Garvin House
Structural Assessment & Preservation Plan

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

Prepared By:
Meadors, Inc.
PO Box 21758
Charleston, SC 29413

Date: 02.25.2015

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Table of Contents

Introduction 7

Executive Summary 9

Historical Overview 11
- Previous Research 11
- Timeline 13
- History 15
- Site Map 19
- Plan Key 20
- Historic Photos 21

Documentation 29
- Photo documentation 29
- Items removed from site 49
- Drawings 54

Updated Conditions assessment 63
- Reference Terms 63
- Exterior conditions assessment 67
- Interior conditions assessment 83

Structural assessment 91

Conservation 101
- Paint Analysis 101
- Nail Chronology 126

Stakeholder Outreach 137
- Stakeholder Meeting #1 137
- Stakeholder Meeting #2 139

Statement of Significance 143

Treatment Philosophy 143

Recommendations 147
- Structural Recommendations 147
- Non-structural Recommendations 153
- Prioritized Recommendations 154

Maintenance Plan 159

References 163

Appendix A (M. Hance PE LLC Structural Report & Drawings) 165
Appendix B (Stakeholder Meeting boards) 180

Attention:
The Town of Bluffton
20 Bridge Street
Bluffton, SC 29910

Introduction

The following report identifies the findings regarding the structural assessment and preservation plan update of the Garvin House, located in Bluffton, SC. This project is in response to RFP #2014-29 issued by the Town of Bluffton in January 2014 and contract dated July 10th 2014. The RFP was issued in an effort to build upon extensive previous research and to develop a comprehensive, long-term actionable Preservation Plan to be used by the Town of Bluffton as an essential guiding document for future restoration, rehabilitation, and maintenance of the Garvin House.

The findings described within this summary encompass visual observations of all facades accomplished during site inspections performed by Meadors, Inc. during the summer and all of 2014. Structural assessment of the building was performed on site by Michael Hance PE on August 8, 2014.

Record drawings were prepared for each building elevation and all plans. The baseline drawings were used to document existing conditions and to label elements to be referenced in the photo section of the assessment. During the assessment, an awl was used to lightly press on wooden components to determine areas that were sound or exhibited deterioration. The condition of all building elements was recorded with photographs and on drawings. A copy of the drawings can be found in the 'drawings' section of the report (Appendix A).

During the course of this assessment, two stakeholder meetings were held on September 8th and November 3rd 2014 in order to involve the community in the preservation process and to discuss potential reuse strategies. Input obtained during these meetings assisted in formulating the statement of significance and the treatment philosophy for the presentation of the Garvin House. A copy of the boards presented to the public can be found in Appendix B.

Executive Summary

The Garvin House, located in the historic district of Bluffton, SC is a rare surviving example of a slave made Freedman's home in the Carolina Lowcountry. Currently, existing in a state of arrested decay, the structure necessitates further study and treatment prior to the loss of any further architectural and cultural material.

The research within this report details the findings of a structural assessment and preservation plan update for the Garvin House. The activities undertaken during this project were comprehensive and varied, including extensive site work and laboratory analysis. Photo-documentation was conducted to document the current conditions of the structure and illustrate the context and significance of this historic house. The relationship of the structure to its surroundings and to the adjacent May River was further highlighted and defined through local resident interviews and area mapping.

Concurrent with documentation, Meadors and the Town of Bluffton identified and involved the multiple community stakeholders. Ultimately, input garnered from the stakeholder meetings assisted in guiding and refining the treatment philosophy for the Garvin House.

Abiding by the defined treatment philosophy, recommendations have been formulated for each historic element, feature, and space. Additionally, a comprehensive conservation assessment and analysis was incorporated into Meadors work to further understand and document the Garvin House. A detailed paint analysis of several architectural elements both in-situ and those placed in protective storage developed a historic paint chronology for the structure and highlighted changes to the structure over time. In addition, a nail chronology has been established using fasteners available on site. Nail chronologies were particularly helpful in understanding relative ages of certain features and in deciphering the development of the Garvin House over time. Combined, these two types of analysis provide a new avenue of information relating to the structure that has not been uncovered in any of the previous studies.

Based upon input from the two stakeholder meetings, proposed treatment solutions for stabilization and/or repair have been outlined and prioritized. Specific recommendations have been created for the physical preservation of the building fabric. Recommendations are based on a tiered system and prioritized sequentially in order to address the most pressing deterioration issues. Accompanying the recommendations and the phasing plan, a detailed estimate of probable construction costs and expected time frame for repair has been created in order to assist the Town of Bluffton in planning the restoration work.

In addition, Meadors, Inc. has produced the necessary construction documents to implement restoration work and the recommended development strategies.

Previous Research

The information described within this report is the culmination of two decades of historic research, structural assessments, and stabilization of the Garvin House. The following reports have been consulted for the purposes of this analysis:

• The Garvin House; Seyaliogly; 2003

• The Garvin House Project; Bergin; 2004

• Structural Assessment Report; Moulton Clemson Jones, Inc.; 2007

• Field Report; Maxy et al.; June 12 2008

• Conceptual Master Plan for Oyster Factory Park; Wood+Partners Inc.; 2008

• Oyster Factory Site Plan; Town of Bluffton; 2009

• Garvin House Preservation and Interpretation Plan and Drawings; Living History Company; 2009.

• Old Town Master Plan - 2012 Update; Dept. of Growth Management, Town of Bluffton; 2012.

• Preserving Culture by Rewriting History: Interpreting Sites in the Lowcountry Antebellum Planters' Summer Cottage Community of Bluffton, South Carolina; Carolyn M. Coppola, 2013

In addition to these resources, local news coverage from the Bluffton area was consulted in order to understand the development of the project. These articles include:

• "Former Bluffton freed slave's home awaits renovation, but lack of money stalls progress"; The Island Packet; January 18, 2010.

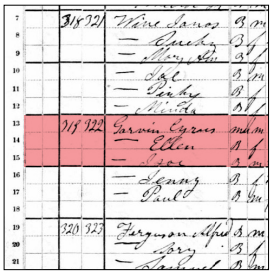
• "Aw shucks: Town beds down park pavilion"; Bluffton Today; September 14, 2011.

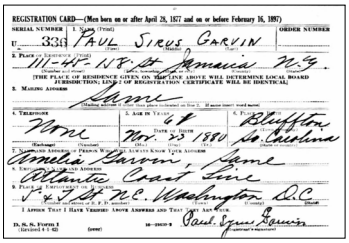
• "Preservation of Bluffton's history and heritage important"; Savannah Morning News; July 29, 2012.

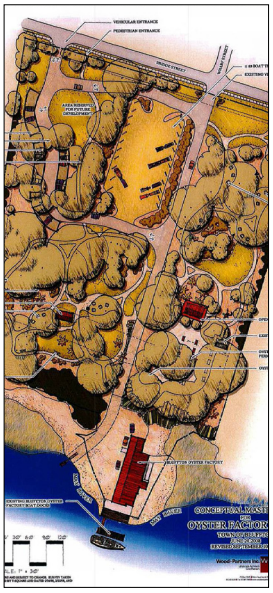
• "Bluffton restarts push to restore ex-slave's home"; The State; December 16, 2013.

TIMELINE

1863	June 4 1863 Plantation of Joseph Baynard burned down during Union attack on Bluffton
1870	Census records Cyrus Garvin as a 49 year old farmer, with 41 year old wife Ellie and twelve year old son, Issac. At this time he owns real estate valued at $250
1878	Cyrus Garvin likely builds current structure on land once belonging to Joseph Baynard
1880	Census –Cyrus Garvin listed as 60 years old man with wife Ellen, son Isaac, daughter-in-law Jenny, and grandson Paul
1890	Cyrus Garvin is recorded as residing in Bluffton, but likely dies within the next year
1891	State of South Carolina grants Cyrus Garvin property formerly owned by Joseph Baynard
1891	Title of property transferred to son, Isaac Garvin
1914	Title of property transferred to son of Isaac Garvin, Paul Garvin
1961	Property transferred to John Samuel Graves III
1970	Property owned by Bluffton Oyster Cooperative
1985	Property transferred to Bluffton Oyster Company
2001	Property acquired by Beaufort County Land Trust
2004	Beaufort County entered into a partnership with the Town of Bluffton to share in maintaining Oyster Factory Park and its resources
2008	Beaufort County and Town of Bluffton stabilize the Garvin House
2014	Beaufort County and Town of Bluffton initiated Structural Plan and Updated Preservation Plan for the Garvin House







Site History Summary

The Garvin House is located at the intersection of Bridge Street and Wharf Street within the "Old Town" district of Bluffton, SC. The structure dates to ca. 1870 and is an excellent example of Carolina Lowcountry vernacular architecture of the late-19th century. The building was constructed during the Reconstruction Era; an historic period rarely represented architecturally due to the impermanence of the construction methods and materials. The house utilizes a combination framing technique using indigenous materials to create an original hall-parlor plan with shed extensions. Traditional building techniques in the structure include hand-hewn timbers and notching and Anglo methods introduced through Union occupation of Hilton Head Island (milled lumber and fabricated materials). The floor plan constitutes a 20th c., Georgian modernization of the common hall-parlor folk house, modifying it into a more refined I-house plan. The Garvin House is believed to be one of the earliest known freedmen owned houses still extant on the May River. The residence remained in the Garvin family for three generations until 1961. The structure remained in private hands until 2001, when the Beaufort County Land Trust acquired the house and property. In 2004, Beaufort County and the Town of Bluffton entered into a partnership to share the responsibility of maintaining the Oyster Factory Park, which includes the Garvin House. The house has the potential to become a centerpiece of interpretation for the park due to its extreme rarity as a home constructed and owned by African-Americans in Bluffton during the Reconstruction Era.

History

Cyrus Garvin, a Freedman, built the Garvin House on the property of what might have been his former owner Joseph Baynard. Baynard's house was burned down during the Union attack on Bluffton on June 4, 1863, and the Garvin House stands on the exact location where the residence had been located, on a bluff overlooking the May River. Garvin purchased the land, 54 acres, from the Estate of Esther Box on May 10, 1878 for $239.70. The house now sits in parkland owned by Beaufort County.

The Garvin family history is fragmented, and there appears to be no record of Cyrus Garvin before an 1870 census, which lists him as a 49 year-old mulatto male who could neither read nor write. The census states that he was a farmer with real estate valued at $250 and personal net worth valued at $375. Additional information in the 1870 census of St. Luke's Parish indicates that Garvin had a forty year-old wife named Ellie and one twelve year-old son named Isaac. Garvin and his family were not on the list in the Index of Free Blacks and Mulattos of the Parish's 1860 census, indicating that they were likely slaves of Joseph Baynard. The 1860 St. Luke's Parish census lists Baynard as being the owner of forty-four slaves. Additionally, historical trends indicate that newly freed slaves

tended to remain on properties familiar to them, supporting the conjecture that Garvin was a former slave on the property.

A deed of conveyance dated to November 12, 1878 indicates that Garvin may have also been known by the surname Garvey. In this conveyance, Garvey states that another conveyance of January 31, 1878 referred to him as Cyrus Garvin. Thereafter, however, all documents refer to him as Cyrus Garvin. Garvin was active in the Bluffton community, serving as an agent of St. Matthew's Baptist Church and acting as a church trustee alongside "FS Keates, Geo H Guerard, Jacob Givens, S. Scott, and John Chisolm." In the previously mentioned 1878 conveyance, Garvin bought land from Dr. Paul Pritchard; additionally, he purchased the aforementioned fifty-four acres from Esther Box in 1878. Another document shows Garvin selling land to J.H. Estill in 1885.

The 1880 census of St. Luke's Parish states that Garvin, then 60 years-old, resided with his wife Ellen, 50; son Isaac, 21; daughter-in-law Jenny, 22; and seven-month-old grandson Paul. A deed of conveyance from 1914, where Isaac conveyed the family property to Paul, explains that the property formerly owned by Joseph Baynard was originally granted to Cyrus Garvin in 1891 by the state of South Carolina. A 1913 survey map of Bluffton shows the Garvin homestead at its present location.

Recent historic documentation uncovered by Celebrate Bluffton indicated that the Garvin family hosted social events at their house during the early 20th century. One newspaper article describes a "flinch" party at the home of Mrs. Isaac Garvin "On the Bluff" where "dainty refreshments were served and dancing indulged in until a late hour" (Savannah Tribune 8.19.1905). This new information highlights the importance of the family in Bluffton society during the early 20th century.

Following the death of Cyrus around 1891, the title of the property was passed from Cyrus to Isaac Garvin. According to interviews with community members, Isaac's wife Jenny was the last known person to inhabit the house. She passed away in the 1950's. For the last decade of her life Jenny Garvin was blind (Brown 10.30.14 and Martin 09.08.14). Historic records show that the title of property was passed to Paul Garvin in 1914. Around 1930, Paul Garvin constructed a second house on the property (see site map on p. 19 for location). The home was demolished in the early 2000's. In 1961 the property transferred to J.S. Graves Jr. before being passed to the Bluffton Oyster Company and then Beaufort County in 2001.

both colored and white.
white reporters of the city
, asked for two of the es-
and the names of respond-
the four welcome addres-
This being an unexpected
ominal request, which was
diately complied with.
s Abbie L. Mason, who at-
d the above mentioned
ention, left there for Fitz-
l, Douglass, Broxton and
nt, Ga., reports a very
ant time while away. Each
er of the home were very
l of her arrival on last Sat-
.

Statesboro Items.

general meeting that was
at Banks Creek Primitive
st church was a complete
ss and certainly had good
hing by Elder Daniel
, followed by Elder A.
son, and he certainly
hed a fine introductory
on and had a large crowd.
unday night, Elder Cook

Brunswick is very lively this summer with so many entertaining young ladies.

Bluffton Social.

Quite a delightful flinch party was given in honor of Mrs. L. A. Spring and the Misses Spring at the home of Mrs. Isaac Garvin "on the Bluff." Those invited were Mrs. L. A. Springs, Misses Addie and Luella Springs, Mrs Rena Fields, Mrs. Sarah Rivers, Mrs. Susie Perry, Miss Emily Smith, Mr. Chas Royal of Savannah; Mr. and Mrs. Paul Garvin, Miss Ida Taylor, Mr. and Mrs Chas. Frazier, Messrs. James Miller, M. O. Riley, Eddie Symons, David Frazier, B. Bruen. Dainty refreshments were served and dancing indulged in until a late hour.

Mrs. L. A. Spring and children are at the home of Mr. and Mrs. Paul Garvin "on the Bluff"

Misses Addie and Luella Spring, after spending three weeks of pleasure in Charleston are rusticating at Bluffton.

Central Railroad Excursion Rates.

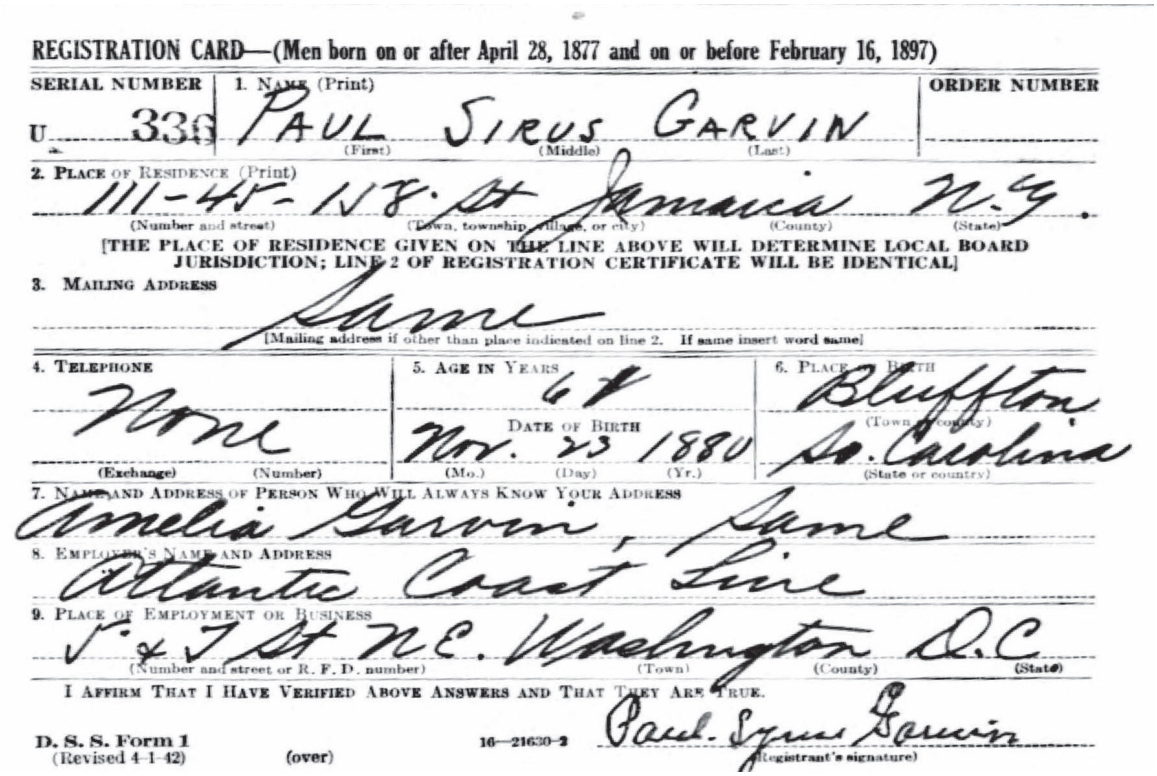
Low excursion rates via Central of

And solicit the patronage of my friends.
Repairing .· Neatly .· Don

Boarding and Lodging
Good Meals Served by
Mrs. M. Hall,
Cor. Tattnall & Taylor Sts
EVERYTHING FIRST CLASS
The patronage of my old friends and the public is solcited.

Asbury M. E. Church
Wednesday Evening, ×
× Aug. 30, 1905
AT 8-30 O'CLOCK
GRAND
CONCERT RECITAL
BY THE
COLERIDGE TAYLOR GLEE CLUB

Figure 1: *Savannah Tribune* Article, 1905: Article describing flinch party at the Garvin House. Flinch was a popular card game during this time.



REGISTRATION CARD—(Men born on or after April 28, 1877 and on or before February 16, 1897)

SERIAL NUMBER U 336 | 1. NAME (Print) PAUL SIRUS GARVIN (First) (Middle) (Last) | ORDER NUMBER

2. PLACE OF RESIDENCE (Print) 111-45-178 St Jamaica N.Y. (Number and street) (Town, township, village, or city) (County) (State)

[THE PLACE OF RESIDENCE GIVEN ON THIS LINE ABOVE WILL DETERMINE LOCAL BOARD JURISDICTION; LINE 2 OF REGISTRATION CERTIFICATE WILL BE IDENTICAL]

3. MAILING ADDRESS Same
[Mailing address if other than place indicated on line 2. If same insert word same]

4. TELEPHONE None (Exchange) (Number)

5. AGE IN YEARS 68
DATE OF BIRTH Nov. 23 1880 (Mo.) (Day) (Yr.)

6. PLACE OF BIRTH Bluffton (Town, county) So. Carolina (State or country)

7. NAME AND ADDRESS OF PERSON WHO WILL ALWAYS KNOW YOUR ADDRESS Amelia Garvin, Same

8. EMPLOYER'S NAME AND ADDRESS Atlantic Coast Line

9. PLACE OF EMPLOYMENT OR BUSINESS V & 7 St NE. Washington D.C. (Number and street or R. F. D. number) (Town) (County) (State)

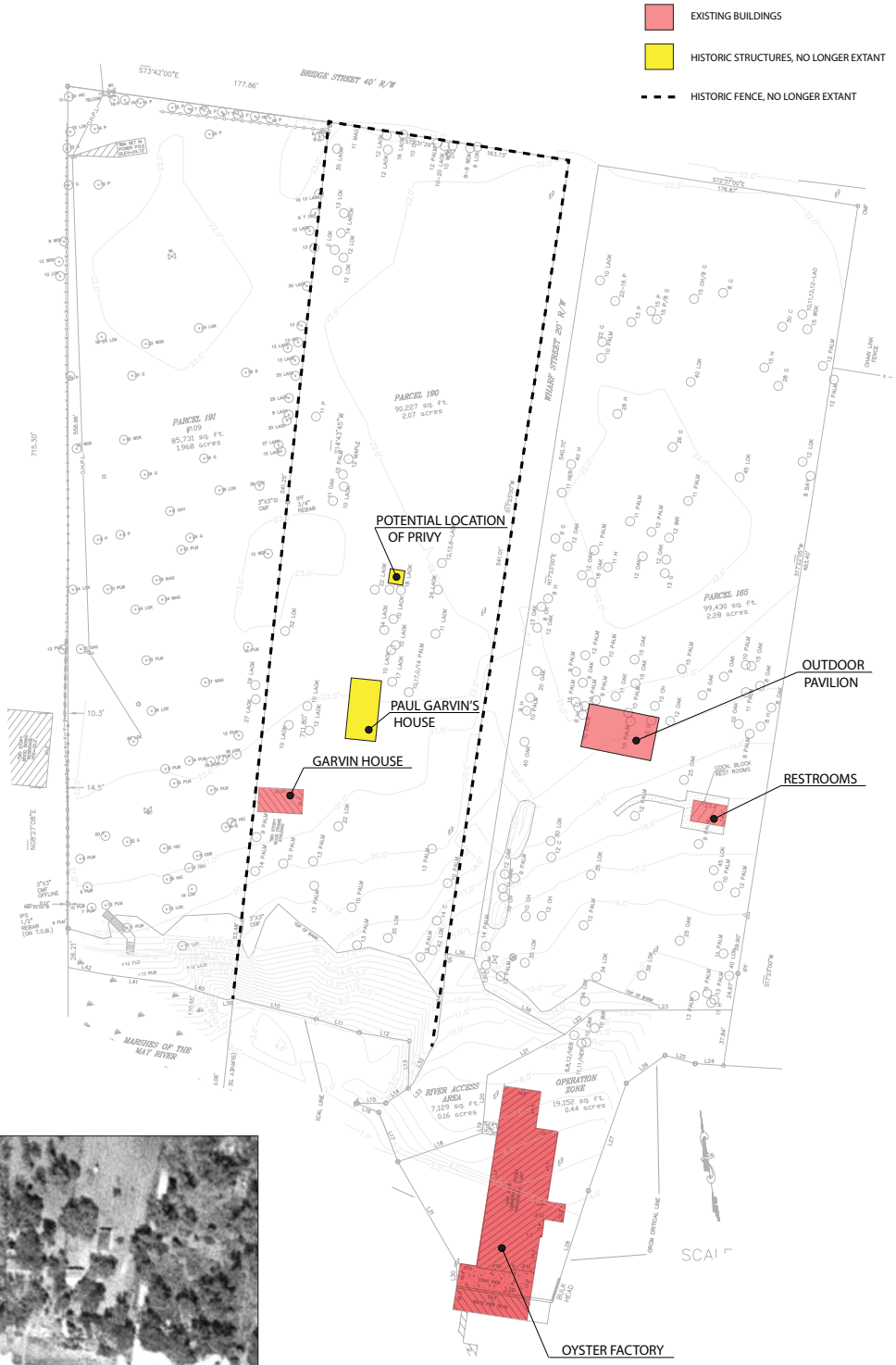
I AFFIRM THAT I HAVE VERIFIED ABOVE ANSWERS AND THAT THEY ARE TRUE.

