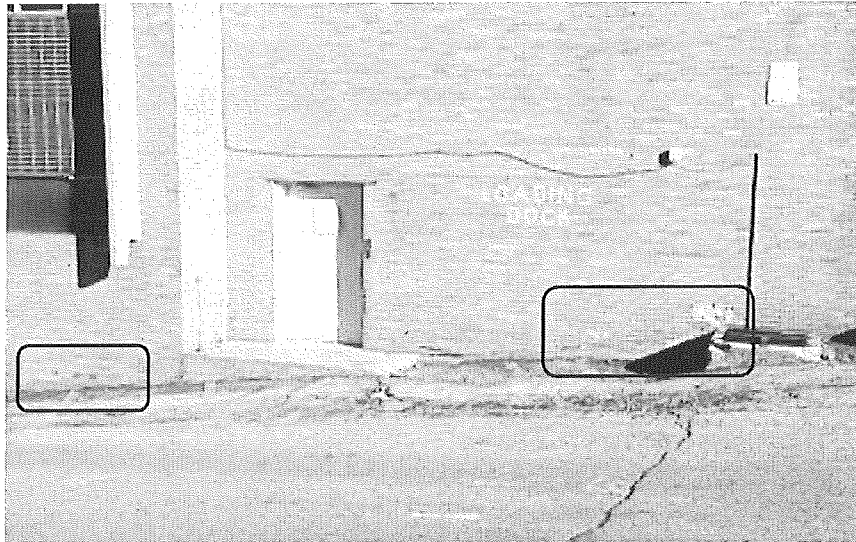
*Figure 1: Southeast Corner.*



*Figure 2: East Elevation Roof Level Vegetation.*



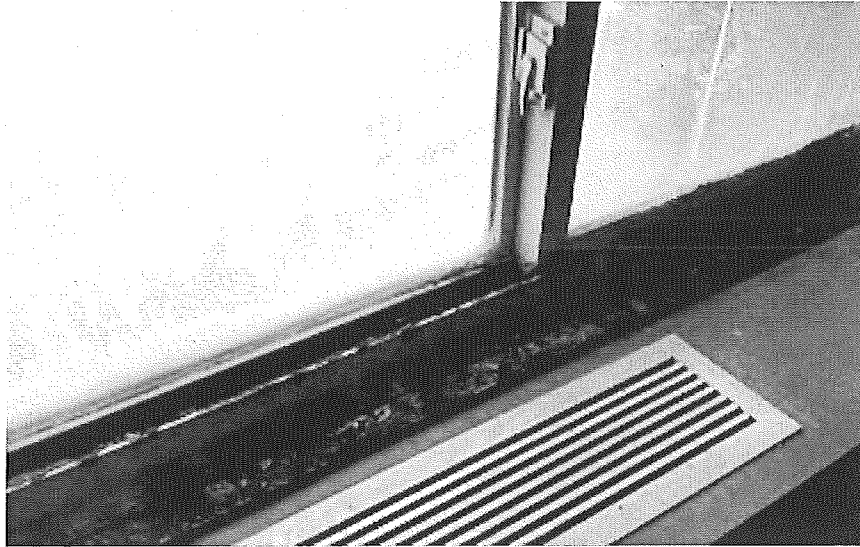
*Figure 3: West Elevation Broken Precast Cladding.*



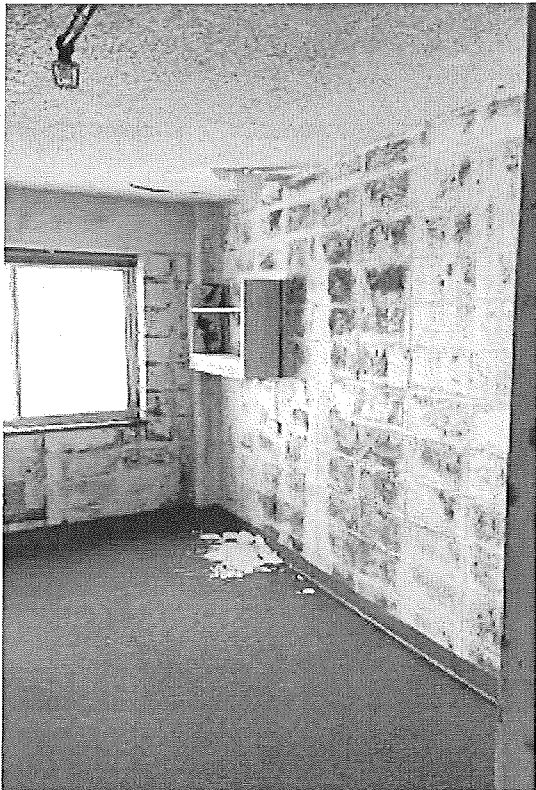
*Figure 4: West Elevation Spalled Brick Veneer.*



