

SARAH RILEY HOOKS COTTAGE 76 Bridge Street

VIABILITY OF PRESERVATION ASSESSMENT

Prepared for: Town of Bluffton 20 Bridge Street Bluffton, SC 29910

Prepared By: Meadors, Inc. po box 21758 Charleston, SC 29413

Date: 12.21.2022



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MICHAEL H. HANCE, PE LLC

STRUCTURAL DESIGN AND CONSULTING

Brian Osborne Project Manager, Town of Bluffton 20 Bridge Street Bluffton, SC 29910 843-706-7817 bosborne@townofbluffton.com 21 December 2022

RE: Sarah Riley Hooks Cottage Viability of Preservation Assessment Sarah Riley Hooks House 76 Bridge Street

Dear Mr. Osborne,

The following review details the structural assessment of Sarah Riley Hooks house located at 76 Bridge Street in Bluffton, South Carolina. The findings described within this review were limited to visual observations of the existing structural components as well as interior and exterior finishes obtained during the site investigation on December 5th, 2022. The structural inspection was performed with Meadors, Inc. per request as part of an overall investigation of the condition of the existing structure at the subject property.

FINDINGS - BUILDING COMPONENTS:

The Sarah Riley Hooks house was built in 1940. A new addition was constructed at the rear of the dwelling; however, the time of its construction is not known. The structure is a single-story wood-framed dwelling with a covered porch at the front entry to the residence facing Bridge Street. The findings discussed within this report are based on visual observations obtained on-site. The primary focus of the structural assessment was to review the existing conditions of the roof, wall, and floor framing and determine their condition and the building's viability for preservation.

Roof Framing Components:

The roof system for the original structure is a hip configuration with a ridge line spanning the width of the dwelling. A chimney stack extends above the roof line at the structure's west side adjacent to the front porch. At the rear addition, a gable roof is framed over the back portion of the original structure and extends parallel to the length of the dwelling. During the site investigation of the interior, partial collapse of the roof and ceiling framing was noted in the two rooms adjacent to the side entry door on the east side of the residence. Portions of the roof and ceiling are also collapsing in the front living room at each side of the chimney stack and along the structure's west side. The roof and ceiling framing damage is significant

in these areas and results from ongoing roof leaks, failure of exterior wall studs, and termite infestation. In addition, the failure of roof framing at the front living room has caused rotation of the brick masonry chimney stack, and cracks within the brick masonry mortar joints have developed.

Floor Framing Components:

The floor system for the residence is constructed of wood joists supported by exterior and interior wood girders over brick masonry piers. The rear addition is built of wood joists supported by girders over embedded posts. As noted previously, ongoing water infiltration at the roof areas and active termite infestation are present at several locations throughout the structure. As a result, significant damage to the floor framing is evident in these areas. At the side entry on the east side of the structure, the majority of floor framing has deteriorated and is collapsing. Similar conditions are present in the adjacent rooms along the west side of the residence and in the front living room adjacent to the chimney stack. During the investigation of the building exterior, termite damage and deterioration of the perimeter floor girders were evident. The deterioration of the floor girder at the west side of the original structure is significant and has compromised the structural integrity of the wall framing above. Portions of the wall framing at this location are bowing outward and are out of plane, resulting in additional movement of the roof and ceiling framing above.

Exterior and Interior Wall Components:

The exterior and interior walls of the original structure and rear addition are constructed of 2x4 wood studs covered with interior finishes. Exterior finishes at the structure are a combination of wood siding and asbestos siding at the east side wall. As noted previously, structural damage along the west side wall of the original structure was evident adjacent to the living room chimney stack. Portions of this wall have deteriorated entirely due to a combination of water infiltration and termite damage. Termite damage was also noted at each side of the front entry door studs and along the east side wall at the side entry door. Extensive water and termite damage were also observed on the interior walls of the living room and hallway walls extending to the rear addition. In some areas, studs have disintegrated due to a pervasive termite infestation. The corner post on the rear northeast corner elevation was noted as completely structurally compromised.

Covered Front Porch:

The covered porch at the front of the residence extends the width of the original structure and is covered by a shed roof terminating just below the main roof line. The roof framing is supported by a perimeter beam constructed over wood columns that rest on cast-in-place concrete piers. During the site investigation, water and termite damage was noted at the porch decking and exterior porch girders. Water damage was also noted at the roof framing adjacent to the front door entry, where portions of the ceiling are collapsing. In addition, the cast-in-place concrete piers at the porch perimeter have shifted outward, resulting in the rotation of the columns above and the deflection of the roof beam framing above.

Conclusion:

Based on the findings in this report, restoration of the rear addition is not feasible due to the extensive amount of structural damage observed. Significant portions of the roof, wall, and floor framing exhibit

conditions that are beyond repair due to extended exposure to the elements and active termite infestation. Intact interior finishes have significant mold and water damage.