Paul Sirus Garvin (Registrant's signature)

D. S. S. Form 1 (Revised 4-1-42) (over) 16—21630-2

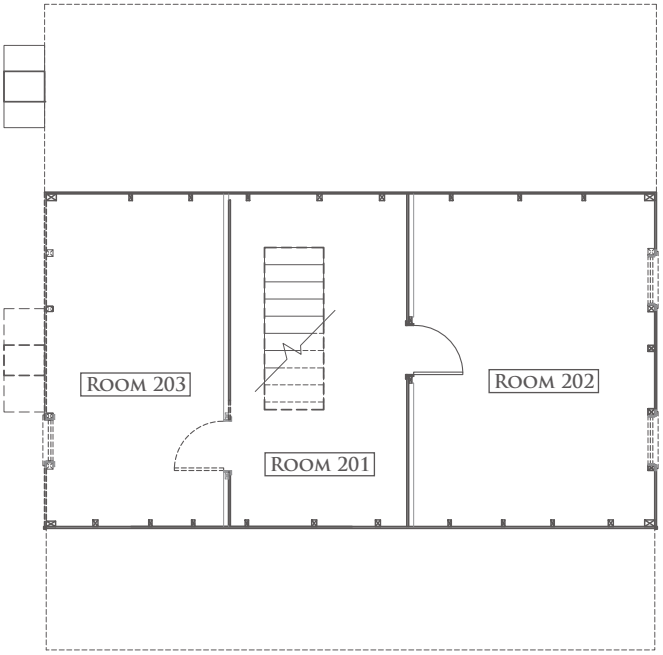
Figure 2: WWII Registration Card. Paul Garvin's registration card uncovered during this project research.

Site map

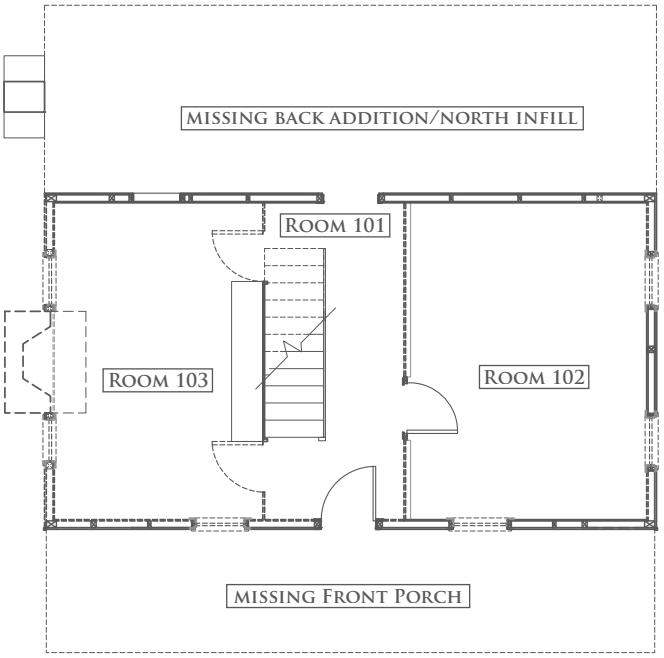


1951

Plan Key



Second floor plan



First floor plan

Historic Images

Historic Documentation

Currently, few historic photographs are known to exist of the Garvin House. During the course of this assessment, the Bluffton community was asked to share memories and photos of the structure. Despite these recent attempts to reach out to the community to find additional documentation, no photographs have been uncovered of the structure when it was occupied by the Garvin family from 1870 to 1960.

Several images exist that document the unoccupied building and its deterioration from 1970. However, full photographic documentation of this structure is incomplete. The front (south) porch and west gable-end elevation with the fireplace were not captured in any of the images on record. Nevertheless, the following images serve as a record of the structure's rate of deterioration over the last 40 years, and provide clues to understanding the original fenestration of the building.

Figure 3: Northeast Elevation: Photograph from ca. 1970 showing original window sashes. Note: The chimney on the west elevation is no longer extant (in red).

Figure 4: East Elevation: Photograph showing the collapsing front porch. Back addition and windows are present at this time.

Figure 5: East Elevation, ca. 1970: Another view of front porch and windows. Note: Addition foundation appears to be failing as evidenced by angle of the clapboards.

Figure 6: South elevation: Photo of this elevation taken circa 1990 shows shutters on south windows. Red dots indicate larger window frames found beneath clapboard.

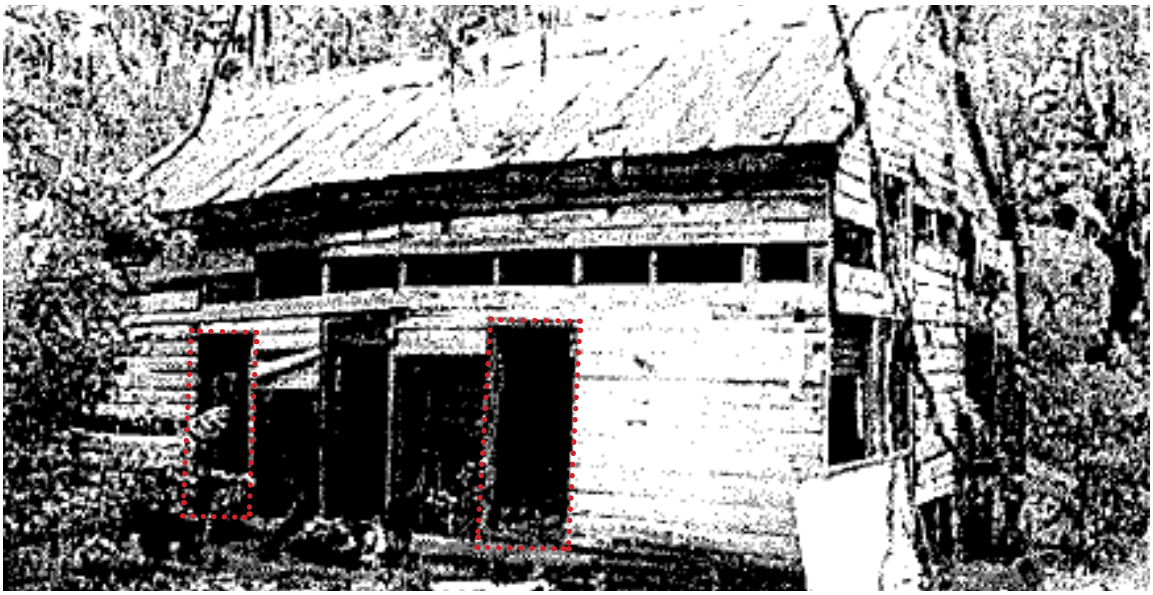


Figure 7: South elevation ca. 2002-2003: Deterioration of exterior siding reveals original length of windows on this elevation. Note: Exterior clapboards cut to cover lower portion of opening has now failed.

Figure 8: Northeast Elevation, ca. 2002: The north addition and window sashes have been removed by this time. There is noticeable deterioration in the foundation.

Figure 9: North Elevation, ca 2002: Gable end chimney appears to have been removed.

Figure 10: Room 102, looking northeast ca. 2002: Note cardboard and tongue & groove panelling. Few finishes currently remain in this location today.

Figure 11: Paul Garvin's House, ca 2002. This structure was constructed by Cyrus Garvin's grandson, Paul, to the northeast of the Garvin House around 1930. It has since been demolished.

Figure 12: Room 103, ca. 2002: Removal of the chimney likely caused extensive deterioration of the interior finishes and foundation. Note evidence of a window (in red) and mantel currently in storage.

Figure 13: West elevation clapboard extensions for the addition ca. 2004. These boards are no longer present (Bergin 2004). The edge of this board can be seen in Fig. 11.

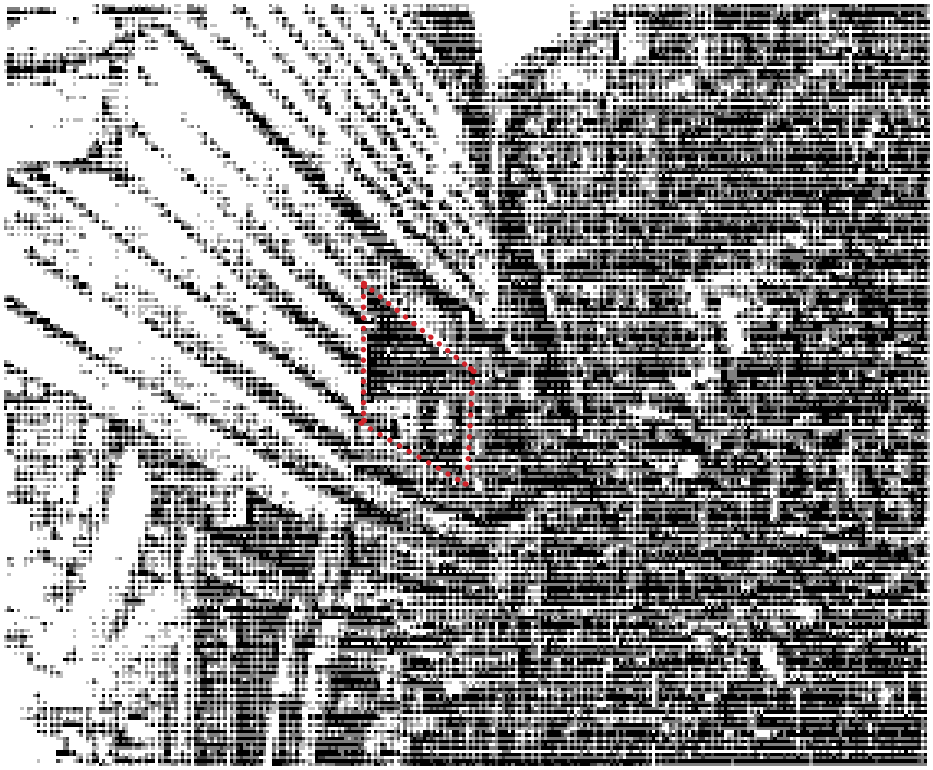


Figure 14: West gable, looking south: Only one window is visible on the second floor at the west gable (Bergin 2004).

Figure 15: Southwest Elevation, ca. 2008. Note approximate window locations on south and west elevation.

Photo-documentation of existing conditions

Figure 19: North Elevation.

Figure 20: East Elevation.

Figure 21: South Elevation.

Figure 22: West Elevation.

Figure 23: View of northeast corner.

Figure 24: View of southwest corner.

Figure 25: View looking south at north elevation and the May River.

Figure 26: View of south elevation of the Garvin House on a high bluff, as seen from the May River.

Figure 27: Room 102, looking north.

Figure 28: Room 102, looking east. Note: There is extensive deterioration of the finishes in this location.

Figure 29: Room 102, looking south. Note: Horizontal members from the 2014 stabilization.

Figure 30: Room 102, looking west. Note: Partition wall has collapsed and has been placed in protective storage.

Figure 31: Room 103, looking north. Interior tongue-in-groove panelling covers an opening visible from the north elevation. Note: The steel beam was placed during the 2009 stabilization.

Figure 32: Room 103, looking east. Interior partition wall with shelf. The shelf is a later addition.

Figure 33: Room 103, looking south. Note: Loss of interior panelling, revealing whitewashed structural members.

Figure 34: Room 103, ceiling. No structural members remain on the west elevation within this room. The second floor joists were originally whitewashed and left exposed. Currently the joists are covered by a flat board ceiling.

Figure 35: Room 101, Staircase: Notches can be seen on stair treads indicating presence of a simple handrail. Note how door frame on left intersect lower stair tread. (Town of Bluffton)

Figure 36: Room 101, beneath staircase: Note: whitewashed underside of stairs, similar to that seen on the structural members in Room 103. (Town of Bluffton)

Figure 37: Room 201, looking north.

Figure 38: Room 201, looking east. Note: Green paint on vertical clapboard (red box), indicating it is likely a reclaimed item.

Figure 39: Room 201, looking south: The door for the adjacent bedchamber, Room 203 has been removed and is in protective storage.

Figure 40: Room 201, looking west: Reclaimed vertical clapboards separating Room 201 from Room 203.

Figure 41: Room 202, looking north: Note: Yellow pine members are from the 2014 stabilization.

Figure 42: Room 202, looking east: Window frames extant in the historic photographs have been removed and/or deteriorated.

Figure 43: Room 202, looking south: The flooring in this location is well preserved with little damage or loss.

Figure 44: Room 202, looking west: This area is well preserved. Note: Stair tread ghosts present on reclaimed clapboard (in red).

Figure 45: Room 203, looking north: Note fire damage on exterior clapboard.

Figure 46: Room 203, looking east.

Figure 47: Room 203, looking south.

Figure 48: Room 203, looking west: The lower framing members on this wall have deteriorated. Note: Notch in clapboard indicating location of window (in red).

Figure 49: Room 203, looking northwest: Mortise and tenon joinery.

Figure 50: Room 203, looking south. Separated mortise and tenon joint, revealing tenon.

Figure 51: Room 202, looking south. Notched ledger board.

Figure 52: East elevation: The deterioration of the framing members has revealed the fasteners that originally attached the members to the end girt (Red box).

Items Removed from Site

Protective Storage

Due to the increased rate of deterioration of the structure, several items have been removed from the Garvin House to protect them from further damage or loss. The protected items include an interior door, exterior shutters, a second floor window sash, and a mantel.

These items are significant architectural elements that can be reused or replicated for the future restoration. The following images document those items placed in protective storage. In addition, the preserved finishes on these pieces allow the finishes of the structure to be further studied through paint analysis.

Figure 53: Detailed documentation and study of existing items placed in protective storage.

Figure 54: Fireplace Mantle: The mantle was salvaged from the interior of Room 103. The mantle is currently missing a leg and is constructed out of southern pine. Previous research indicates that this was salvaged from another building and reused.

Figure 55: Window Sash: This sash is believed to be from a window on the upper story. The mutins have been removed, but evidence of their placement remains on the frame.

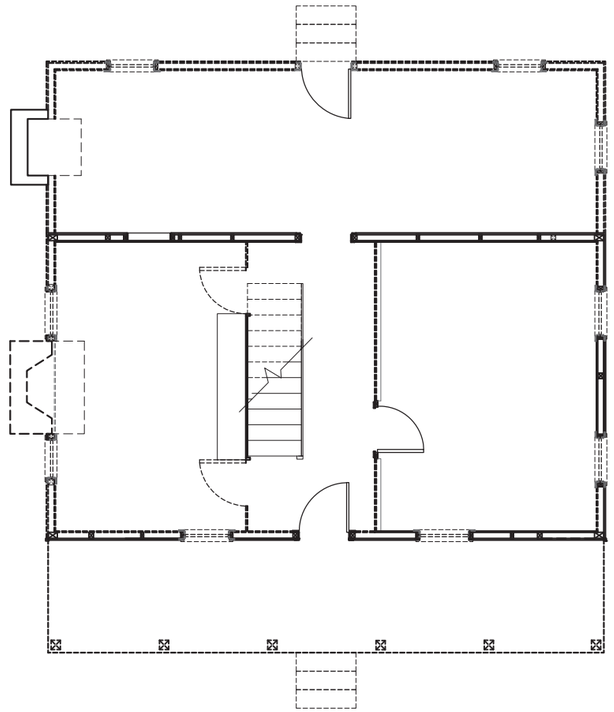
Figure 56: Interior Door: This door is believed to be from Room 203. It is similar to the existing door present in Room 202.

Figure 57: Board and Batten Shutter: This shutter has areas of loss and extensive rot, as evidenced by the white powder. This piece can easily be replicated for the future restoration.

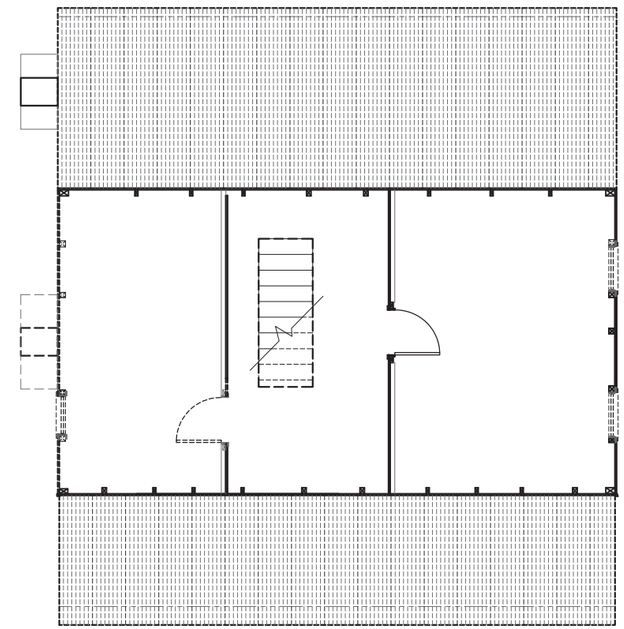
Figure 58: Board and Batten Shutter: This shutter is heavily deteriorated. It is likely from a small window.

Figure 59: Window Shutter: This shutter is from a first story window.

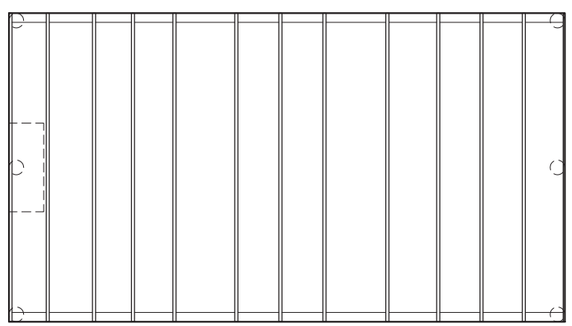
Figure 60: Interior side of Window Shutter (reverse): The paint has been well preserved on this side. Several shutters similar to this remain in-situ on the building.



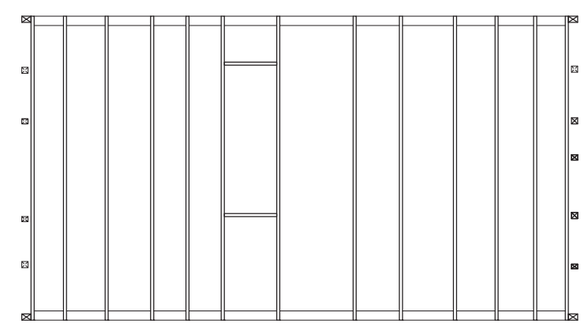
1 EXISTING FIRST FLOOR DIMENSION PLAN
1/8"=1'-0"



2 EXISTING SECOND FLOOR DIMENSION PLAN
1/8"=1'-0"



3 EXISTING FIRST FLOOR JOIST FRAMING PLAN
1/8"=1'-0"

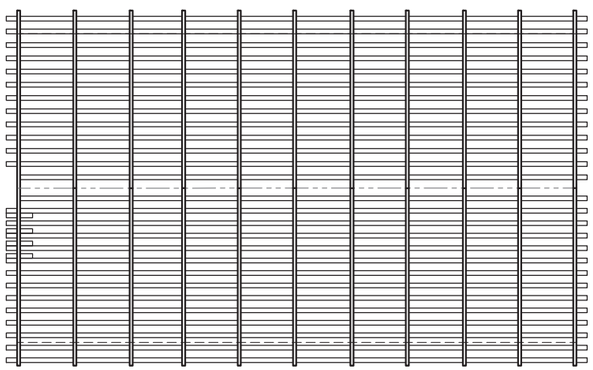


4 EXISTING SECOND FLOOR JOIST FRAMING PLAN
1/8"=1'-0"

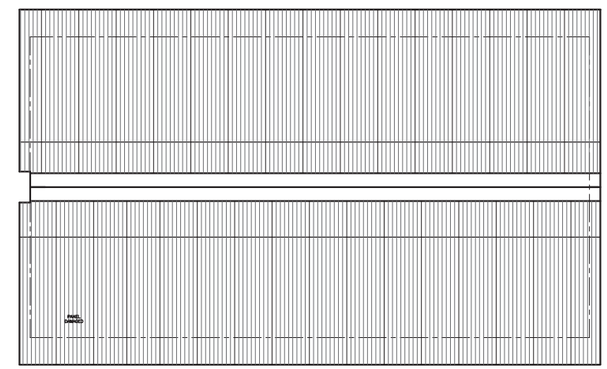
MEADORS, INC.
843.723.8585 ■ CHARLESTON, SC ■ 2811 AZALEA DRIVE

GARVIN HOUSE
63 Wharf Street
Bluffton, SC
January 01, 2015

Plans
SHEET NO.
A1



1 EXISTING RAFTER FRAMING PLAN
1/8"=1'-0"



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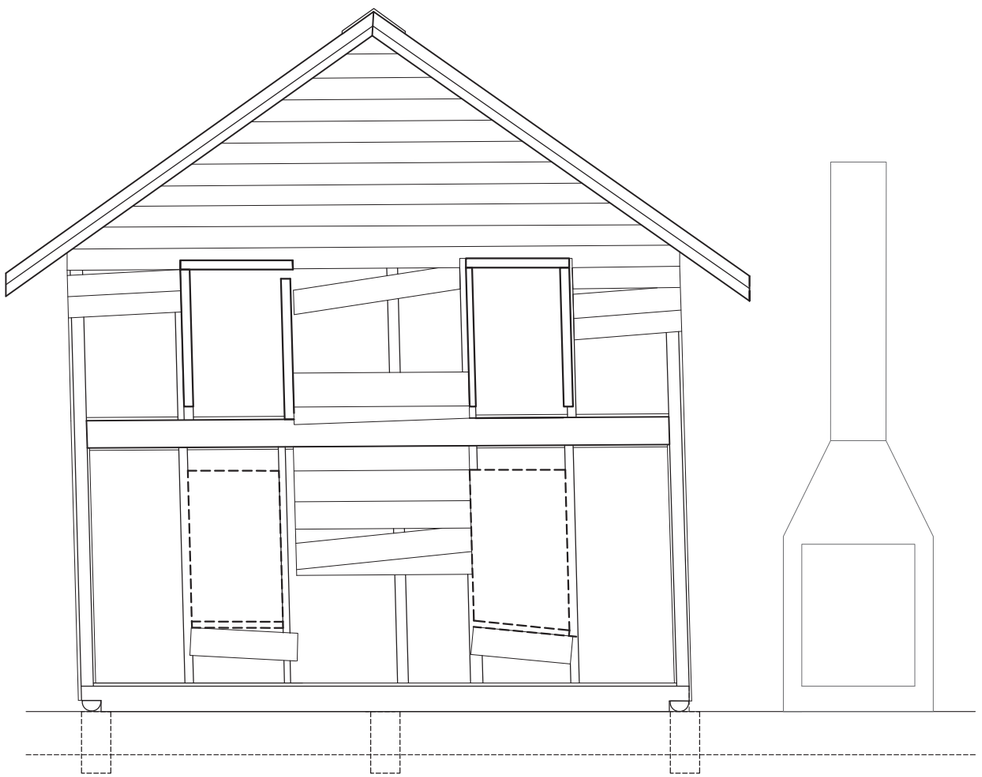
1/8"=1'-0"