*Figure 5: Northwest Corner Brick Veneer Cracking.*



*Figure 6: Seventh Floor Damaged Window Seal.*



*Figure 7: Fifth Floor Wall Mold.*

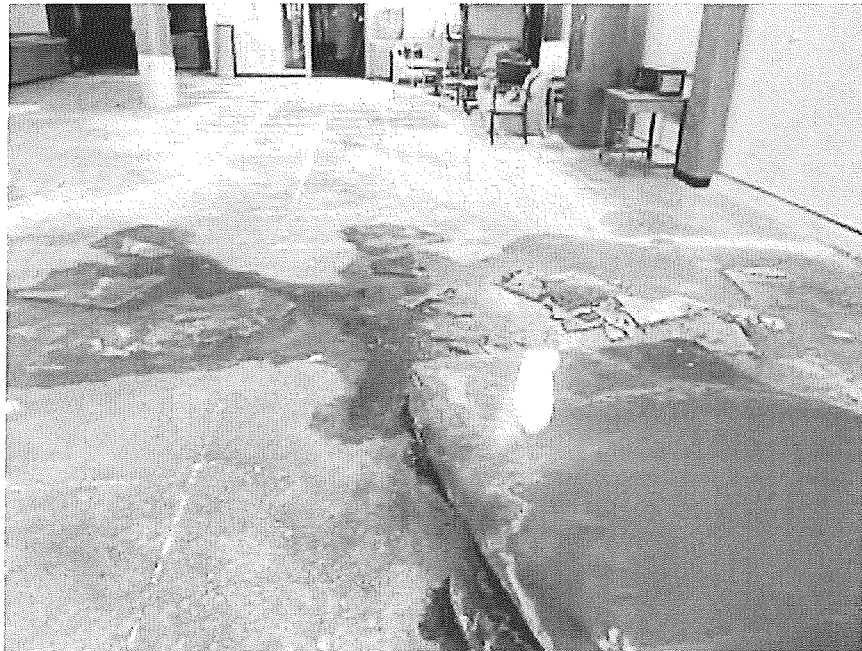


*Figure 8: Fifth Floor Mold on Ceiling Tiles.*

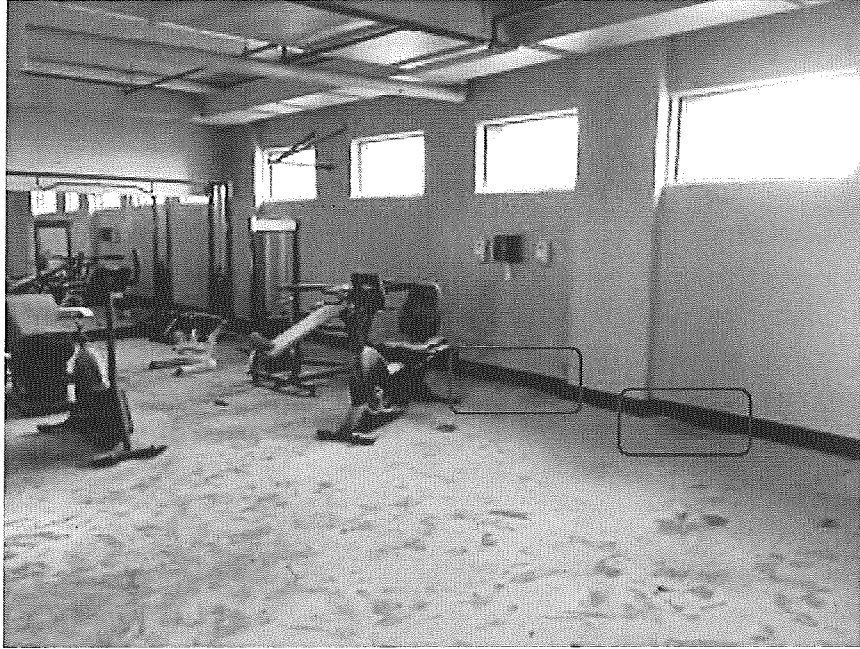




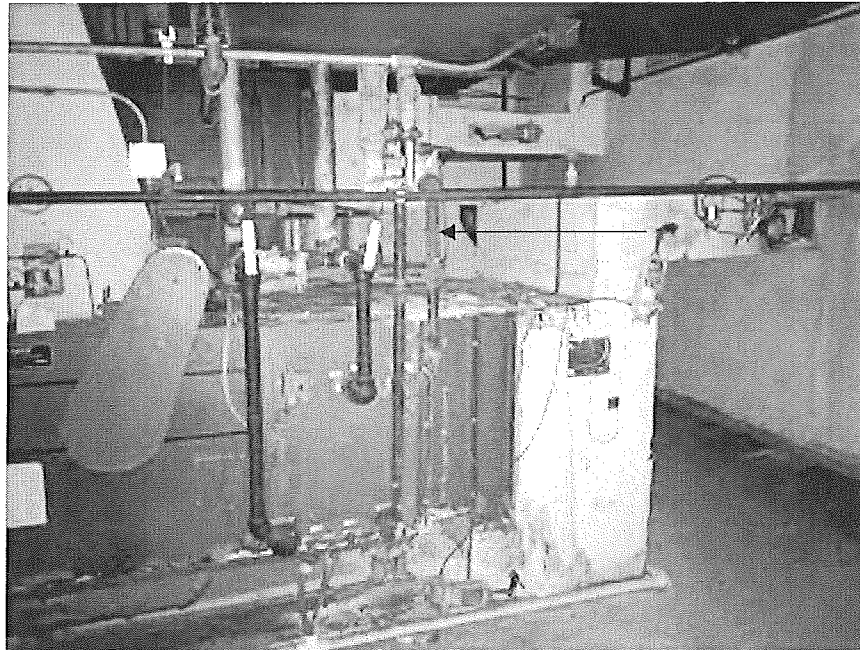
*Figure 9: Fourth Floor Broken Window.*



*Figure 10: Basement Level Active Water Leak.*



*Figure 11: Sub-Basement Water Stain.*



*Figure 12: Sub-Basement Plumbing Piping and Fitting Corrosion.*