Select interior finishes in the original front section of the building are intact, but the framing members above, below, and behind are compromised from termites. Due to the structural components' condition, the structure's preservation would require a nearly complete reconstruction with new materials. Limited interior doors, several window sash, and potentially the front porch siding boards can be salvaged and reinstalled if the building was to be reconstructed.

I appreciate the opportunity to provide you with this report, and if I can answer any questions or provide any additional services, please contact my office.

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Addendum A: Site Photos



Meadors, Inc. Project: Sarah Riley Hooks Cottage



Figure 1: Building Location, 76 Bridge Street, noted at red arrow (Google Images 2022).



Site Overview





Figure 2: 76 Bridge Street: Front Elevation, facing Bridge Street.



Figure 3: 76 Bridge Street: Side Elevation, adjacent to adjacent open land lots.





Figure 4: 76 Bridge Street: Rear Elevation looking south. The gray building is an addition. The yellow wall is part of the original cottage.



Figure 5: 76 Bridge Street: Front Porch Elevation.





Building Exterior





Figure 6: Front Porch: The framing and trim on the front porch is heavily deteriorated as a result of termites. Extensive section loss in the wood was observed.



Figure 7: Front Porch: The floor of the porch is deteriorated at the edge. Select areas were extensively damaged, exposing the underlying porch framing that was deteriorated and no longer sound.

Figure 8: The roof was also open, where large animals previously entered the building. Additional structural damage was observed in the area.





Figure 9: Front Porch: The framing behind the wood siding is deteriorated from termites.



Figure 10: Close-up image of termite damage in framing members on the front elevation.





Figure 11: Front Porch: View of porch interior. Note debris, lack of site maintenance, and condition of materials.



Figure 12: Front Porch Corner. Base of the porch column is kicked out. Figure 13: Side Elevation, adjacent to open lots. The rear addition is compromised throughout and is in danger of immediate collapse.





Figure 14: The diagonal sheathing boards are a complete loss at the base of the addition. Based on termite damage observed in the ceiling system and interior walls, it is assumed that the sheathing is deteriorated throughout the rear addition.



Figure 15: Rear elevation, corner of the original structure. The corner post is a complete loss. Termites have eaten through the entire member.



Figure 16: The building has dropped in this rear corner and is actively separating at the corner.



Figure 17: Side elevation, adjacent to the new construction home. The siding next to the chimney is falling away from the building.

Figure 18: The framing below has been compromised by termites and is no longer structurally sound.



Figure 19: The chimney is being pushed out by the exterior wall of the original structure. Figure 20: Note cracks at \sim 3 ft. The side wall of the original structure is pushing out and putting load onto the chimney.



Building Interior



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Figure 21: Rear Addition Interior: The ceiling has collapsed. Until recently, the roof was open allowing water to enter the building. Floor faming members, roof framing members, and wall studs are all damaged beyond repair from termites. Complete replacement is required.



Figure 22: Rear Addition Interior: The roof has collapsed into the building interior.





Figure 23: Rear Addition Interior: The roof has collapsed into the building interior. Floor and roof framing members are damaged from termites. The interior finishes are damaged from water and mold is actively growing on the drywall.



Figure 24: Rear Addition Interior: The rear wall of the original structure is structurally compromised from termites. Water damage is extensive in this area as a result of a previous roof leak.





Figure 25: Rear Addition Interior: The interior wall framing on the right is a complete loss. Termites have eaten the studs.



Figure 26: Rear Addition Interior: The floor system is no longer viable. Framing and flooring are compromised from water and termites. During the site investigation, a member of our team, fell through the floor.





Figure 27: Rear Addition Interior: The roof is in the process of collapsing. Note bow in ceiling. Upon closer examination termite damage was noted in the wood ceiling and framing above.



Figure 28: Rear Addition Interior: Close-up view of ceiling damage and opening in exterior wall.





Figure 29: Rear Addition Interior: Close-up view of ceiling collapse at rear door.



Figure 30: Detail view of mold damage. Figure 31: Detail view of floor deterioration and collapse.





Figure 32: Original, Front Building: The rooms adjacent to the open lots are in the best condition. The floors feel sound. The finishes are intact. Structural damage to studs and sheathing was observed from the exterior. Termite damage was observed behind the walls.



Figure 33: Original, Front Building: The rooms adjacent to the open lots are in the best condition. Floors feel sound. Finishes are intact. Structural damage to studs and sheathing was observed from the exterior. Termite damage was observed behind the walls.





Figure 34: Original, Front Building: The exterior wall is open to the interior. Siding is heavily damaged. Studs are collapsing as a result of section loss from termites.



Figure 35: Original, Front Building: The rear wall finishes are bowing due to moisture intrusion. The interior of this room is covered in debris.