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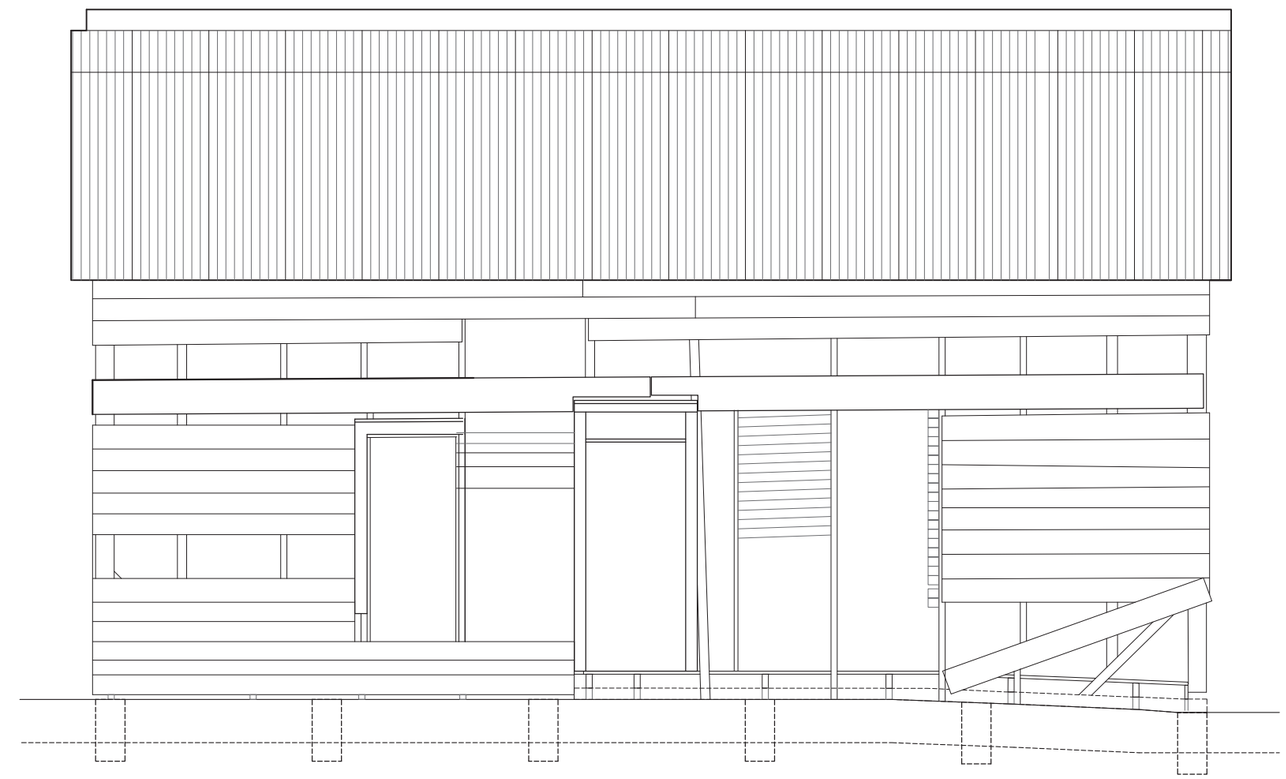
1/4"=1'-0"



2 EXISTING SOUTH ELEVATION
1/4"=1'-0"

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GARVIN HOUSE
63 Wharf Street
Bluffton, SC

Note:
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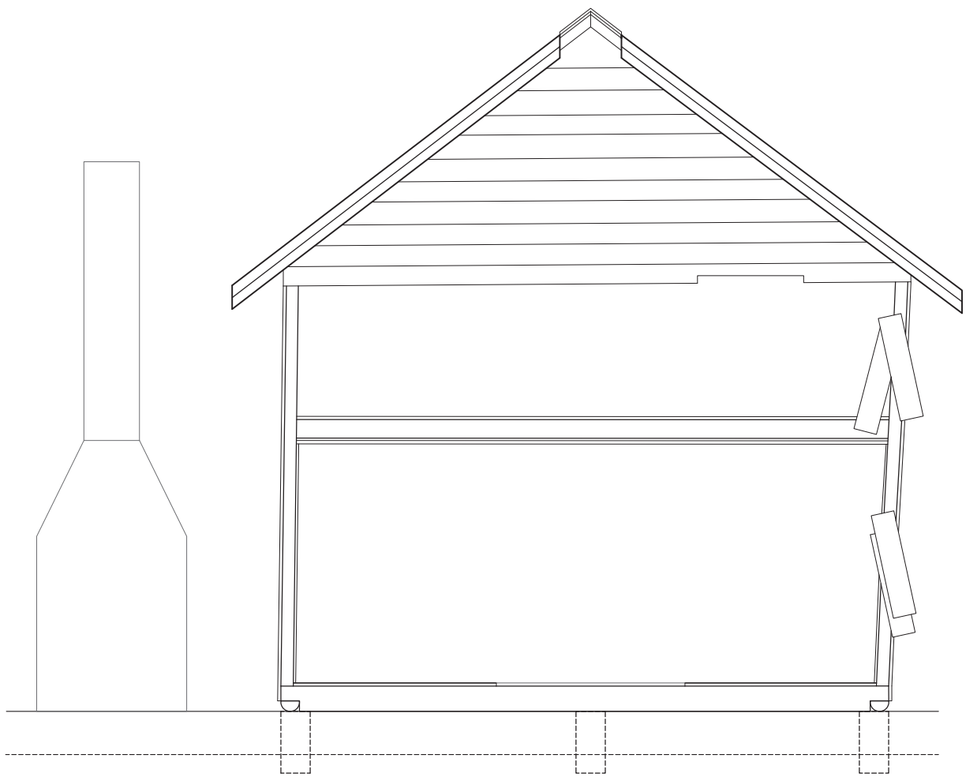
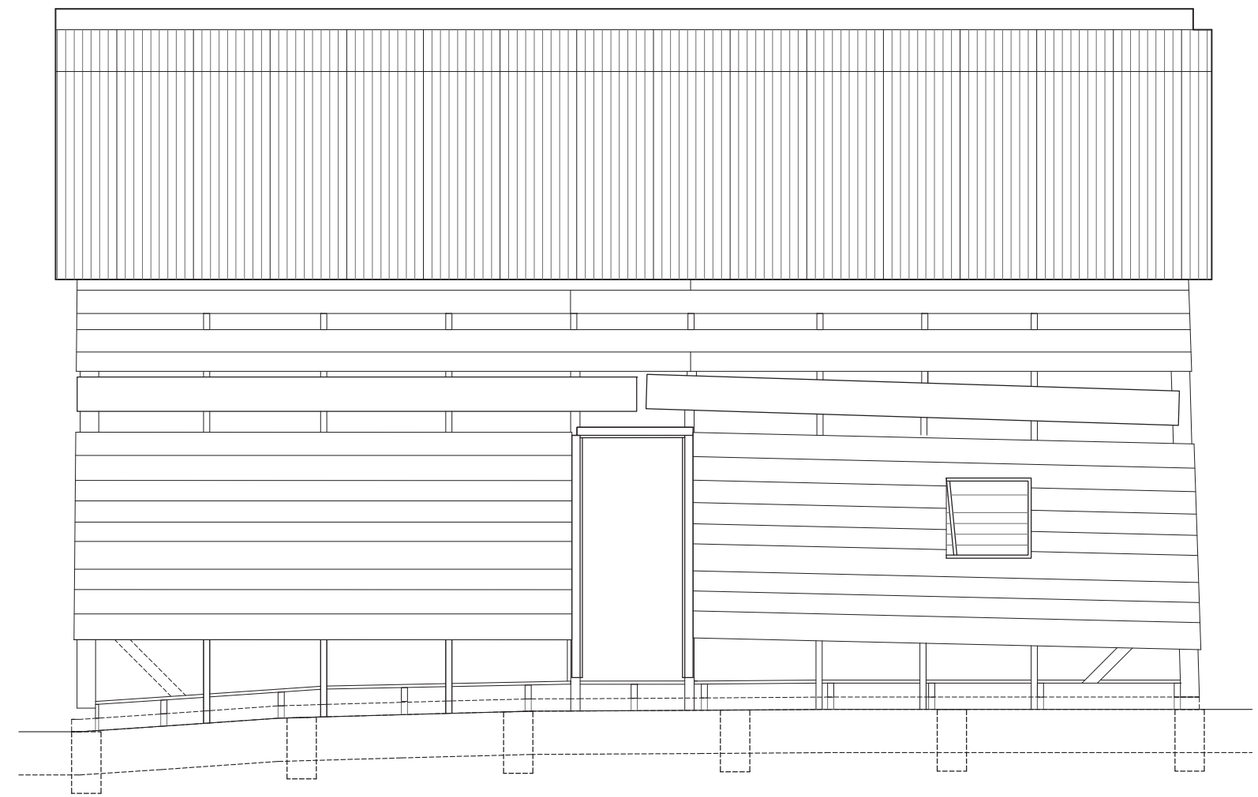
January 01, 2015

Elevations

SHEET NO.
A3



1 EXISTING WEST ELEVATION
1/4"=1'-0"



2 EXISTING NORTH ELEVATION
1/4"=1'-0"

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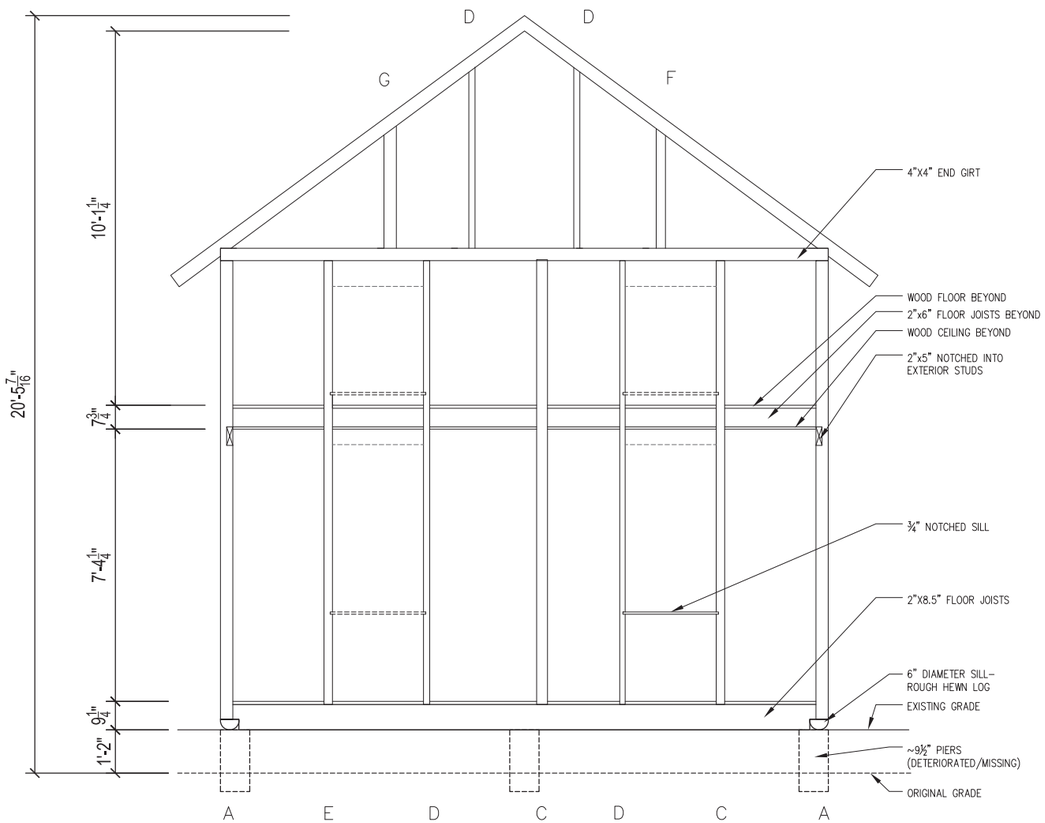
January 01, 2015

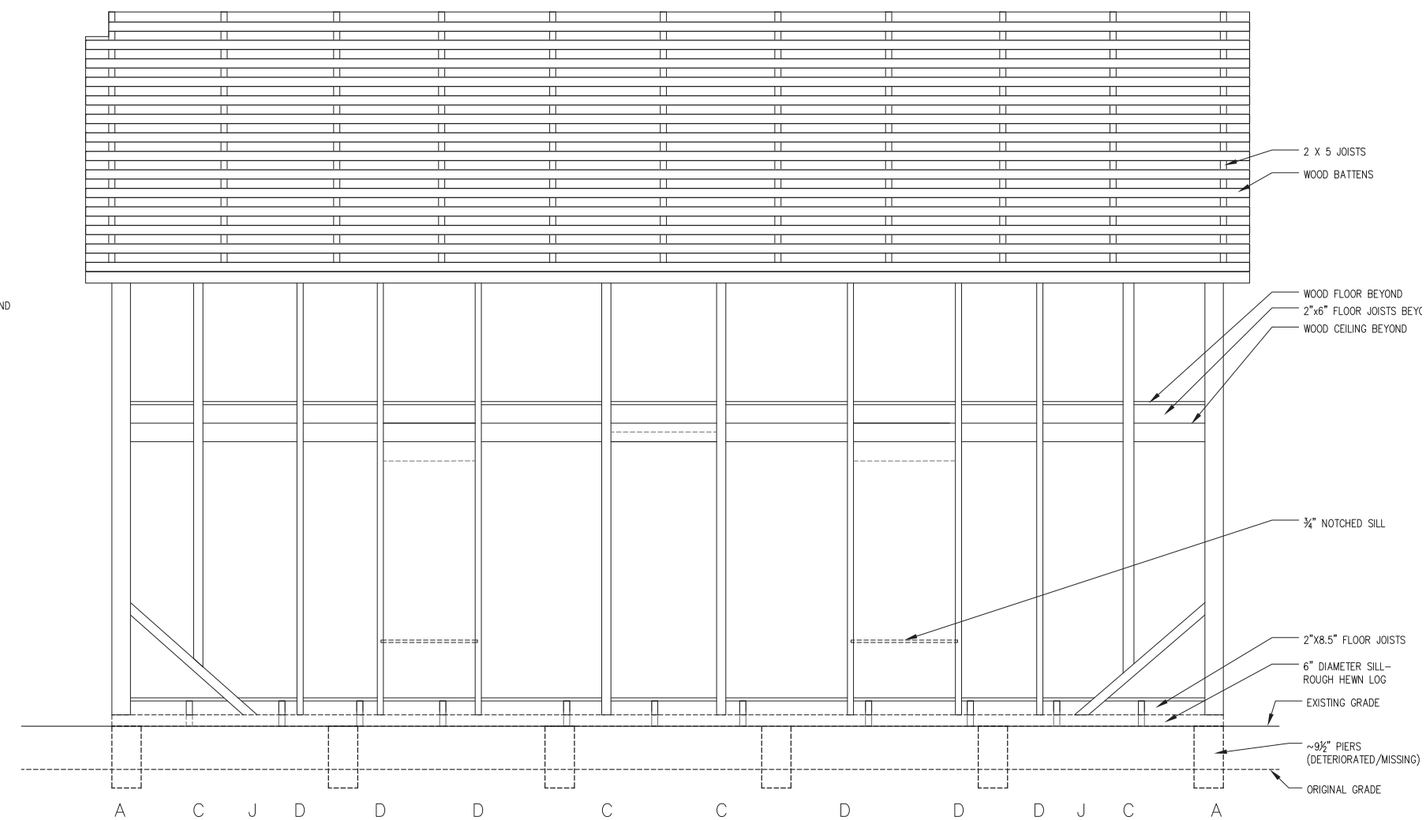
Elevations

SHEET NO.
A4

STUD KEY
A – 4 x 6 ACTUAL
B – 2 x 4 NOMINAL
C – 3.5 x 4 ACTUAL
D – 2 x 4 ACTUAL
E – 2.75 x 4 ACTUAL
F – 3 x 3 ACTUAL
G – 4 x 2 ACTUAL
H – 3 X 3.5 ACTUAL
I – 4 X 4 ACTUAL
J – 3 X 4 ACTUAL



1 EXISTING EAST ELEVATION FRAMING DIAGRAM
1/4"=1'-0"



2 EXISTING SOUTH ELEVATION DIAGRAM
1/4"=1'-0"

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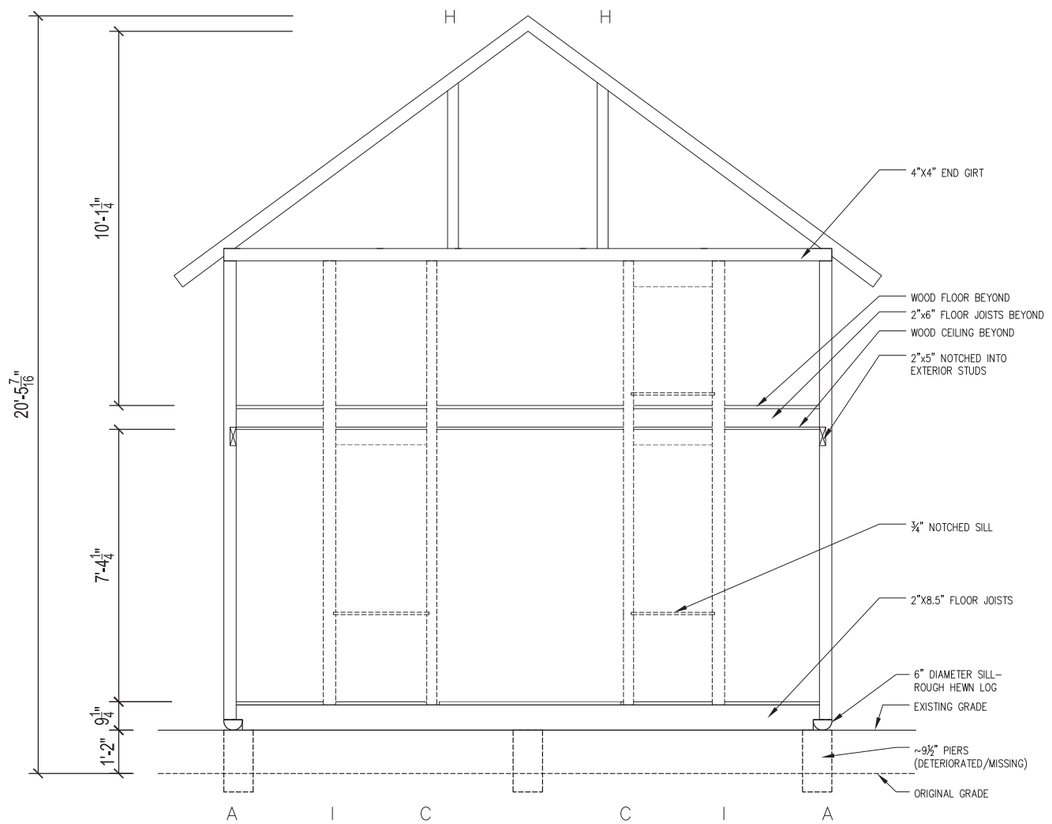
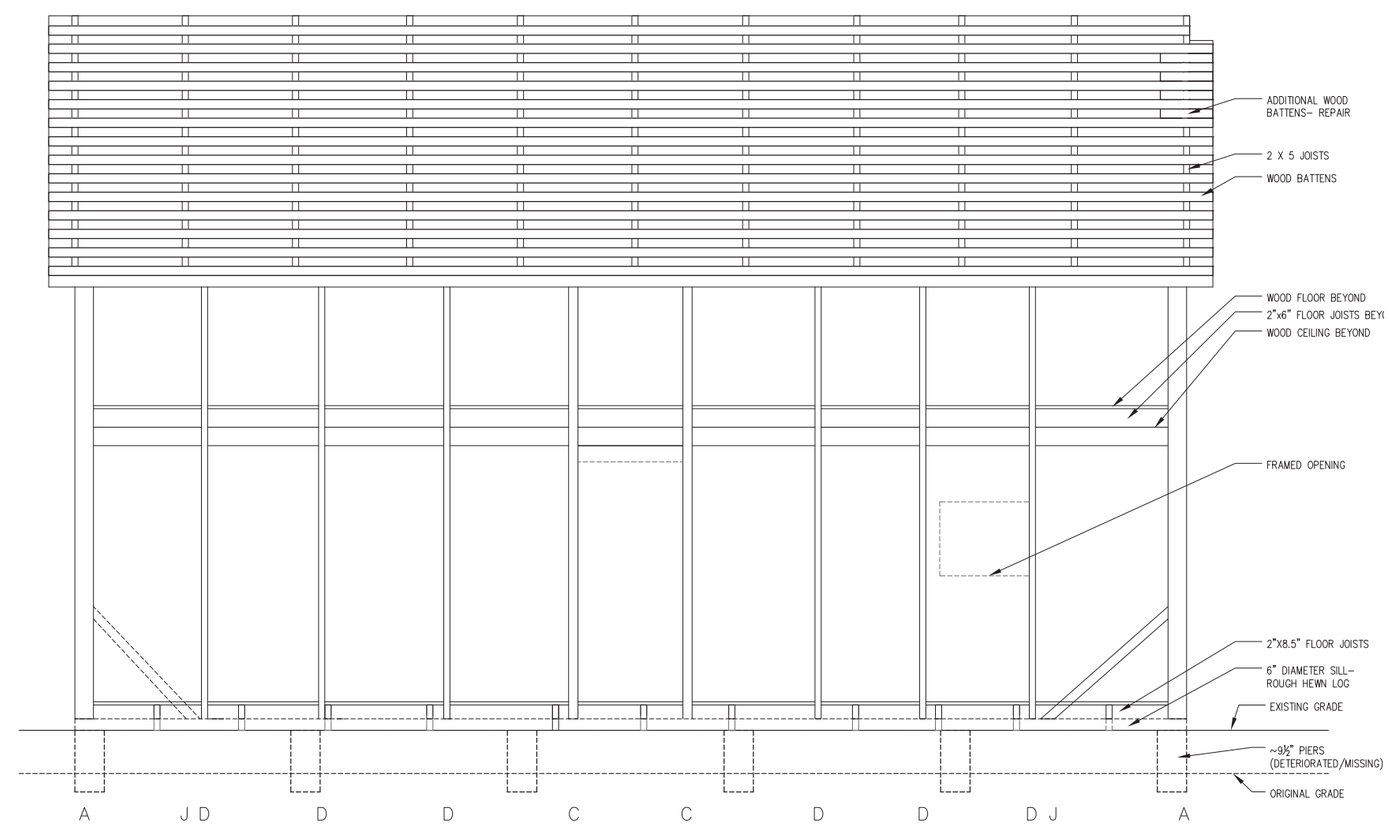
Framing Diagrams

SHEET NO.
A5

STUD KEY
A – 4 x 6 ACTUAL
B – 2 x 4 NOMINAL
C – 3.5 x 4 ACTUAL
D – 2 x 4 ACTUAL
E – 2.75 x 4 ACTUAL
F – 3 x 3 ACTUAL
G – 4 x 2 ACTUAL
H – 3 X 3.5 ACTUAL
I – 4 X 4 ACTUAL
J – 3 X 4 ACTUAL



1 EXISTING WEST ELEVATION FRAMING DIAGRAM
1/4"=1'-0"



2 EXISTING NORTH ELEVATION FRAMING DIAGRAM
1/4"=1'-0"

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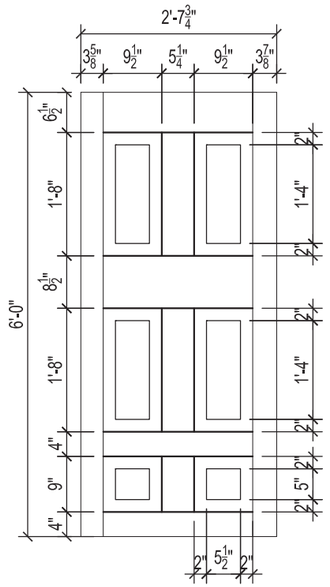
Framing Diagrams

SHEET NO.
A6

A – 4 x 6 ACTUAL
B – 2 x 4 NOMINAL
C – 3.5 x 4 ACTUAL
D – 2 x 4 ACTUAL
E – 2.75 x 4 ACTUAL



1 FIRST FLOOR DOOR DETAILS
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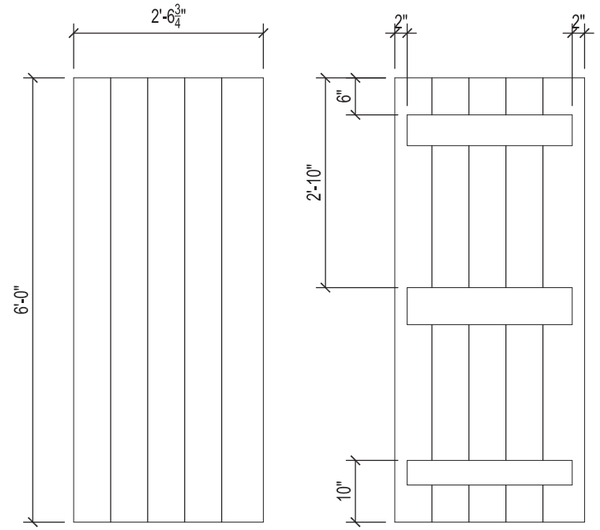
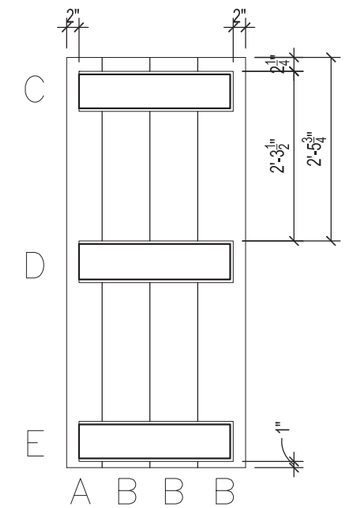
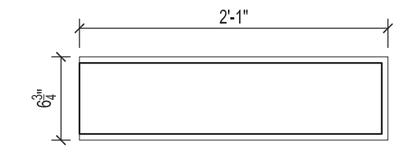


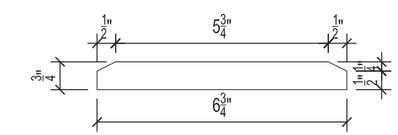
2 SECOND FLOOR DOOR DETAILS
1/2"=1'-0"



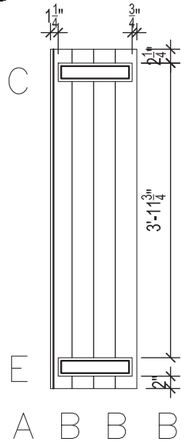
3 SHUTTER DETAILS
1/2"=1'-0"



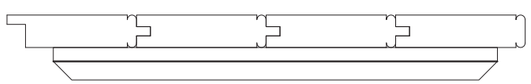
4 SHUTTER DETAILS
1"=1'-0"



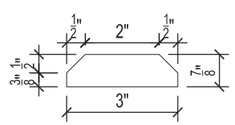
5 SHUTTER DETAILS
3"=1'-0"



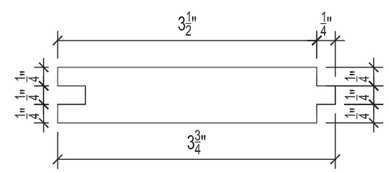
6 SHUTTER DETAIL
1/2"=1'-0"



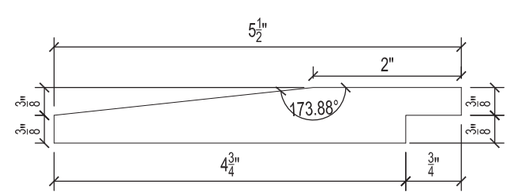
7 SHUTTER DETAILS
3"=1'-0"



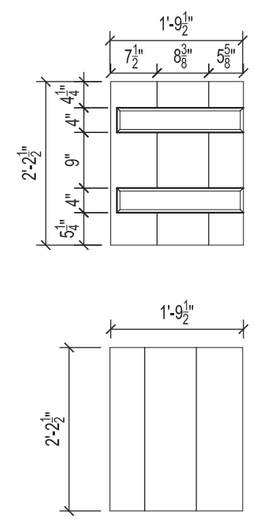
8 SHUTTER DETAILS
3"=1'-0"



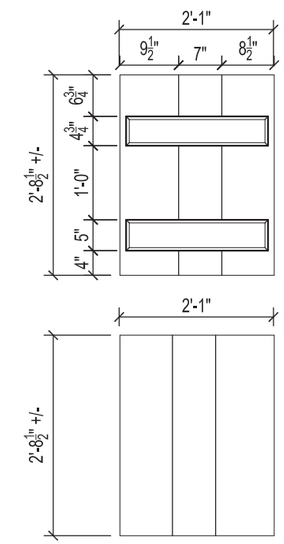
9 SHUTTER DETAILS
3"=1'-0"



10 SHUTTER DETAILS
3"=1'-0"



11 SHUTTER DETAILS
1/2"=1'-0"



12 SHUTTER DETAILS
1/2"=1'-0"

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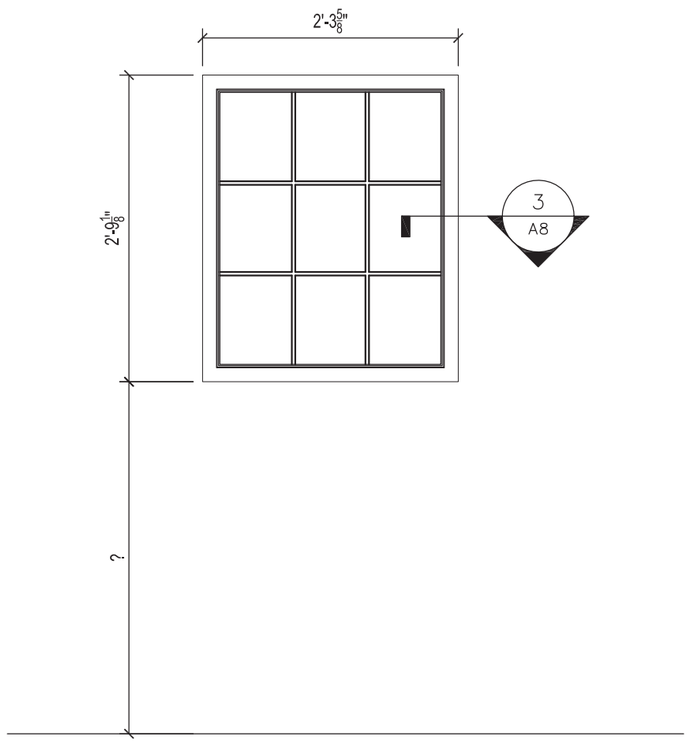
Door & Shutter Details

SHEET NO.
A7



1 WINDOW ELEVATION
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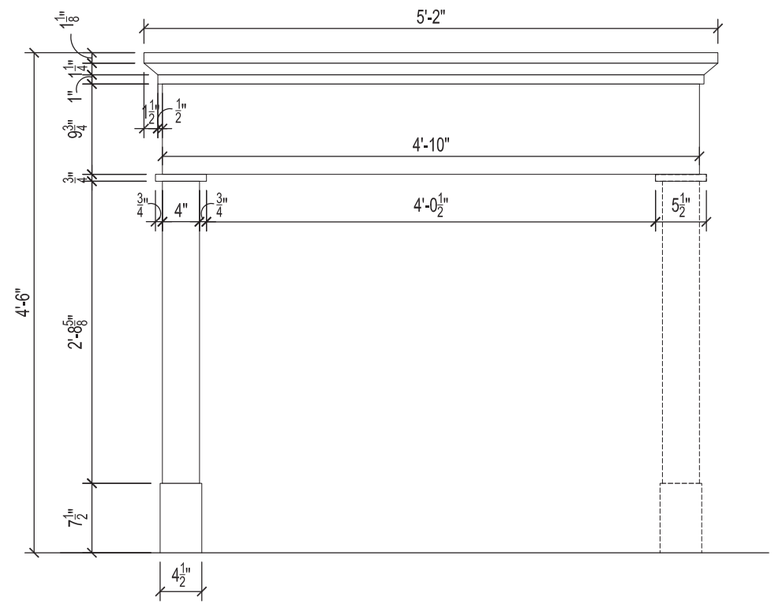
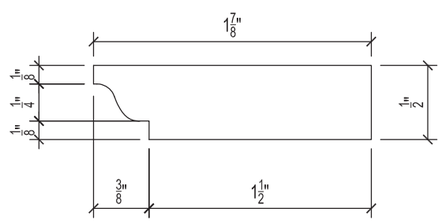


2 EXISTING MANTLE ELEVATION
1/2"=1'-0"



3 STYLE DETAIL
1'-0"=1'-0"

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MISC. DETAILS

SHEET NO.
A8

Reference terms and diagrams:

Adz: A long-handed tool with a curved blade set perpendicular to the handle. Used for dressing lumber.

Casement: A window sash that is hinged on the side.

Coil Strapping: Strapping applied to an wood members to combine, hold, reinforce, or fasten it with nails, bolts, or screws. Coil stripping can be cut, bent, and formed with ease.

Collar Tie: A horizontal timber uniting two opposite common rafters at a point below the ridge, usually in the upper half of the rafter length.

Diagonal Brace: A member installed at an angle to make a rectangular frame more rigid.

Double Hung: A type of window with two sashes, each sliding on a vertical track.

Fascia: A board nailed across the ends of the rafters at the eaves.

Girder: A structural member transversely supporting a load. A structural member carrying building loads. Sometimes called a “beam”.

Girt: A horizontal member used as a stiffener between studs, columns, or posts at intermediate level.

Header: A horizontal structural member that supports the load over a window or door opening.

Jamb: The side parts of a window frame, window opening, or door frame.

Joist: A structural load carrying member that supports floors and roofs.

Lap Siding: Type of siding in which two horizontal boards are not butted up against each other, but are overlapped, with part of one covering part of the other.

Ledger Plate: A horizontal framework member that carries joists and is supported by upright posts or by hangers.

Live Load: The load superimposed on structural components by the use and occupancy of the building, not including the wind load, earthquake load, or dead load.

Mortise: A recess cut in one member, usually wood, to receive a tenon from another member.

Mortise-and-Tenon Joint: A joint between two members, usually wood, which incorporates one or two more tenons on one member fitting into mortises in the other member.

Post & Girt Framing: A system of structural wood-frame construction characterized by the use of heavy corner posts, horizontal girts to support the superimposed loads, and summerbeams to support the floor joists; largely replaced by balloon framing in the early 19th century. Structural members were interconnected by mortise-and-tenon joints.

Purlin: A piece of timber laid horizontally on the principal rafters to support the common rafters on which the roof covering is laid.

Rafter: One of a series of inclined members to which a roof covering is fixed; any of a series of small, parallel beams for supporting the sheathing and covering of a pitched roof.

Shake: A wood roofing material, normally cedar or redwood. Produced by splitting a block of wood along the grain line.

Sill: A strong horizontal framing member that forms the lowest member of a framework.

Sistering: The reinforcement of a structural member by nailing or attaching a stronger piece to a weaker one.

Tenon: A projecting tongue-like part of a wood member designed to be inserted into a slot or mortise of another member to form a mortise-and-tenon joint.

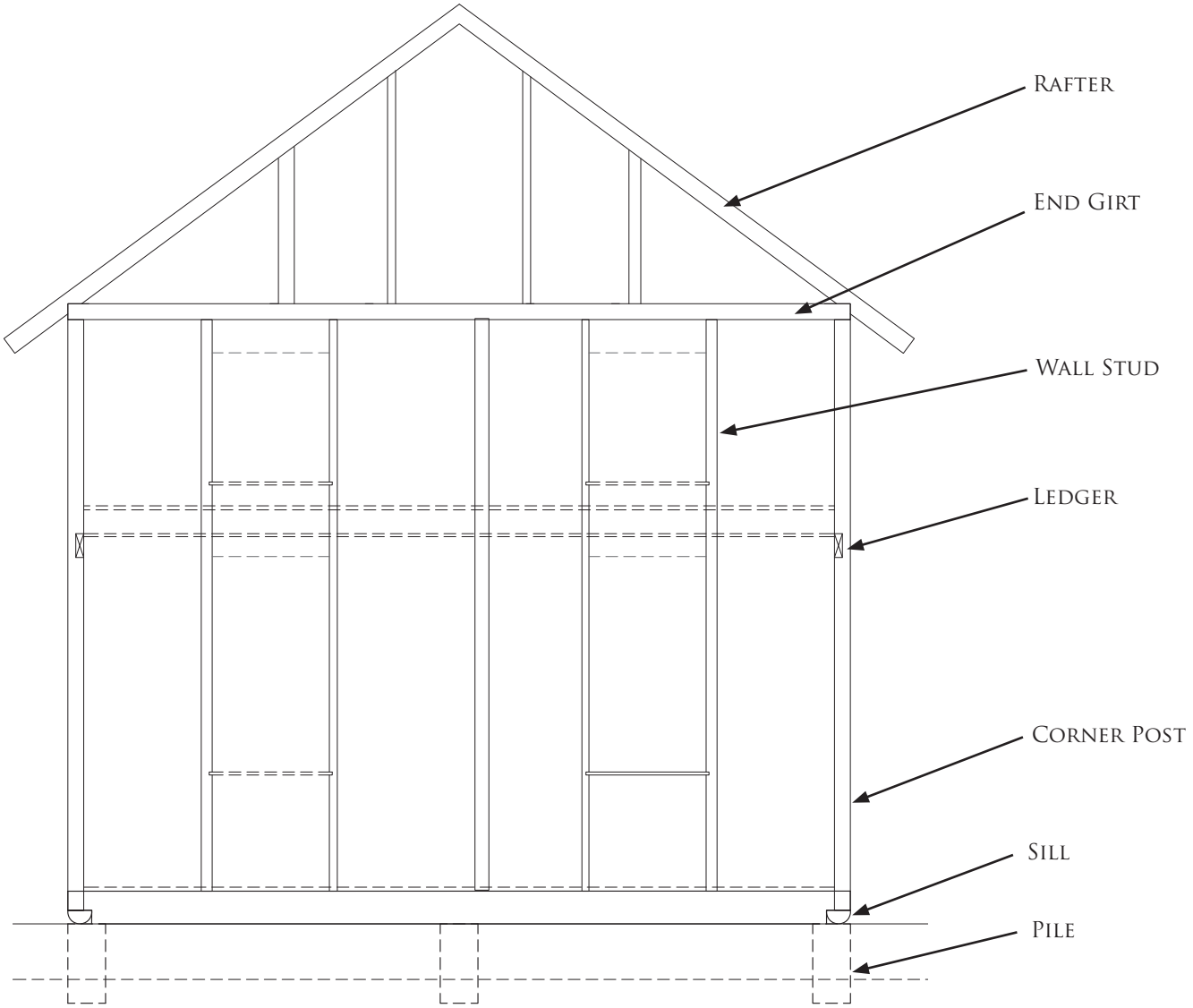
Tie Beam: A horizontal timber connecting two opposite rafters at their lowest ends to prevent the rafters from spreading.

Timber Pile: A large straight log that is driven into the ground as a foundation support.

Top Plate: A horizontal member of a frame wall supporting ceiling joists, rafters, or other members.

Pointing: The treatment of joints between bricks, stone, or other masonry components by filling with mortar.

Reference diagrams:



Exterior Conditions Assessment

The exterior envelope of the Garvin House is significantly deteriorated with multiple areas of complete loss and extensive insect damage. The house has been stabilized twice in the last 6 years. The first stabilization in 2008 involved inserting two steel beams below the 2nd floor joists of the building to support the second story framing and roof. The steel beams extend approximately six feet beyond the east and west gables and are supported by cribbing. In addition, an exterior 2'x10' attachment board was installed across the north and south elevations to help level the structure.

By early 2014, the temporary stabilization was beginning to fail as the wooden cribbing was deteriorating (Figure 61). In May 2014, the building and steel beams were lifted and new pressure treated cribbing was installed. The west gable end was reattached and strapping was installed on the interior to restrict movement of the structure.

Figure 61: Northeast corner: Condition of 2008 stabilization prior to restabilization in 2014.

Foundation

The exterior foundation has completely failed (Figure 62). As discussed in the 2009 assessment and confirmed by the Meadors team, the 2x8 first floor joists were originally notched and rested on a 6x6 cut log sill. The log sill was further supported by cut log piers, elevating the structure two to three feet above the ground. Evidence of the original 6x6 cut log sill and log piers is difficult to find, as a large amount of this material has been destroyed by insects. Remnants of the original material can be seen under the building. The first floor joists now rest on grade in several locations.

Floor Joists

The exterior ends of the floor joists are deteriorated (Figures 63-64). The remaining condition of the members cannot be ascertained without removing the interior floorboards. The floor framing members are likely in poor condition due to their proximity to the ground.

Corner Posts & Diagonal Braces

All four corner posts of the structure are deteriorated and should be completely replaced. One diagonal brace is completely missing. The remaining braces are deteriorated at the base and are detached from the perimeter sill (Figures 65-66).

Figure 62: Southwest corner: Highly deteriorated foundation pier crushed beneath first floor framing.

Figure 63: North Elevation. The first floor framing currently sits on grade.

Figure 64: North Elevation, Foundation: This condition is present on all elevations.

Figure 65: Southeast Corner: Detail of deteriorated corner post and diagonal bracing. Note: Cut out in first floor framing for diagonal brace.

Figure 66: Southeast: Corner post and diagonal brace has deteriorated.

Figure 67: Northeast Corner: Post has deteriorated and diagonal brace is completely missing.

Figure 68: East elevation: In select locations, the first floor framing has deteriorated and the framing members rest directly on grade.

Framing Members

The lower ends of all framing members throughout the structure have deteriorated and require repair (Figure 68). This deterioration is largely due to the failure of the main sill, which caused the framing members to come in contact with the ground. This allowed the framing members to constantly absorb moisture creating ideal conditions for insects.

Exterior Openings

The exterior openings throughout the house are in very poor condition with many of the windows and doors no longer present. Several items including a second story window frame and an interior door have been placed in protective storage. The door frame on the north elevation is in poor condition (Figure 69). As described in the 2009 assessment, the door in this area is no longer present and the lower ends of the framing members and threshold have deteriorated, necessitating replacement. The remainder of the frame is in good condition. One window opening is present on the north elevation, but is covered by paneling on the interior of the structure. This opening appears to be a later addition as the opening is roughly cut into the clapboard (Figure 70).

The openings on the east elevation are in poor condition (Figures 71-72). In 2009, the exterior board and batten shutters were noted as in good condition. Presently, only one window frame with shutters still exists on the first floor, but the frame is currently detached from most of the structure. On the exterior of this window, the sill and all elements of the window frame are present, albeit completely separated from the wall. The two shutters are attached to either side of the window frame.

The adjacent window frame on this elevation has completely deteriorated. Only one portion of the left side of the window jamb is still attached to the building. As noted in the 2009 assessment, a majority of the windows and shutter hinges in this location do not appear to be original to the 1870 construction (2009 Assessment p. 54). The upper second story window trim is absent on both openings. Several of the window framing members are present, but are currently detached and separated due to the movement of the structure. It is believed that one of the stored window frames is from this location.

The exterior openings on the south elevation are in poor condition. Viewed from the south, the central door frame and left window frame are present but exhibit extensive deterioration. Similar to the conditions on the north elevation, the lower ends of both frames are deteriorated and necessitate replacement. When viewed from the exterior, the right framing members and sash from the right opening are no longer present. There is only an opening in the vertical framing members and interior paneling that indicate the location of a window.

Evidence of a lower sill is present on the left window on the south elevation (Figure 73). By studying the deterioration of this elevation in images in 1990, 2003, and 2008, it is easy to see that the exterior clapboard was cut to size in order to fit the bottom of the window frame. In 1990 clapboard between the window frame and door frame had failed,

Figure 69: North Elevation, Door: The lower ends of the door frame have deteriorated.

Figure 70: North Elevation, Window: Interior panelling cover this window from the inside. It is likely this window was added later, as evidenced by the cut in the clapboard (red box) and the joint in the clapboard (arrow).

Figure 71: East Elevation, Second Floor: Exterior trim of the second floor windows is present but is currently dislodged.

Figure 72: East Elevation, First Floor: One almost complete window frame with shutters is present on the first floor windows but is currently separated from the building.

Figure 73: South Elevation: The lower ends of the door frame and window has deteriorated or has been removed. Note: Evidence of lower sill on this window, indicating windows were larger at one time. This area was covered with clapboard boards cut to fit this exact opening.

Figure 74: West Elevation, Second Floor: The lower framing members have deteriorated on this elevation. Evidence in the clapboard indicates a window existed on the right side. Note: Evidence of chimney flue in flashing at peak of roof (red box).

Figure 75: East Elevation, 2014 prior to restabilization: Note: Notches in clapboard in location of second story windows.

Figure 76: North Elevation: The exterior clapboard is in good condition on this elevation.

leaving the framing exposed slightly below the current window. By 2003, much of the clapboard around the openings had failed. However, adjacent to the right window, it is clear the clapboard to the right of the right window was cut around the original, longer window frame. By the 2008 image, it is clear the same condition exists to the left side of the left window. Restoration of this window must rely on the profiles and joinery of the existing framing of the remaining window on this elevation.

The openings on the west elevation are no longer extant. Little evidence remains of these openings and their relation to the gable end fireplace. Within the exterior clapboard, there is a small notch on the right side of the second story, indicating a window opening similar to the small square windows seen on the east elevation (Figure 74). However, there is no evidence that a matching window existed on the left side. Additionally, photographs taken of the interior of the first floor when the building was used for storage indicate a rectangular opening on the left side of the first story, similar to that found on the east elevation (Figure 75). There is no evidence a similar window existed on the right side, although it is possible the placement of openings on this elevation matched those on the east.

Exterior Clapboards

The exterior clapboard, where remaining, is in good condition with several areas of

Figure 77: North elevation, Fascia: The fascia is deteriorated with several areas of discoloration indicating active biogrowth.

Figure 78: South elevation, Fascia: The fascia is deteriorated on this elevation and will likely need to be completely replaced.

Figure 79: North Elevation: The existing roof is a corrugated sheet metal roof, likely installed during the 20th century.

Figure 80: South Elevation, Roof Eave: Historic wood shake roof is preserved underneath corrugated metal roof.

Figure 81: South Elevation, Roof: The metal roof is currently failing and has become dislodged in this area.

localized loss or deterioration such as the west and east facades (Figure 76). In 2009, it was estimated approximately 30% of the weatherboarding was missing on the south elevation (2009 Assessment, p. 15). In the last 5 years, there has been additional loss with about 60-70% currently missing on this elevation alone.

However, a significant amount of clapboard has been placed in protective storage and can likely be reused in the future restoration of the structure. The lime-wash finish on the exterior clapboards is brittle and is actively deteriorating. A sample of this finish has been included in the paint analysis so that the finish history can be preserved in the historic record.

Fascia & Trim

The wood fascia and trim is extensively deteriorated on the north and south elevations. In areas where the corrugated metal roof has deteriorated, the fascia has extensive deterioration (Figures 77-78). The existing white lime-wash has deteriorated and there is biogrowth present in several locations, indicating that there is active moisture intrusion into the fascia.

Roof

Presently there is a corrugated metal roof installed over the original wood shake roof. (Figures 79-80). It is believed the current metal roof was added during the early 20th

Figure 82: Addition Chimney: Chimney from the kitchen addition is currently stabilized but is leaning precariously.

century. Currently, the metal roof is corroding and needs to be replaced. In several locations on the south elevation, the roof fasteners have deteriorated allowing the individual panels to curl up and peel away during periods of high winds (Figure 81).

Chimney

One chimney is left standing adjacent to the Garvin House (Figure 82). This chimney is believed to be from a later kitchen addition, possibly dating to the late 19th century or early 20th century. The chimney is made of soft Carolina brick with a lime-clay-sand mortar, typical of early mortars in the Lowcountry. The chimney is currently stabilized with several areas of brick loss. Comparison between the 2009 assessment and present day reveals further material loss and structural movement. A significant crack is developing at the back of the chimney, indicating movement and potential failure.

The main chimney on the west gable was removed sometime during the 1980s. Several bricks remain in the location of the fireplace hearth, but they are dislodged and out of place. Historic research indicates that this chimney was 6'-6" x 4' in dimension built out of Savannah gray brick and red clay brick (Seyalioglu 2003). There is evidence of a chimney flue at the second story west gable. The flashing is missing at the peak of the roof where the chimney flue once stood. This evidence can be further used to replicate the historic chimney.

Interior Conditions Assessment

The interior condition of the Garvin House varies greatly between the first and second floors. Due to the active deterioration mechanisms such as moisture intrusion and termite infestations, the first floor interior is in a state of disrepair. Recent stabilization efforts have caused some movement of the interior finishes such as paneling and partition walls. The second floor is well preserved with little deterioration other than the loss of framing and structural members on the gable ends.

First Floor

The first floor is in poor condition. The lower ends of many of the framing members have deteriorated due to termites or have been removed (Figure 83). The current floor framing sits directly on the ground, as the main sill and foundation piers have failed.

Due to the failure of the floor framing, the first floor is sloped and separated from the walls in several locations. The flooring is in varied condition. Many boards have some degree of deterioration, especially on the ends. Several ends of the floorboards on the west wall have deteriorated, likely due to moisture intrusion over the last 30-40 years.

Figure 83: Room 103, Looking West: Failure of first floor framing has caused the floor to separate in several locations. Note: Deterioration of ends of floorboards from exposure to moisture.

ROOM 101, STAIR-HALL

The interior stair is placed slightly off center, between two second floor joists. Adjacent to the stair, there is a non-structural interior partition wall separating rooms 101 and 103. The door frame for room 103 is cut into the bottom tread, indicating the door frame is a later addition.

The stair treads, risers, and paneling are all in good condition with little visible deterioration (Figure 84). The stair treads are well worn, and there is evidence of a handrail that has been removed. The vertical tongue and groove paneling is in good condition. The placement of this paneling creates a small closet underneath the stringer of the steps. The underside of the stair is also whitewashed, similar to that seen on the framing members in room 103, while the wall paneling in this closet has a green finish. The ceiling of the stair hall is the painted underside of the second floor floorboards. The ceilings of the adjacent rooms have painted board ceilings.

The 2009 conditions assessment noted that it is possible that the stairway is original to the 1870 construction date. Based upon the nail chronology conducted during this phase of assessment, it is believed that the stair treads and rises are original, but the decorative molding and tongue and groove paneling are likely a later addition.

ROOM 102, EAST PARLOR

The interior tongue and groove paneling is in fair condition where extant. Several different sizes of paneling are present, including wide 1x8 boards and tongue and groove paneling. The wider boards are only present along the north wall, while the tongue and groove paneling can be seen on the south and east walls. The larger boards were likely salvaged from box shipping crates from a dock area and date approximately to 1880-1890 (2009 Assessment p. 30). The tongue and groove paneling was likely installed at the same time, as evidenced by the nail chronology. Several areas of paneling have been stored or have been lost where the framing members have deteriorated.

Evidence of the interior window framing is only present in one window out of the three located within this room. Simple interior window trim remains on the left window on the east wall, but is highly deteriorated and currently out of plane with the wall.

The interior partition wall between Rooms 101 and 102 is composed of vertical horizontal boards nailed to the second story floor joist. This wall collapsed due to the settling and subsequent stabilization of the building (Figure 85). These items were placed in protective storage for later reintegration into the structure. The paneled door within this room, likely salvaged from another structure, is in good condition but is currently hung upside down (2009 Assessment p. 43-44). It is not known if this door was hung originally in this manner.

Evidence of the window on the south wall is limited. Currently, the only evidence remaining is a gap in the framing where the interior tongue and groove paneling has been cut, presumably to intersect the window frame.

Figure 84: Room 101, Stairs: Worn stair treat with notch in nose of tread for stair rail.

Figure 85: Room 202, West Wall: Collapse of interior partition wall following stabilization in 2014. Detached boards have been stored and catalogued.

The ceiling is composed of boards nailed to the underside of the second floor joists (Figure 86). The condition of the floor joists in this room cannot be inspected at this time. The ceiling boards appear to be in good condition with several different finish campaigns. Cardboard, originally applied to the walls and ceiling and painted bright blue, is in good condition where it has been protected from moisture. The installation of cardboard to the interior of the structure may have been an attempt to insulate the interior. Several areas of the cardboard have been damaged or lost where the framing members have deteriorated.

Room 103, West Kitchen

The interior finishes in room 103 are in fair to poor condition, depending on elevation.

The north wall is clad in horizontal tongue and groove paneling, similar to that seen in room 202. This paneling has been removed at the base, exposing the structural framing members.

The east wall is comprised of vertical boards approximately one foot wide creating a non-structural partition wall. A table was added to this wall at a later date. On the left side of the wall, in the gap between the east and north walls, there is evidence of a door frame. In this location, there is a remnant of the door frame with a small mortise for the strike for the door latch. On the north wall in this location, the horizontal paneling changes from white to green, further indicating a door was once present. This door, however, appears to be a later addition and not original to 1870. The same condition is present at the right side of the east wall, evidenced by mortises on a vertical piece of the remaining door frame (Figure 87). These doors are, most likely, a later addition, installed in an attempt to differentiate the spaces.

On the south elevation, the paneling has been removed, revealing the back side of the exterior clapboard and framing members which were whitewashed with different campaigns of white and pink-peach washes.

The ceiling boards have been nailed to the second floor framing and are in excellent condition with no visible deterioration. Documentation from the 2009 assessment indicates that the second floor framing is whitewashed above the existing ceiling boards (2009 Assessment, p. 39). However, the second floor joists cannot be inspected without disturbing a significant amount of historic material.

All the finishes and framing members were lost on the west gable when the chimney was removed. The flooring along the west wall is cut, indicating the original configuration of the fireplace hearth.

Second Floor

The second floor of the Garvin House is well preserved. The degree of preservation is largely due to the lack of moisture intrusion into this space which limited termite damage.

Figure 86: Room 101 and 102, Ceiling: Transition between room 101 and 102. Note board and cardboard have been attached to the second floor joists in room 102.

Figure 87: Room 103: Notch for door hinge visible on door frame. Note: Frame intersects lower tread in room 101.

Figure 88: Room 201, West Wall: Small areas of cardboard remain on the walls in this room.

ROOM 201, SECOND FLOOR STAIR HALL

The stair hall is in good condition with few areas of deterioration. Evidence of historic water damage is present in the wood shake roof, which likely necessitated the installation of the existing corrugated metal roof. The floorboards are in good condition. Vertical boards are located on either side of the second floor stair hall, creating interior partition walls for the second floor chambers.

On the east wall, there is a simple trim surrounding the door frame to room 202. In this location, it appears that trim from another building has been added to the door jamb. Above the door frame, there is a green finish on a square area of the vertical wall boards. This is a unique "decorative" element of the space, indicating that this is a salvaged item.

On the west wall, there is no door frame or door for room 203. On the floor, there is a plywood cover with modern hinges that can be used to close of the stair opening. As there is no evidence of a railing in this location, this cover may have been used to protect inhabitants from falling through the opening. The plywood is a modern addition to the structure, but it is not known when it was installed.

ROOM 202, EAST CHAMBER

This room is in very good condition (Figure 88). The west interior partition wall is well preserved, with several stair tread "ghosts" present on the salvaged boards. The interior door is in excellent condition and with two different types of hinges present. In certain locations, cardboard is adhered to the walls similar to room 102.

Figure 89: Room 203, West Wall: Small areas of fire damage in clapboard adjacent to where the fireplace flue one stood.

The east wall displays several areas of loss, including the loss of the sash in both windows. Interior window trim is present in several locations, but is disjointed. The interior walls and ceilings are not sheathed and rags and other debris can be found to fill cracks in the framing and clapboard.

ROOM 203, WEST CHAMBER

The interior of Room 203 is in fair condition. The floorboards are in good condition, except in several areas at the ends of the board due to moisture intrusion. The lower framing members and clapboards of the west wall have been lost, along with any evidence of the second story window frames. This gable end was previously detached from the structure and was temporarily reattached during the 2014 re-stabilization. On the right side of the west wall, the mortise and tenon framing is separating at the joints. There is evidence of cosmetic fire damage on the clapboards in this location, likely due to sparks escaping from the fireplace (Figure 89).

The interior east partition wall is in good condition, but the door and frame have been removed. The door from this room is currently in protective storage.

Structural Assessment

The structural assessment of the Garvin House was conducted by Michael H. Hance, PE LLC on August 12, 2014. The full version of the structural assessment report can be found in Appendix A. Findings are also detailed on the first floor framing plan - Sheet SA1 attachment at the end of this report in Appendix A. The following is a summary of the findings:

Foundation system

Due to exposure to the elements and the age of the structure, the existing foundation system has deteriorated along the base of the exterior walls (Figure 90). Collapse of timber piles has resulted in the settlement of the structure and placed the floor framing system in direct contact with grade. Due to the contact with grade, termite activity, and exposure to the elements, the majority of the perimeter sill band is rotted beyond repair and is no longer supporting the first floor system and the exterior wall studs. The existing foundation system consisted of timber piles placed at grade with a height of

Figure 90: North Elevation, Foundation: Deterioration of foundation system. (Town of Bluffton)

approximately 21 inches. The spacing and depth of embedment below grade of the timber piles was not able to be determined due to the deterioration of the foundation system.

The existing foundation system consisted of timber piles placed at grade with a height of approximately 21 inches. The spacing and depth of embedment below grade of the timber piles was not able to be determined due to the deterioration of the foundation system. No evidence of interior foundation support was observed and it appears the first floor framing spanned clear from the South to the North walls. Original construction consisted of timber piles supporting a perimeter girder sill along the perimeter of the structure. The majority of the girder sill has rotted and resulted in collapse of the first floor system and settlement of the exterior walls. Field measurements of the girder sill indicate it was approximately 6” x 6”. The attachment of the girder sill to the timber piles was not able to be determined. The foundation system for the covered porch at the South wall was not able to be determined and the porch does not remain. The foundation system for the one story section at the North wall was not able to be determined and this portion of the structure does not remain.

First Floor Framing System

The first floor of the structure consists of 2x8 floor joists spanning from the North to South Walls. Field measurements indicate the floor joist spacing to be approximately 30 inches on center. No evidence of interior foundation support was observed. Floor joist ends are supported by the 6x6 perimeter girder sill along the North and South walls. The joist to girder connection was achieved by notching the joist end to allow for bearing over the top face of the girder sill. Due to deterioration of the girder sill and joist ends, notch depth was not able to be determined. The method or presence of nail fastener attachment from girder to joist was also not able to be determined due to the deterioration of these components. Due to the contact with the ground and age of the structure, the first floor joists are in poor condition and are severely damaged at the West end of the structure. Further examination of the floor joists will be required during restoration of the structure. Access to the floor joists was limited due to the settlement of the structure. The floor joists are covered with 1x8 or 10 sawn boards at the interior (Figure 91). The floor boards are notched around the exterior wall studs. The floor boards are in fair condition but have deteriorated in sections adjacent to the West end wall in the kitchen area. The foundation system for the one story section at the North wall was not able to be determined and this portion of the structure does not remain.

Exterior Wall components

Typical exterior wall construction consists of 2x4 wood studs spaced at approximately 30 to 36 inches on center. The wood studs extend the full height of the structure and bear directly on the 6x6 perimeter girder sill (Figure 92). The attachment of the wood studs to the girder sill was not able to be determined with the deterioration of the sill and nail fasteners. Due to the settlement of the foundation system and stabilization of the second floor, several of the wall studs have pulled away from the first floor framing and are not

Figure 91: First floor, Room 103: 1x8 sawn boards resting on first floor framing.

Figure 92: South Elevation, 2nd Floor: 2x4 wood studs intersecting 6x6 perimeter girder sill (Town of Bluffton).

Figure 93: North elevation, Second Floor: Notched roof rafter attached to the plate bearing. Note: Hurricane clips installed to rafter and plate connections.

attached. Directly below the second floor framing at the North and South walls, a 1½”x6” ledger plate has been notched and nailed to the inside face of the wall to the floor joists. The second floor joist ends are notched and bear directly on top of the ledger plate.

At several locations, the ledger plate has shifted and is not adequately attached due to the settlement of the exterior walls. As part of stabilization efforts, an exterior band board has been bolted to the exterior framing at the second floor transition to allow for additional support and bracing of the second floor transition. As part of the exterior wall system, a 4x6½” wood post is installed at each corner of the structure. The corner post extends the full height of the structure and bears at the perimeter girder sill. At the first floor, diagonal bracing extends from the lower third of the post to the girder sills in each corner of the North and South walls. Each of the wood posts is intact however deterioration of the posts was evident as a result of exposure to the elements and termite activity. The base of the diagonal bracing is also damaged due to the settlement of the perimeter girder sill.

As part of the exterior wall system, a 4x6½” wood post is installed at each corner of the structure. The corner post extends the full height of the structure and bears at the perimeter girder sill. At the first floor, diagonal bracing extends from the lower third of the post to the girder sills in each corner of the North and South walls. Each of the wood posts is intact however deterioration of the posts was evident as a result of exposure to

Figure 94: South elevation: Loss of exterior siding at the second floor transition.

the elements and termite activity. The base of the diagonal bracing is also damaged due to the settlement of the perimeter girder sill. At the top of exterior wall studs, bearing for the roof rafters is provided by a 3½”x5” top plate at the North and South Walls (Figure 93). Roof rafters are notched at the plate bearing and extend beyond the exterior wall to create the roof eave. As part of stabilization efforts for the roof system, hurricane clips have been installed at the rafter to plate connection at the North and South wall. Coil strapping has also been installed at the top plate to stud connections. The top plate is in good condition and has minimal settlement due to the stabilization of the second floor.

Due to exposure to the elements and settlement of the foundation and floor system, the exterior wall studs at the West end wall have collapsed. In addition, the existing kitchen chimney has also collapsed and no longer exists. The majority of the West end wall is exposed with only a portion of the exterior siding remaining below the upper gable end. As part of stabilization efforts, additional studs have been installed above the second floor to the gable end top plate to support this remaining siding. Due to the absence of wall stud framing, additional bracing was provided at the base of each corner post to help stabilize the North and South wall. At the East end wall, the wood stud framing is in poor condition and does not extend to the full height of the gable wall. As with the West end wall, exterior siding only remains at the upper portion of the wall from the second floor to

the gable end rafter.

The exterior wall closure system is provided by 1x8 horizontal lap siding fastened directly to the wood stud framing. At the North wall, the majority of siding is intact however exterior siding is absent along the full length of the wall at the second floor transition (Figure 94). Siding at this location may be missing as a result of the collapse of the one story section at the North wall. At the South wall, exterior siding is absent at the middle portion of the wall and at the second floor transition. As noted for the North wall, siding absent at the floor transition may be the result of the collapse of the covered porch. In addition, portions of the remaining siding have become detached as a result of settlement of the exterior walls.

Second Floor Framing System

The second floor framing system of the structure consists of 2x6 floor joists spanning from the North to South Walls. Field measurements indicate the floor joist spacing to be approximately 30 inches on center. At the North and South walls, support for the floor joists is provided by a 1½x6" ledger plate that has been set in to a notch at the inside face of the wall studs. The second floor joist ends are notched and bear directly on top of the ledger plate. As noted previously, the ledger plate has shifted at several locations and is not adequately attached due to the settlement of the exterior walls. The top of the second floor joists are covered by 1x10 sawn floor boards spanning perpendicular to the East and West walls. The first floor ceiling is provided by 1x10 sawn boards fastened to the bottom of the floor joists and spanning perpendicular to the East and West walls. The floor and ceiling boards are in good condition.

To prevent further collapse of the structure, stabilization of the second floor framing was provided until restoration of the existing framing and foundation could be provided. To achieve stabilization of the structure, two steel I-beams were installed directly below the second floor framing. The steel beams extend parallel to the North and South walls of the structure. The steel beams are supported by wood cribbing at the East and West ends of the structure. In 2014 as part of continued stabilization efforts, the existing wood cribbing supporting the steel I-beams was replaced with new pressure treated wood cribbing at each end. Additional strapping of the first to second floor framing was also provided to protect the floor transition during the installation of new wood cribbing.

Roof Framing System

The roof system is constructed of 2x4 rafters spaced at 34 to 37 inches on center with the ridge running parallel to the North and South walls (Figure 95). The roof is a gable configuration and has pitch of approximately 8 to 12. At the top of exterior wall studs, bearing for the roof rafters is provided by a 3½x5" top plate at the North and South Walls. Roof rafters are notched at the plate bearing and extend beyond the exterior wall to create the roof eave. As part of stabilization efforts for the roof system, hurricane clips have been installed at the rafter to plate connection at the North and South wall. Coil

Figure 95: Second floor, Room 203: Separation of wall post from perimeter girder sill at west gable end.

Figure 96: Second Floor, Room 202: Cracking present in notched rafter.

strapping has also been installed at the top plate to stud connections. At the ridgeline, the rafters abut each other and no ridge board is present. 2x4 collar ties have been installed at four rafter connections. Overall, the roof rafters are in good condition. During the site investigation, cracks were noted in two rafters and termite damage was noted at one rafter end on the North wall (Figures 96-97).

The roof closure system is provided by tin roof panels installed over wood shake shingles. Due to age and exposure to the elements, the tin panels have signs of corrosion, but the majority of the panels are intact. At the Southwest corner of the roof system, a section of panel has detached, but the wood shake shingles remain. The roof shake shingles are fastened to 1x3 wood roof purlins spaced at 10 inches on center. The roof purlins run parallel to the length of the structure and are supported by the rafter framing. Overall, the roof purlins are in good condition (Figure 98). Water damage to purlins due to openings in the roof system was noted at two locations. The roof eave extends just beyond the exterior wall siding and consists of a fascia board fastened to the end of the roof rafters. The fascia board is intact at the North and South wall.

West End Wall Fireplace

As noted in the Exterior Wall Components section, the kitchen brick masonry at the West end of the structure has collapsed and no longer remains. The majority of the West end wall is exposed with only a portion of the exterior siding remaining below the upper gable end. The original configuration of the kitchen fireplace is not known.

Exterior Fireplace

Adjacent to the Northwest corner of the structure, a freestanding brick masonry fireplace remains. The fireplace dimensions are 2’ x 3’-6” with an approximate height of 10 feet in height. The brick masonry is in poor condition and portions of the chimney stack and fireplace opening have collapsed. Temporary shoring of the fireplace has been provided however the shoring does not appear to be adequate in preventing further collapse.

Figure 97: Second floor, Room 203: Crack in roof rafter.

Figure 98: Second Floor, Room 201: Water damage to purlins due to opening in the roof. This deterioration likely necessitated the installation of the existing metal roof.

Paint Analysis

Introduction

During the months of August-November 2014, Meadors Conservation analyzed exterior and interior paint samples from the Garvin House. The goals of the analysis were as follows: identify the original color of historic coating samples extracted from the building (interior and exterior), gather additional information to more thoroughly understand the evolution of the building, and determine which elements were original to the structure and which elements were salvaged from other structures and reused in the Garvin House. Elements of particular interest include the interior stairs, doors, and the stored mantel from Room 103.

Cross-section paint microscopy was used to identify the historic finishes of select interior and exterior elements in order to document the paint chronology of the historic structure and to inform color selections during the upcoming preservation and restoration campaign. Much of the existing material is severely deteriorated and will require replacement. The intent of the owner is to create a record and preserve the history of the architectural coatings employed during the life of the structure.

Figure 99: Garvin House- Northwest view

Procedure

Meadors Conservation extracted paint samples from representative architectural elements located on the exterior and interior of the Garvin House. Additional samples were also taken from stored items no longer located on the building. A total of 52 samples were removed from the structure.

Extracted samples were labeled, photo located, and transported back to Meadors laboratory for further evaluation. Each sample was examined under low magnification to identify select samples for further investigation.

Small representative samples of approximately 1/8” were cast in a polyester resin (Bioplastic) within mini ice cube trays. After curing, selected samples were cross-sectioned using a Buehler Isomet diamond blade saw. The resulting cross-sections were polished using a wet polishing process on 240, 400, and 600 grit papers, followed by polishing cloths. Samples chosen for analysis were mounted onto microscope slides using Cargile Meltmount. The samples were then examined under various magnifications using a Motic BA410T-FL fluorescence microscope under both visible and ultraviolet light. Ultraviolet light helps to differentiate layers and identify certain types of binding media based on their autofluorescence.

Digital images (photomicrographs) of representative cross-sections were photographed using a Canon Rebel T3i digital single lens reflex camera mounted to the microscope. Each sample was analyzed to further understand the architectural coatings and evolution of finishes. Following the identification of the original finishes, the original layers were color matched to the Munsell Color Chart and to a modern paint line (Benjamin Moore).

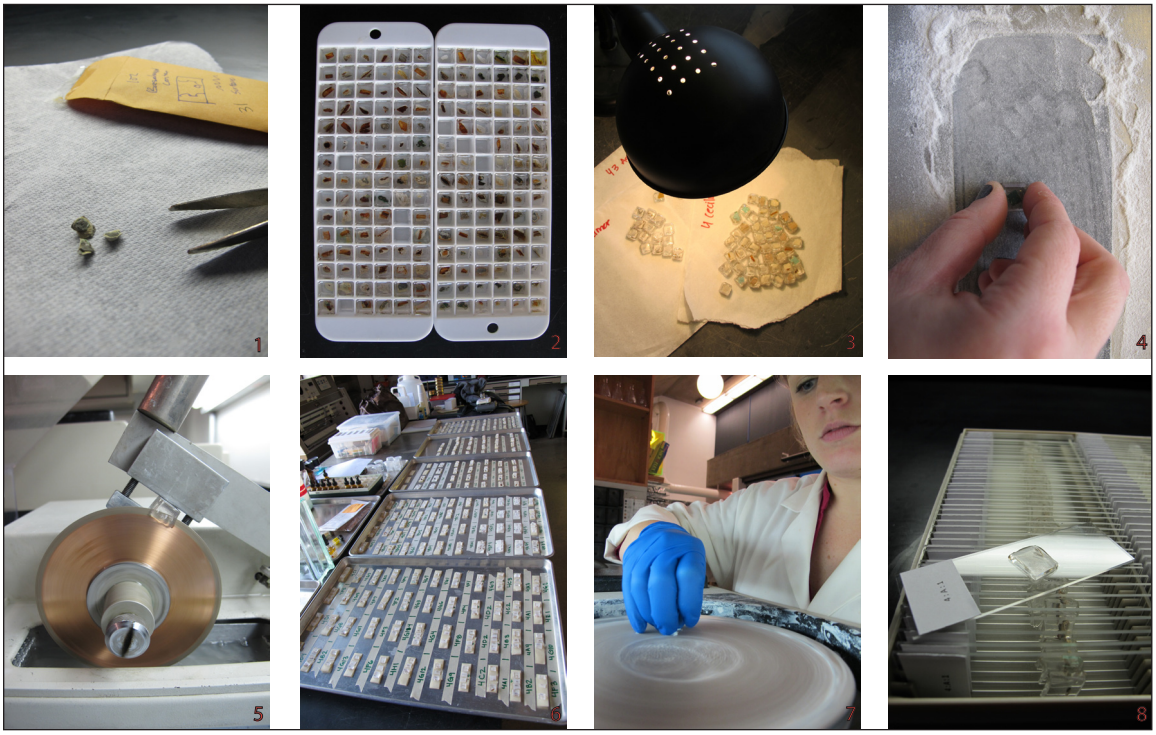
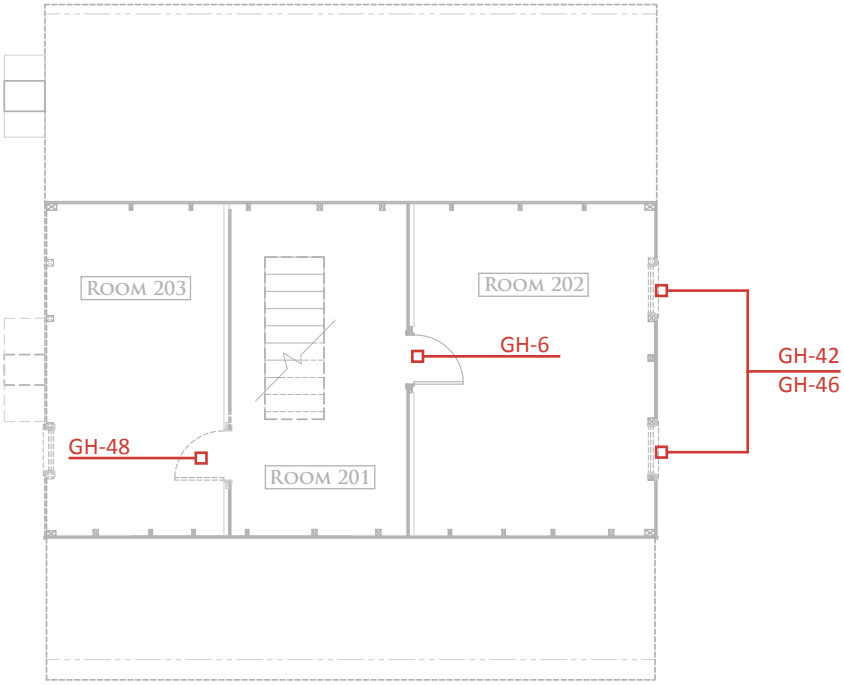
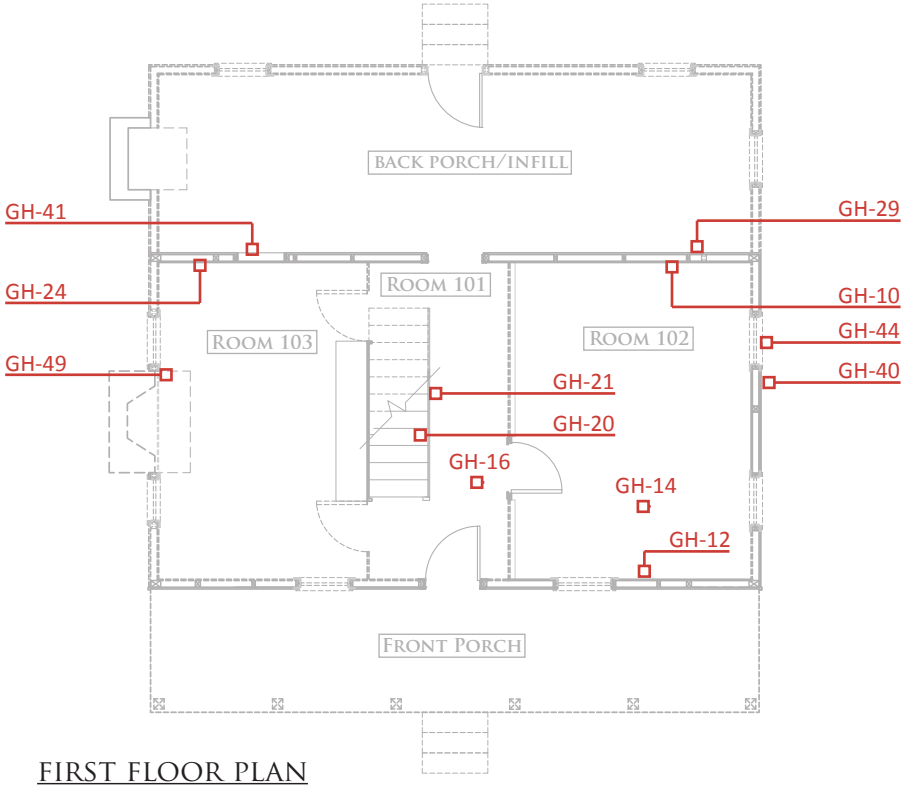


Figure 100: Process of preparing paint samples.

Sample Key:



Second Floor Plan



First Floor Plan

Sample Log:

Sample Number	Location		Substrate	Earliest Existing Finish Layer	Number of Layers	Current Finish Color	Munsell Color Match (Earliest Existing Finish Layer)	Benjamin Moore Color Match (Earliest Existing Finish Layer)
	Elevation/Room	Item						
GH-6	Room 202, West Wall	Door	wood, substrate missing in sample	off-white	13	dark mint	TBD	Spanish White OC-35
GH-10	Room 102, North Wall	Tongue and Groove Wallboards	wood	light gray	3	blue gray (turquoise painted cardboard covered boards)	TBD	TBD- Site Match during next scheduled site visit
GH-12	Room 102, South Wall	Tongue and Groove Wallboards	wood	light gray	4	turquoise	TBD	TBD- Site Match during next scheduled site visit
GH-14	Room 102	Ceiling Boards	wood, disrupted substrate	blue gray (boards added later, original underside of 2nd floor, floor boards were limewashed white)	1	light gray (dirty) (turquoise painted cardboard covered boards	TBD	TBD- Site Match during next scheduled site visit
GH-16	Room 101	Ceiling (underside of 2nd floor, floor boards)	wood	off-white	8	gray	TBD	Spanish White OC-35
GH-20	Room 101	Stair Riser	wood	white	5	gray	TBD	TBD- Site Match during next scheduled site visit
GH-21	Room 101	Stair Side (West Wall)	wood	off-white (residual layer, not complete)	7	gray	TBD	Spanish White OC-35
GH-24	Room 103, North Wall	Tongue and Groove Wallboards	wood, substrate missing in sample	mint green	3	white	TBD	TBD- Site Match during next scheduled site visit
GH-29	North Elevation	Exterior Siding	wood, substrate missing in sample	off-white	12	off-white	TBD	Spanish White OC-35
GH-40	East Elevation	Exterior Shutter	wood	dark green	2	dark green	TBD	TBD- Site Match during next scheduled site visit
GH-41	North Elevation	Exterior Shutter (stored)	wood	off-white	1	white	TBD	Spanish White OC-35
GH-42	East Elevation	Exterior Sash (stored)	wood	dark green	6	green	TBD	TBD- Site Match during next scheduled site visit
GH-44	East Elevation	Exterior Sill	wood, substrate missing in sample	white	9	green	TBD	TBD- Site Match during next scheduled site visit
GH-46	Room 202, exact location unknown	Exterior Sash (stored)	glazing putty	dark green	3	dark green	TBD	TBD- Site Match during next scheduled site visit
GH-48	Room 203, East Wall	Door (stored)	wood, substrate missing in sample	red brown	14	gray	TBD	TBD- Site Match during next scheduled site visit
GH-49	Room 103, West Wall	Mantel (stored)	wood, substrate missing in sample	brown gray (reclaimed material)	23	off-white	TBD	TBD- Site Match during next scheduled site visit

Summary of Findings

The quality of the samples examined as part of this analysis varied. Most of the interior samples analyzed have intact finish chronologies for the period of the Garvin House. Select salvaged elements appear to have been stripped prior to being installed in the home, while other reclaimed elements appear to have paint histories from an earlier use. As a general rule, the exterior samples are more weathered than interior samples. Many of the samples extracted from the items in protective storage were severely worn and very brittle. In some cases little to no paint evidence remained.

Building Exterior

Based on the analysis, the color scheme for the original structure was comprised of white walls, green shutters, green sash, and white sills. Much of the original window elements are no longer extant. Representative samples were extracted from the existing elements which included one stored sash (GH-42 & GH-46), one sill (GH-44), and several shutters from various locations (GH-40).

The stratigraphy of the siding board sample (GH-29) contains ~12 layers of paint. All but two layers in the stratigraphy appear to be white. Generations 4-5 contained peach and pink-peach pigments. The same pigmented finishes were found on the backside of the siding boards, on the interior of Room 103. The layers within the sample all have a translucent quality. All finishes appear to be lime-washes; traditionally a solution of

Figure 1: Garvin House- Room 102, Detail image of finishes on door at west wall.

water and lime. Lime-washes typically have a matte appearance. The lime-washed siding boards on the north elevation served as an interior wall for the rear infilled porch (now missing).

Little paint evidence remained on the stored shutter (Gh-41) formally located on the north elevation. There is only one layer of paint extant in the stratigraphy. The shutter appears to have been originally a white lime-wash. Based on the site investigation, window assembly, and limited paint history, the shutter does not appear to be original to the building. The window is covered by tongue and groove boards on the interior of Room 103. In the most recent past, the opening may have been used as a storage cubby.

The samples examined from the shutters (GH-40), located on the east elevation, exhibited similar layering sequences. Under high magnification the surface of the wood substrates appears extremely weathered. Only one layer of green paint was present. For the age of the house, the paint history for the shutters is very limited. Given the condition of the wood substrate, earlier finishes may have worn off prior to being painted with the most recent campaign. It is also possible that the shutters were added at a much later date and are not original to the structure.

The window sash (GH-42 & Gh-46) appears to have been painted with a gray primer and green finish coat. The sash has a total of 4 generations of green paint. A resinous layer can be seen in the pores of the wood in both the shutter and sash samples. The nail chronology and paint history indicate that the sash most likely predated the shutters. The stratigraphy found in sample GH-46 appears to be more weathered than sample GH-42. In some areas of the sample the paint was uneven and non-continuous. The overall condition of the sash is severely weathered.

The window sill sample (GH-44) contained 9 layers of paint. The earliest extent layer were white, followed by two layers of gray and four layers of green paint. The sills appear to have originally matched the siding boards. The condition of the sill, and weathered substrate made it difficult to extract a sample with an intact substrate. Based on site an observation, white appears to be the earliest layer.

There are no exterior doors attached to the building or in storage, therefore no exterior door samples were examined as part of this finish analysis.

BUILDING INTERIOR

Much of the building interior was originally whitewashed. Select elements such as the interior doors and mantel were painted with pigmented paints early in the history of the house. Paint evidence indicates that most of the interior tongue and groove wall and ceiling boards were not original to the structure. Five of the six surviving rooms were originally painted with a white lime-wash. The backside of the exterior siding boards and exposed framing members comprised the perimeter interior walls of the original house. On the first floor, the partition walls and wood cladding were added later. The second floor salvaged partition walls appear to be original to the home.

ROOM 101

Based on the nail chronology and paint exposures examined on site, the partition walls separating Room 101 from Rooms 102 and 103 do not appear to be original to the building. The perimeter walls, backside of the exterior siding, exposed framing members, and the underside of the stairs were all originally painted with a white lime-wash paint.

Sample substrates examined from the stairs appear uneven and weathered. The layering sequence of both samples (GH-20 & GH-21) is similar. The stair side wall has evidence of an earlier cream paint. Based on the residual nature of the paint and the surface quality of the substrate, the sidewall material may have been reclaimed, stripped, and installed at the Garvin House. The paint sequencing found on the stair risers (GH-20) lacks the initial cream paint found in sample GH-21. When comparing the two samples, it appears that the earliest finish applied to the stairs was white. Similar to other interior samples- a mint paint can be seen in the stratigraphy, as well as several generations of gray paint. Much of the interior stair hall is currently painted gray (walls, ceiling, door, trim).

The mint to gray color sequence can be seen in several other architectural elements found within the interior of the house. The stair hall ceiling and second floor doors also exhibit a similar paint sequence.

The earliest layer found on the stair hall ceiling (GH-16) is a white lime-wash. The lime-wash is followed by an orange-red-brown layer, green, mint, and several generations of gray paints. Some parallels can be found in the paint sequencing of the second floor doors and the first floor stair hall ceiling. The stair hall ceiling, which is the backside of the 2nd floor floorboards, is original to the structure. The parallel sequencing of the paint stratigraphies from the first floor ceiling and the second floor doors indicates that the doors are most likely original to the structure.

ROOM 102

During on site investigation, the existing ceiling boards and the underside of the 2nd floor boards were examined. Based on the finishes observed on site, it appears that the ceiling in Room 102 was originally painted with a white lime-wash. During a later period, the existing board ceiling was installed. A sample was extracted from the ceiling boards (GH-14) and compared to the wallboards (GH-10 & GH-12). Unlike the ceiling, the backside of the siding boards in Room 102 was not lime-washed. However the paint history examined from the cladding on the north (GH-10) and south (GH012) walls indicates that the earliest paint finish in this room was light gray. The surface of both sample substrates is very rough and disrupted. It appears as if both may have been stripped prior to being installed at the Garvin House. The layering sequence in both wall samples is the same for the first three generations of paint. The final turquoise layer, seen in the south wall sample, is not present on the north wall sample. Cardboard was added to the ceiling and select wall surfaces prior to the most recent turquoise paint campaign.

The ceiling board sample (GH-14) has only one layer of paint. The boards appear to have been added and painted blue gray to match the third generation paint campaign in wall samples GH-12 and GH-10. Following the blue gray finish, cardboard was added to the

west and north walls and ceiling- and painted turquoise. Like other interior samples from salvaged materials, the surface of the paint sample appeared disrupted and may have been stripped.

Room 103

On site investigation indicated that the backside of the exterior siding boards and underside of the 2nd floor, floor boards were originally painted with a white lime-wash. During a later time period, wood cladding boards were installed on the walls and ceiling. The framing in this room was originally exposed and painted with a lime-wash.

Historic photos and past reports indicate that the mantel currently in protective storage was removed from Room 103. This element was believed to be salvaged and later installed at the Garvin House. The stratigraphy of the paint sample extracted from the mantel in Room 103 contains ~23 layers of paint. Early color schemes appear to be dark gray in color. In comparison to other elements within the room, the paint sequencing found in the mantel sample is more extensive than other interior samples. The many layers of paint, when compared to other elements in the same space, indicates that the mantel was most likely salvaged from another structure and reused in the Garvin house. Around layer 8, the layers begin to resemble the paint layers found on the interior doors and stair hall ceiling. Paint evidence supports past assumptions that the mantel was reclaimed.

When comparing the mantel sample to the interior door sample, it appears that the mantel may have been painted red-brown once it was installed in the Garvin house. Early paint schemes in the mantel are not original to the Garvin house.

2nd Floor

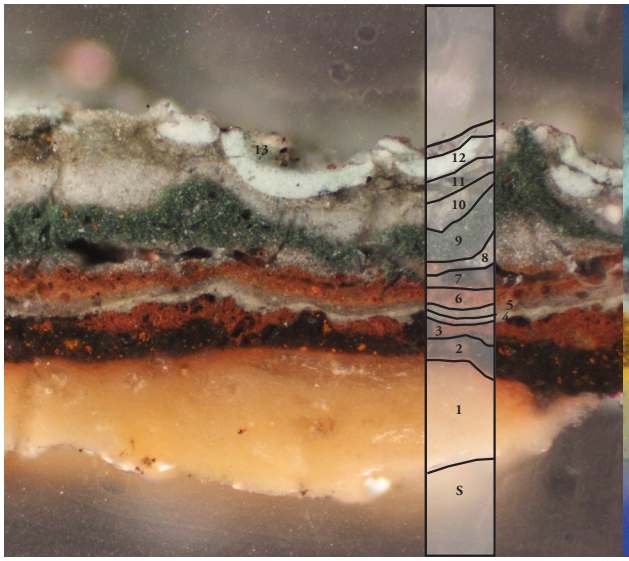
The exterior wall framing in rooms 201, 202, and 203 are exposed, along with the backside of the exterior siding. The framing, partition walls, and backside of the exterior siding were originally painted with a white lime-wash. Select interior partition walls in Room 203 appear to have never been painted. The partition walls, separating Rooms 202 and 203 from the stair hall, are salvaged from another structure. Ghosts of previous stair risers can be seen from inside Room 203. The ceiling rafters, backside of the hand-split shakes, and floors were never painted.

Door samples were examined from Room 202 (GH-6) and 203 (GH-48) in an effort to determine whether the doors were original to the structure. The paint stratigraphy in both samples have commonalities. The substrate is missing from both samples, as the condition of the substrate was dry and the finishes very brittle, making it difficult to extract a sample with an intact substrate. The door sample from Room 203 (GH-48) appears to align with sample from Room 202 (GH-6) at layer 4. As the substrate is missing it is possible that GH-48 lacks these initial layers. Both doors appear to be constructed in the same manor, with similar materials. In addition both doors have evidence of an early red paint layer. The door in Room 202 appears to have been originally painted with a white lime-wash and then subsequently painted with a red-brown paint. Sample GH-48 is missing these early layers.

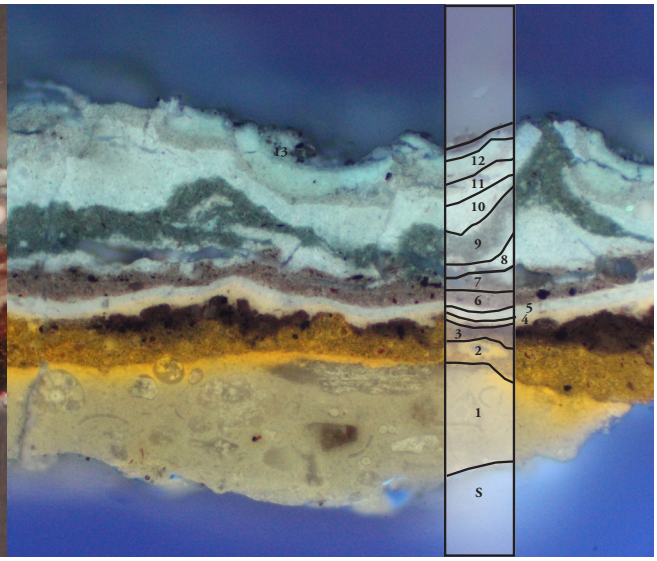
Note: Paint cross-sections extracted from an architectural element serve as a representative sample.

Paint Analysis Results:

Sample Number: GH-6	**Element:** Door	**Date Sampled:** 07/24/14
Sample Location: Room 202		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



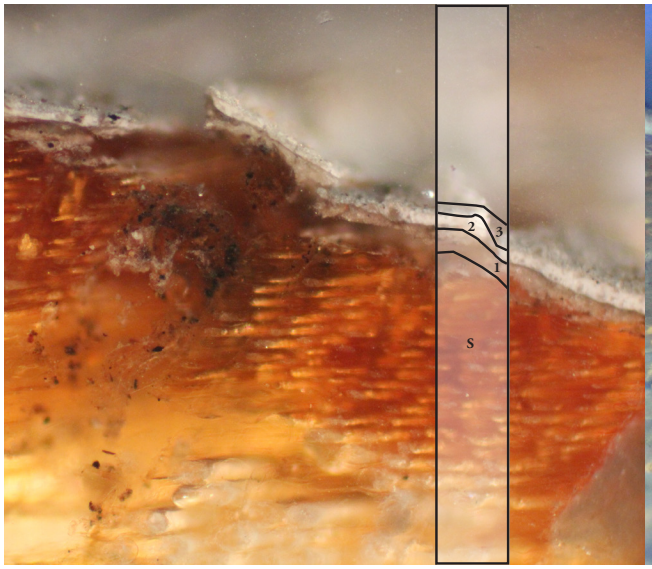
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	no substrate	wood substrate was very dry and degraded, did not adhere to substrate
1	off-white	
2	red brown	
3	red brown	
4	light gray	thin
5	gray	thin
6-7	orange brown	cracked, polishing powder
8	gray	
9	dark green	
10	gray	weathered
11	brown gray	weathered
12	mint green	weathered
13	mint green	weathered, disrupted, dirt

*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-10	**Element:** Wall	**Date Sampled:** 07/24/14
Sample Location: Room 102, North Wall		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



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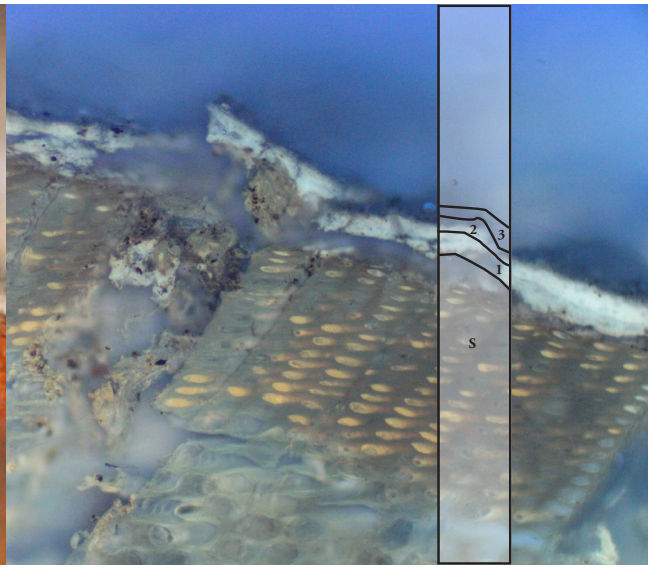


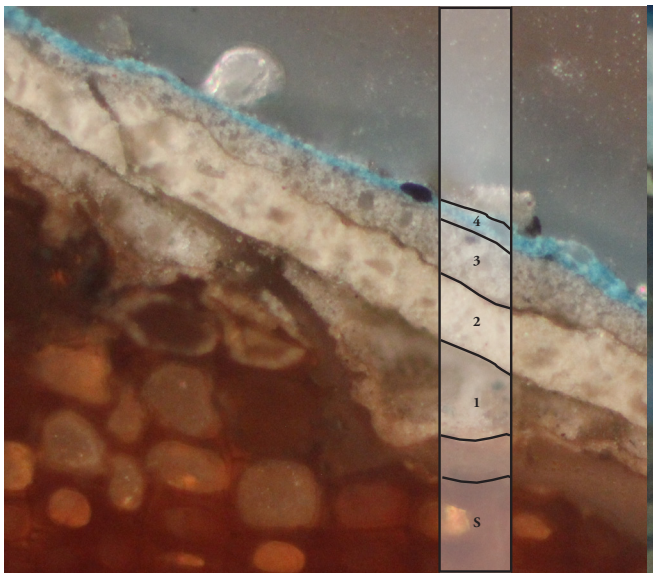
Ultraviolet Light 100x

Layer	Color	Notes
substrate	wood	
1	light gray	
	dirt	
2	white	
	dirt/crack	
3	blue gray	

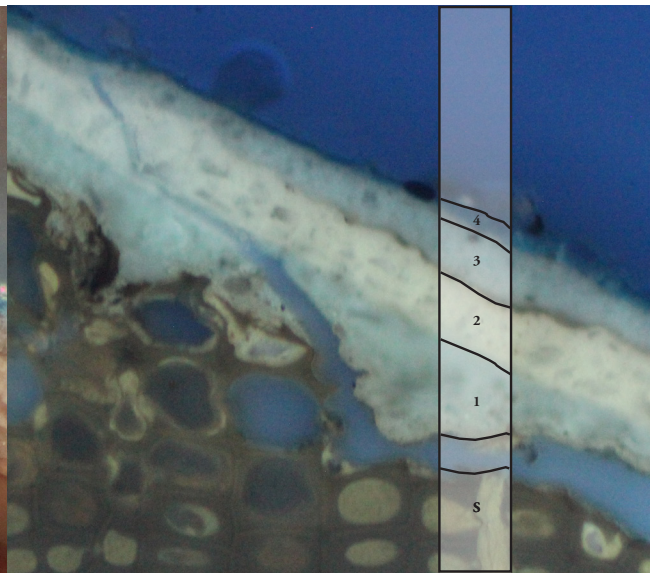
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-12	**Element:** Wall	**Date Sampled:** 07/24/14
Sample Location: Room 102, South Wall		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 200x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 200x

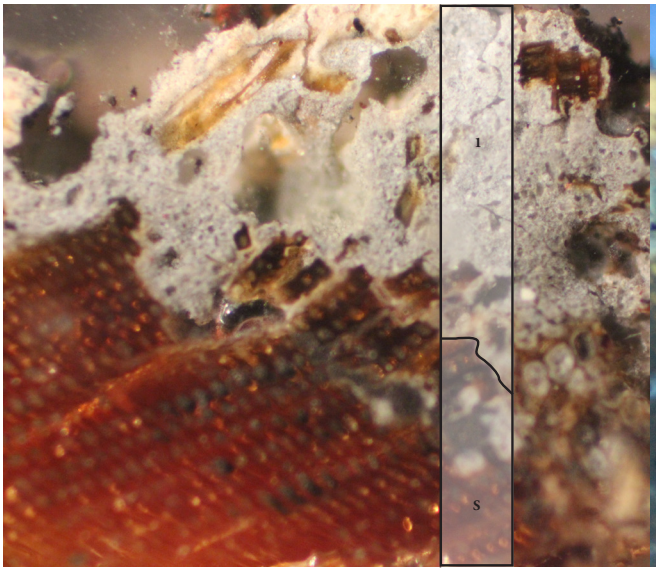


Ultraviolet Light 200x

Layer	Color	Notes
substrate	wood	
1	light gray	
	dirt/crack	
2	white	
	dirt/crack	
3	blue gray	
4	turquoise	thin

*Images are not for color matching

Sample Number: GH-14	**Element:** Ceiling	**Date Sampled:** 07/24/14
Sample Location: Room 102		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



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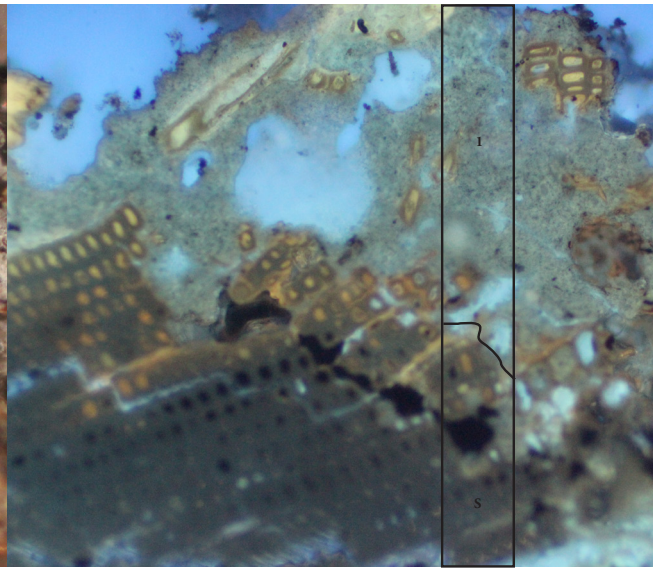


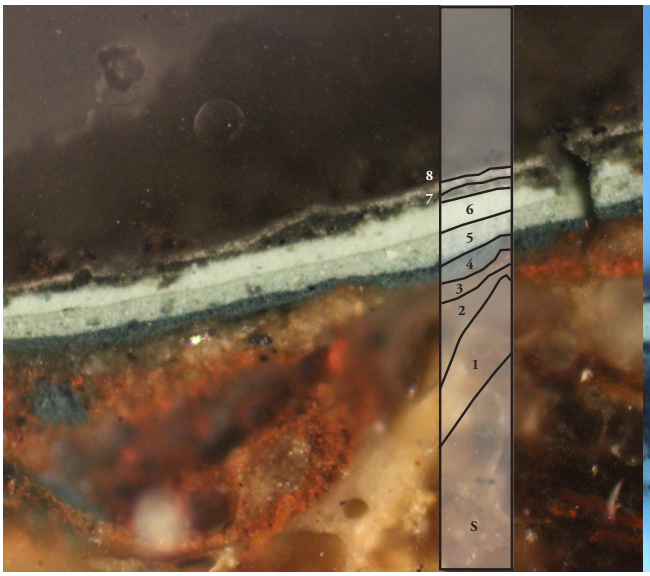
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	wood	surface of substrate appears disrupted, boards may have been stripped
1	blue gray	
2	white	finish only appears in small section of sample

*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-16	**Element:** Ceiling	**Date Sampled:** 07/24/14
Sample Location: Room 101, Stairhall		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



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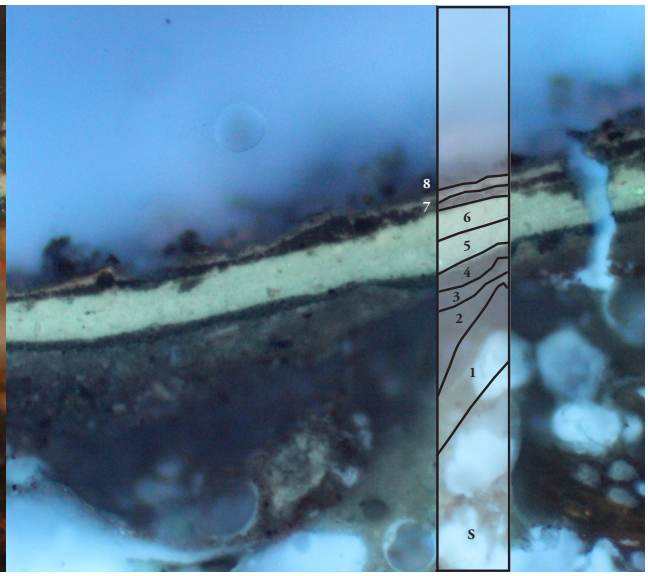


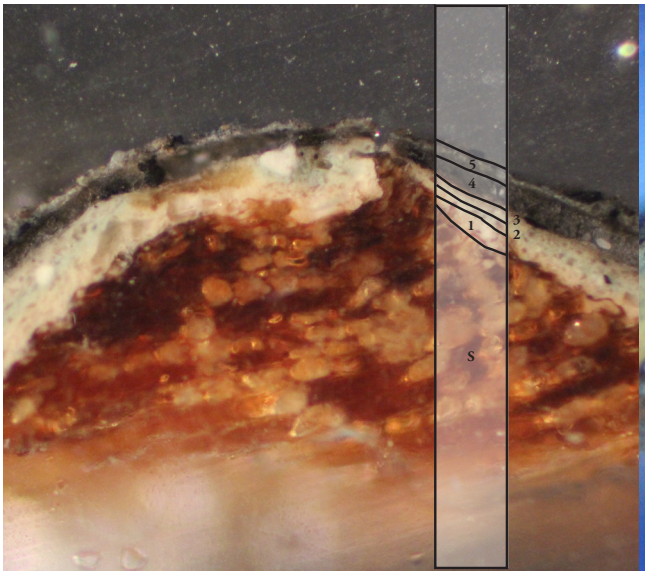
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	wood	
1	white/cream	translucent, limewash
2	orange brown	slightly disrupted
3	tan	
4	dark green	
5	mint green	
6	mint green	
7	dark gray	
8	gray	thin

*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-20	**Element:** Stair Riser	**Date Sampled:** 07/24/14
Sample Location: Room 101, Stairhall		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



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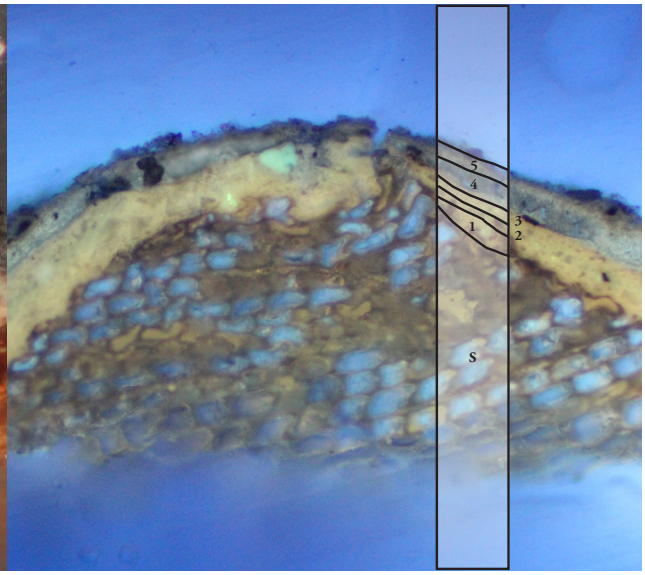


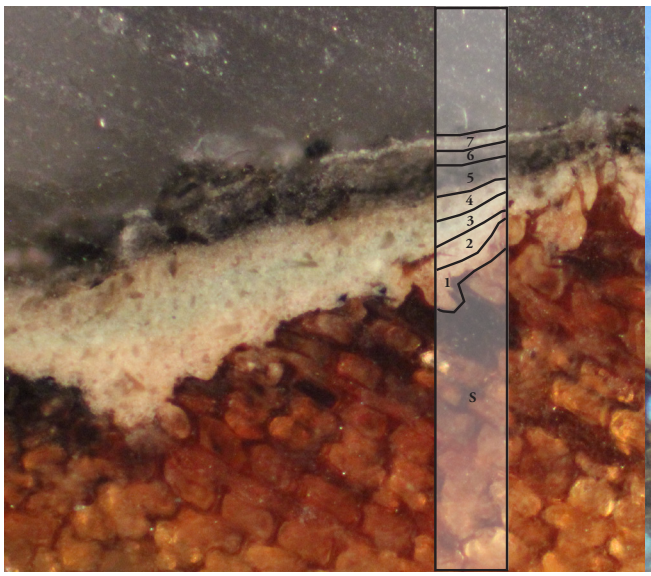
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	wood	substrate disrupted, surface may have been stripped
1	white	
2	mint green	
3	white	thin
4	dark gray	
5	gray	thin

*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-21	**Element:** Stair Side	**Date Sampled:** 07/24/14
Sample Location: Room 101, Stairhall		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



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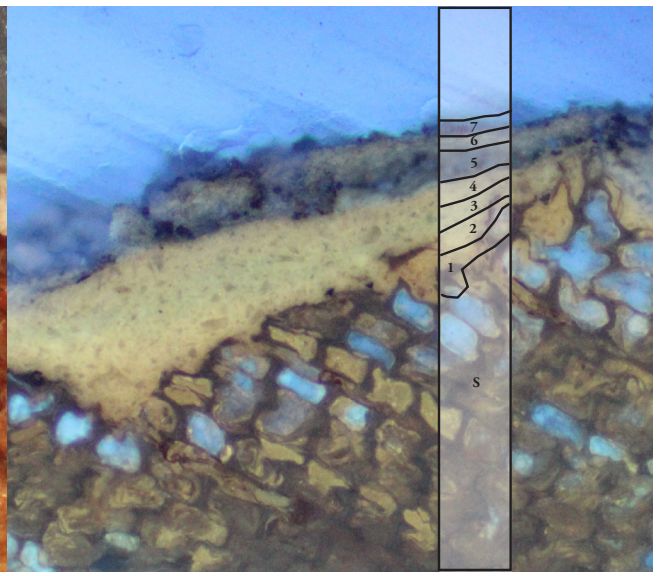


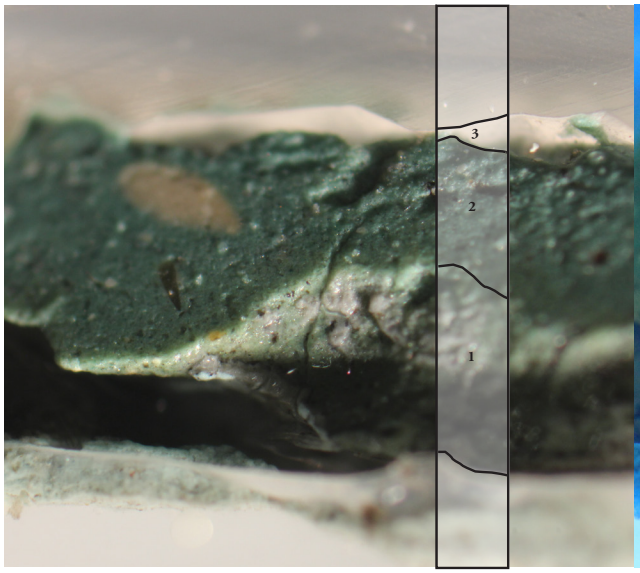
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	wood	substrate disrupted, surface may have been stripped
1	white/cream	layer appears to be residual, potential remnant of finish prior to stripping
2	white	
3	mint green	
4	white	
5	dark gray	
6	dark gray	
7	gray	thin

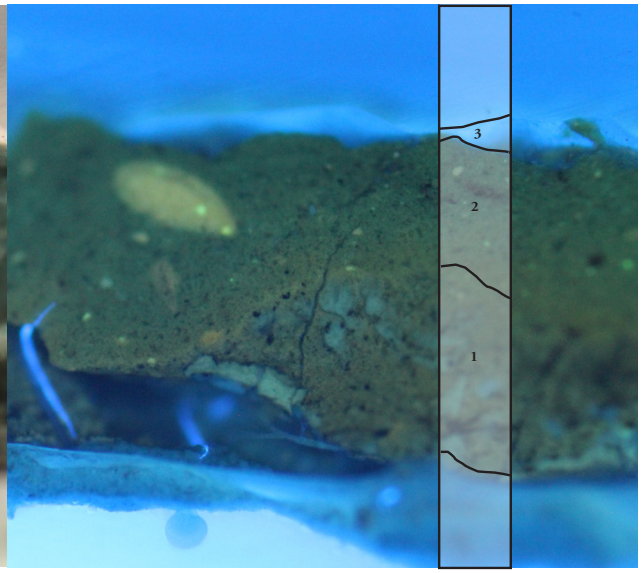
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-24	**Element:** Wall	**Date Sampled:** 07/24/14
Sample Location: Room 103, North Wall		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



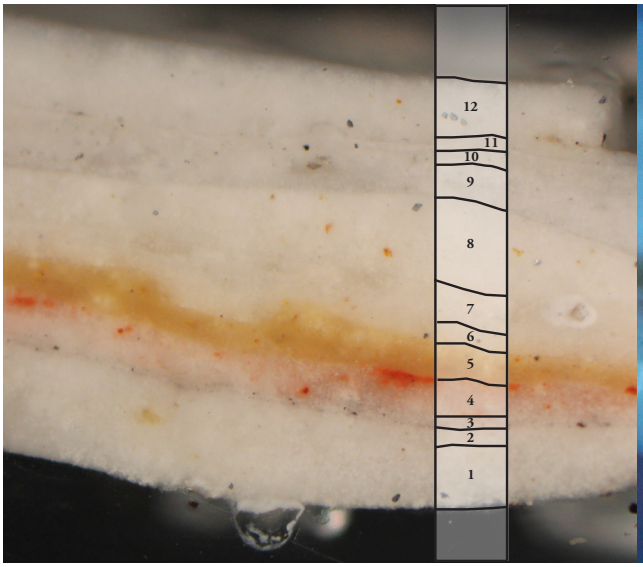
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	no substrate	wood substrate missing
1	mint green	polishing powder can be seen on surface of sample
2	green	
3	white	thin

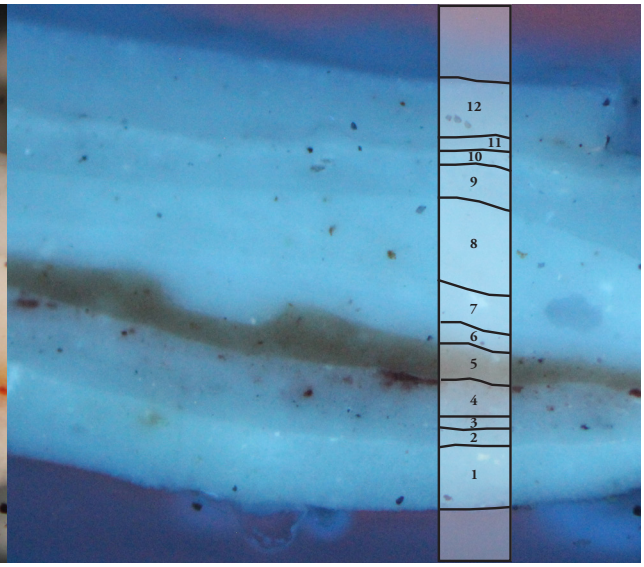
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-29	**Element:** Siding	**Date Sampled:** 07/24/14
Sample Location: North Elevation		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 40x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 40x



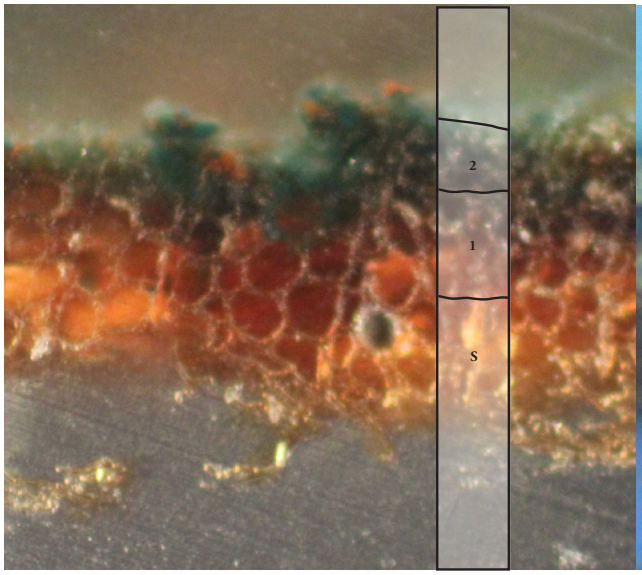
Ultraviolet Light 40x

Layer	Color	Notes
Substrate	no substrate	sample extracted from wood, finishes very brittle
1	white	
2	white	
3	white	thin
4	pink peach	
5	yellow cream	
6	white	
7	white	
8	white	
9	white	
10	white	thin
11	white	thin
12	white	

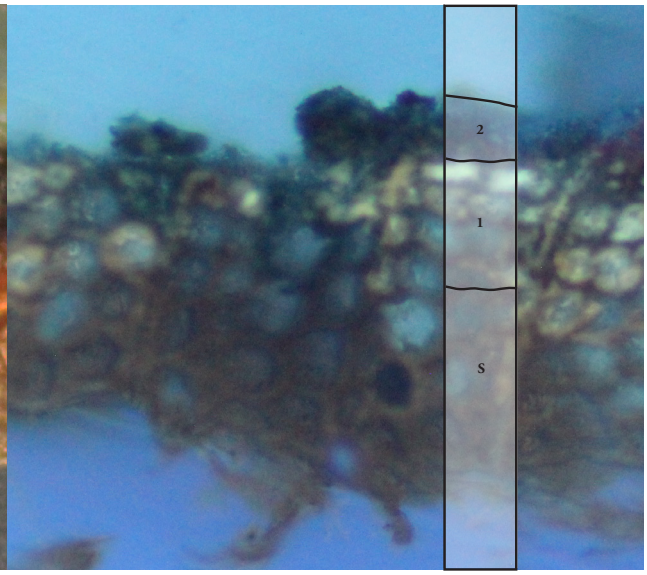
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-40	**Element:** Shutter	**Date Sampled:** 07/24/14
Sample Location: #1, East Elevation		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



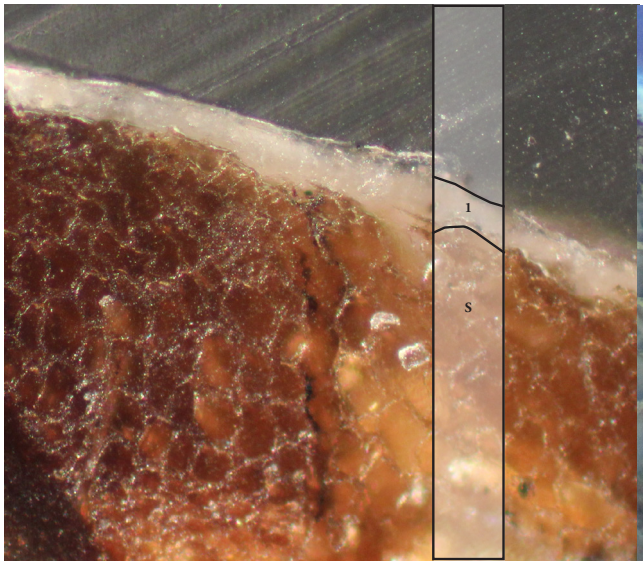
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	wood	sample very degraded and worn
1	resin	
2	dark green	

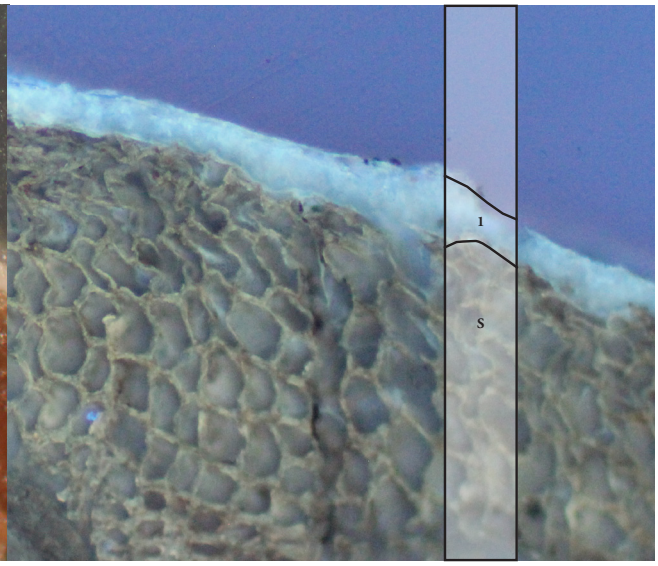
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-41	**Element:** Shutter	**Date Sampled:** 07/24/14
Sample Location: #2, Room 103, North Wall (stored)		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



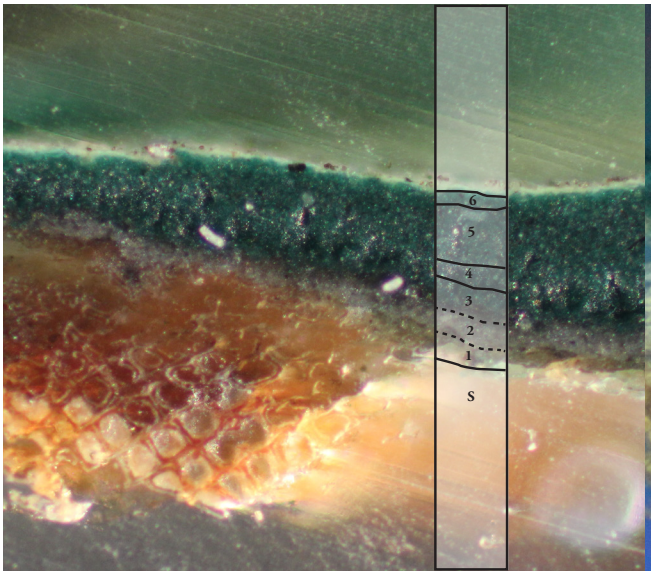
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	wood	
1	off-white	

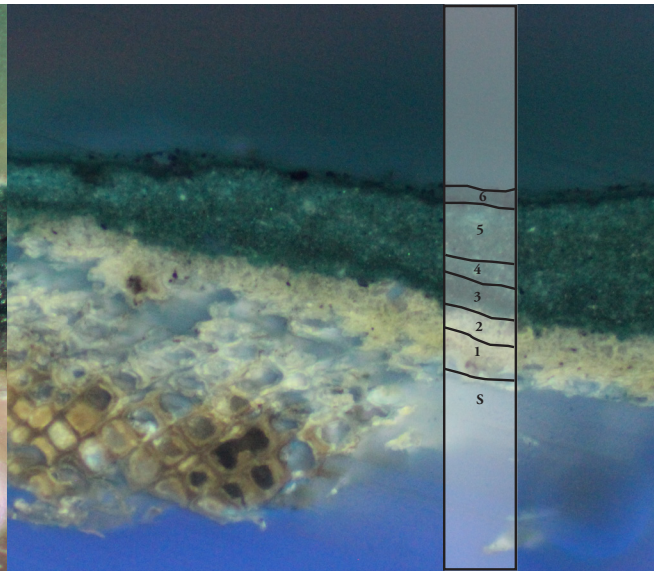
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-42	**Element:** Sash	**Date Sampled:** 07/24/14
Sample Location: #2 side (stored square sash), East Elevation		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



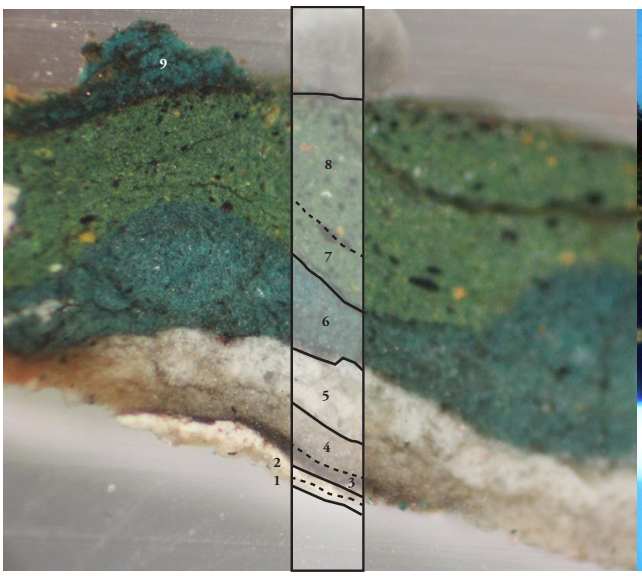
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	wood	substrate appears disrupted
1	resin	
2	gray	
3	dark green	
4	green	
5	green	
6	green	thin

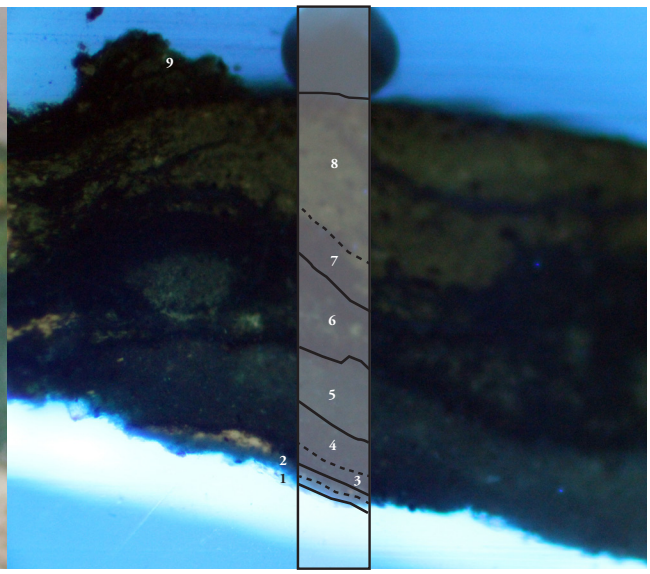
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-44	**Element:** Window Sill	**Date Sampled:** 07/24/14
Sample Location: #1, East Elevation		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



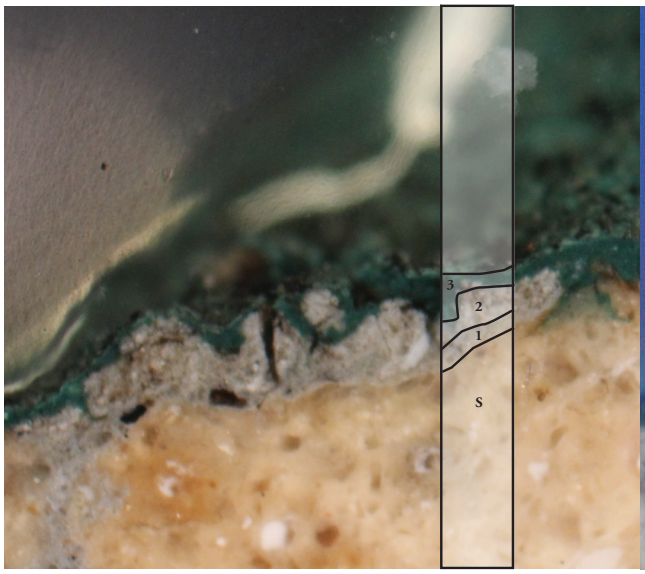
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	no substrate	finishes brittle, popped from substrate during extraction
1	off-white	thin
2	white	thin
3	dark gray	
4	gray	
5	gray	
	dirt	
6	green	
7	yellow green	
8	yellow green	cracked layer
	dirt	
9	green	

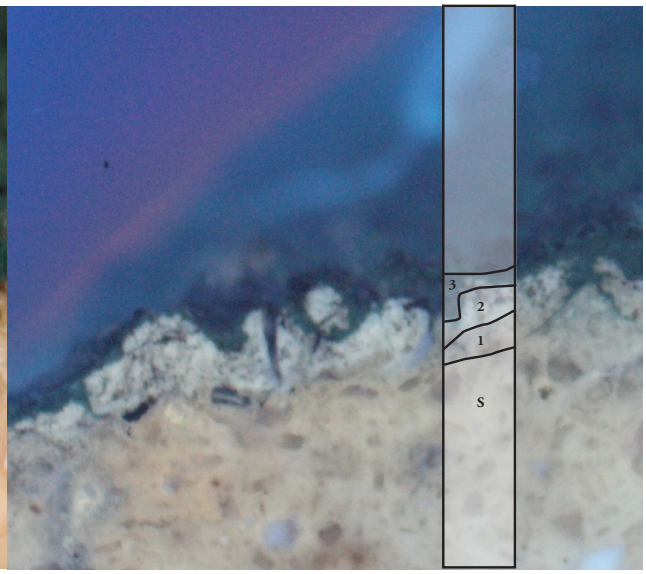
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-46	**Element:** Sash	**Date Sampled:** 07/24/14
Sample Location: Glazing Putty (stored)		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



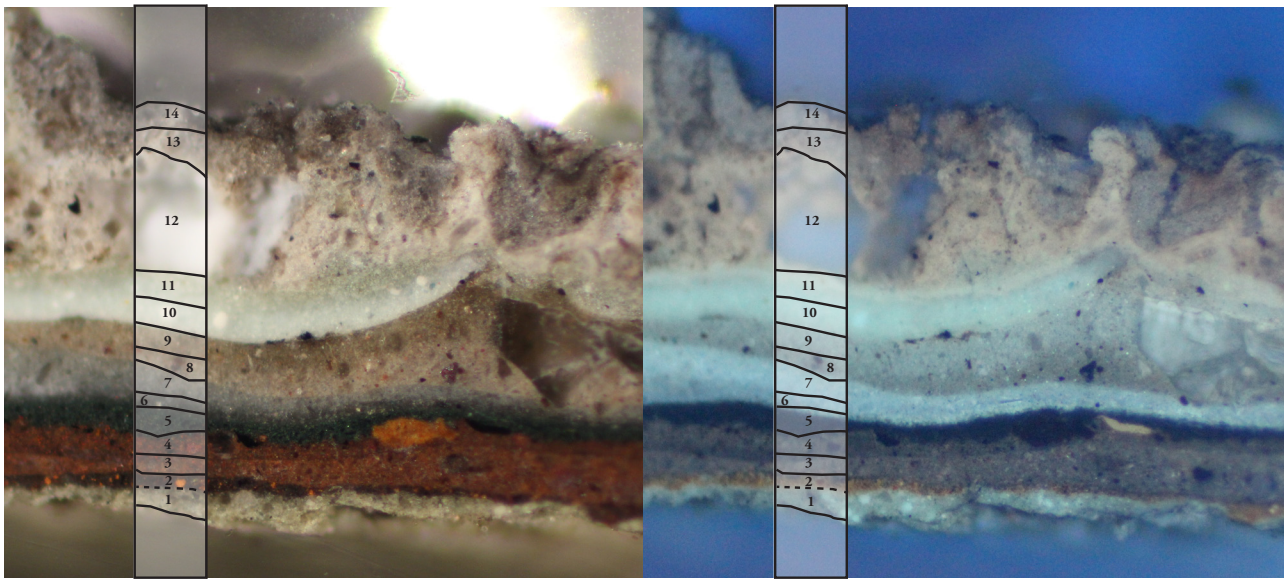
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	glazing putty	
1	gray	
2	gray	
3	dark green	

*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-48	**Element:** Door	**Date Sampled:** 07/24/14
Sample Location: #2, Room 203 (stored)		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



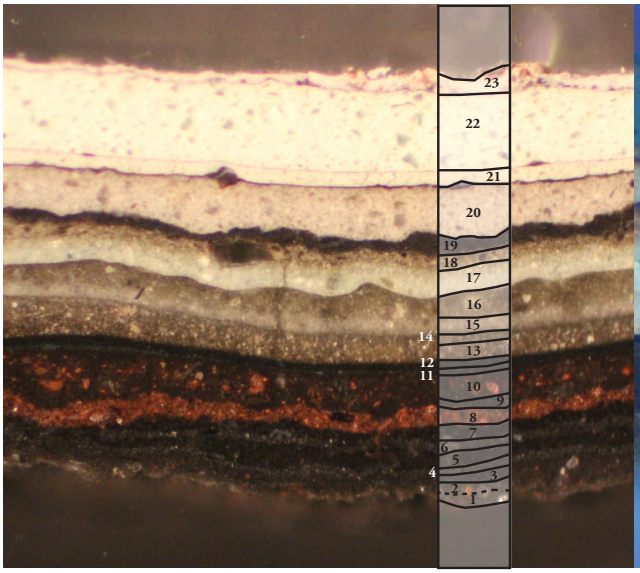
Visible Light 100x Ultraviolet Light 100x

Layer	Color	Notes
Substrate	no substrate	wood substrate was very dry and degraded, did not adhere to substrate
1	light gray	
2	red brown	thin
3-4	red brown	
5	dark green	
6	dark gray	
7	gray	
8	gray brown	
9	gray brown	
10-11	mint	
12	light gray	polishing powder visible in sample, seeped into layers 12 & 13
13	gray	weathered layer
14	gray	weathered layer

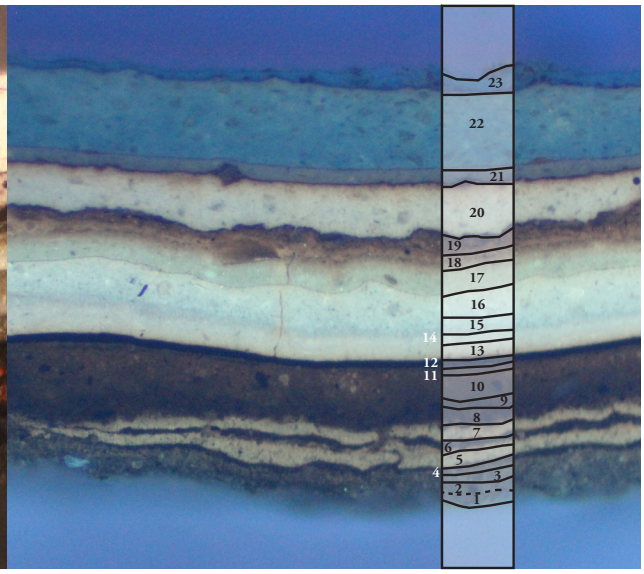
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-49	**Element:** Mantel	**Date Sampled:** 07/24/14
Sample Location: Room 103, Mantel Trim, under cap (stored)		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



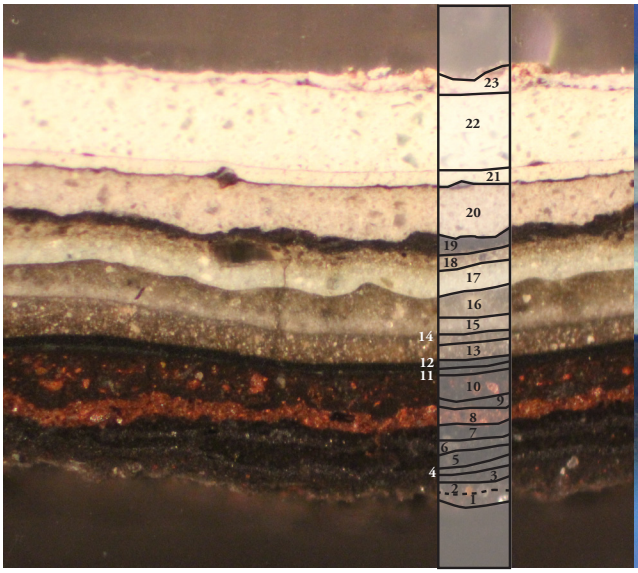
Ultraviolet Light 100x

Layer	Color	Notes
Substrate	no substrate	wood substrate very dry- finishes brittle and popped from substrate
1	light gray	thin
2	gray brown	
3	gray	
4	gray	thin
5	dark gray	
6	gray	thin
7	dark gray	
8	red brown	
9	dark gray	thin
10	red brown	
11	green	
12	dark gray	

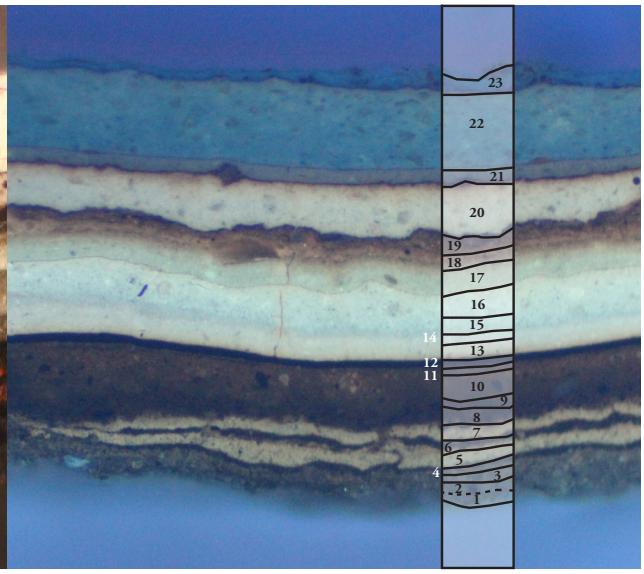
*Images are not for color matching

Paint Analysis Results:

Sample Number: GH-49	**Element:** Mantel	**Date Sampled:** 07/24/14
Sample Location: Room 103, Mantel Trim, under cap (stored)		**Date Analyzed:** 08/15/14-10/15/14
Substrate: Wood	**Illumination:** Reflected/Quartz Halogen	
Microscope: Motic BA410T-FL	**Magnification:** 100x	
Analysis Performed by: Betty Prime	**Camera:** Canon EOS Rebel T3i	



Visible Light 100x



Ultraviolet Light 100x

Layer	Color	Notes
continued		
13	gray	
14	gray	
15	gray	
16	light gray	translucent
17	mint green	
18	gray	
19	dark gray	
20	light gray	
21	off-white	thin
22	white	
23	off-white	thin

*Images are not for color matching

Nail Chronology

Nails & Fasteners

Nails are objects that are commonly found at most historic sites. These seemingly insignificant artifacts can be assessed and evaluated in order to determine a nail's age and method of manufacture. Analysis of recovered nails combined with a thorough understanding of the history of nail production can assist in determining the relative ages of certain architectural elements. A fully developed nail chronology is useful for deciphering the development of the Garvin House, and for determining what architectural elements were salvaged for the construction of this building.

History of Technology

The earliest nails produced for the construction of buildings were produced by hand using wrought iron. Wrought iron nails were widely used throughout the seventeenth and

Figure 101: Nails sampled during the development of the nail chronology.

eighteenth century. During the Colonial period, nails were an important commodity and were initially imported and then made locally following the American Revolution.

Machine-cut nails were introduced around 1800, due to the development of nail cutting machines. Initially, this type of nail was produced by feeding a nail plate into a shear, which cut the nail at an angle. In order to obtain a tapered edge on each nail, the plate was flipped after each cut. This method of manufacture produced a burr edge on opposite ends of the nail in cross section. Following production of the nail shaft, the head was hand hammered. This process was prominent from approximately 1790 to 1810.

Further development of nail machines and rolling mills from 1810 to 1820 allowed for the nails to be cut from the plate with a tapered edge without flipping the plate after each cut. This method of production produced a burr edge on both sides of the nail shaft in cross section. The head was also hand hammered during this time with the direction of the iron fibers running perpendicular to the shaft.

By 1820, the ability to machine head cut nails had been developed. Machine head cut nails were characterized by irregular heads which vary in size and shape. Early machine head cut nails commonly have both types of burr edged shafts as described above. Nails from this era have a distinct rounded under head shank. The direction of iron fibers within the nail runs perpendicular to the shaft, similar to the hand headed nails produced earlier.

By the 1830s, modern machine cut nails were produced that were uniformly convex on each side and uniform in size and shape. The direction of iron fibers within the nail runs vertical to the shaft. These are largely indistinguishable from modern machine cut nails produced today.

By the 1840s, wire cut nails were developed in France but were not widely available and extremely rare in the United States. Modern wire cut nails are produced from steel wire that is sheared to length with a cutter die. By the 1870s, American made wire cut machinery had been perfected and wire cut nails were rapidly superseding the common machine cut nail, becoming dominant by 1890.

Results

Analysis of nails sampled on site and those observed in-situ indicated that a large majority of the structure contained fasteners dating to the original construction around 1870. In particular, a large proportion of the in-situ exterior clapboard contained 1870 machine cut & headed nails, indicating that the exterior siding is original. A few earlier hand-hammered, machine cut nails (ca. 1810-1830) were found in several items, including a structural framing member and on exterior clapboard. It is likely these nails were left in place in salvaged members that were later used for the construction of the Garvin House.

Figure 102: Largest nail sampled from corner post.

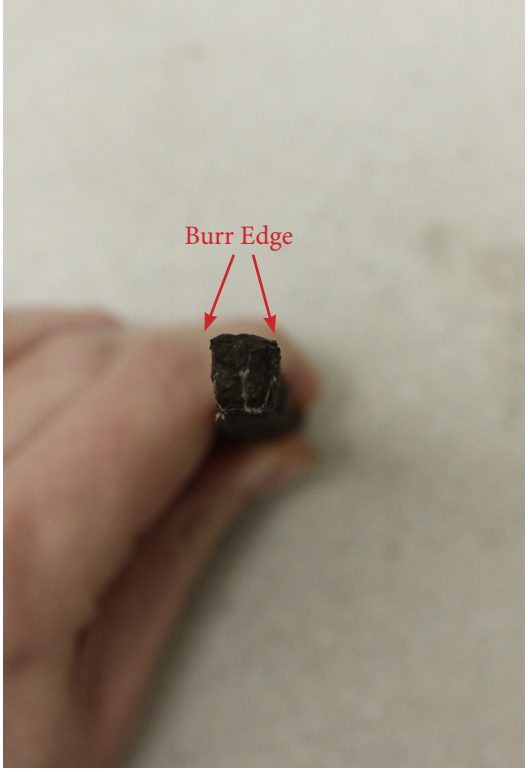


Figure 103: Due to hand hammered head, nail likely dates to 1810-1830.

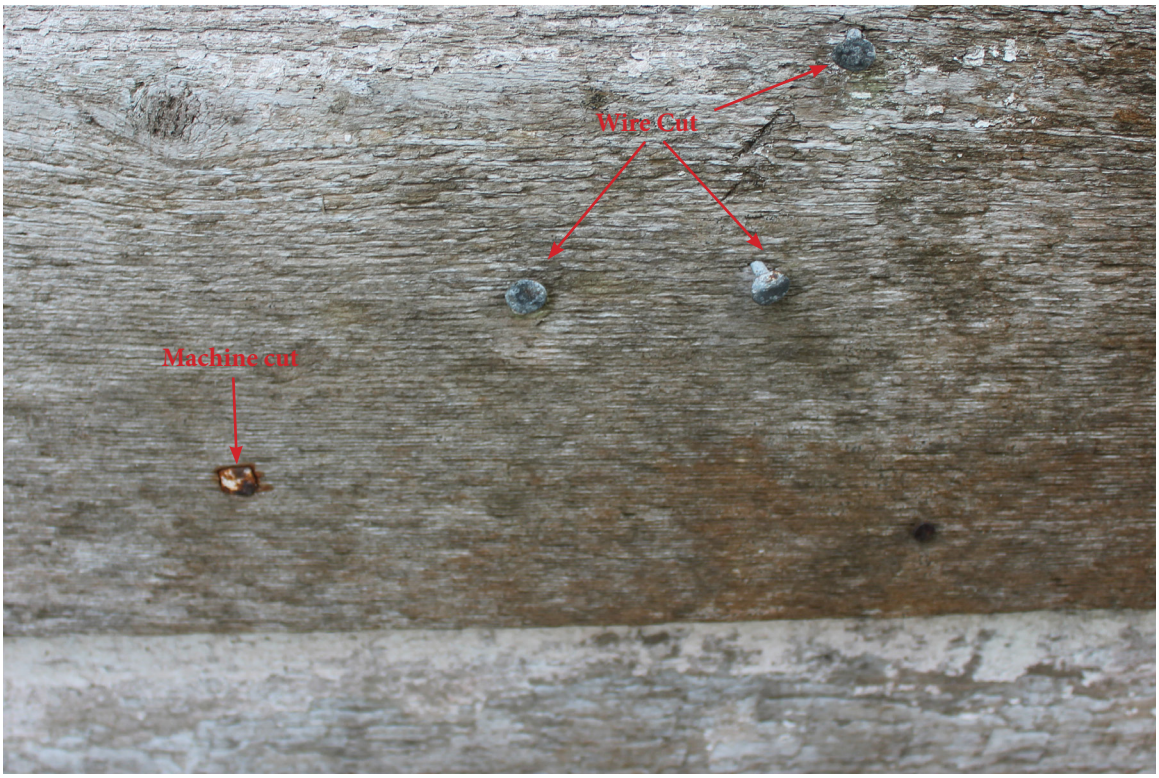


Figure 104: A variety of nails on exterior clapboard including 19th and 20th century fasteners.

Figure 105: 1870 machine cut nail.

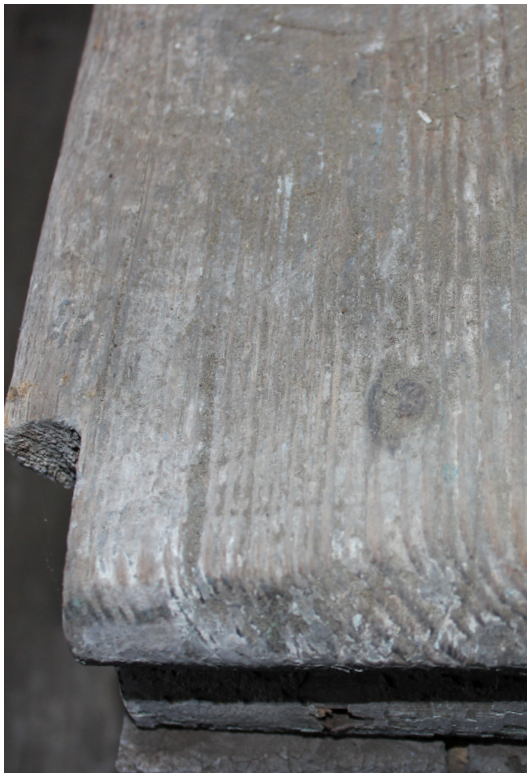


Figure 106: Machine cut nail seen in worn stair tread.

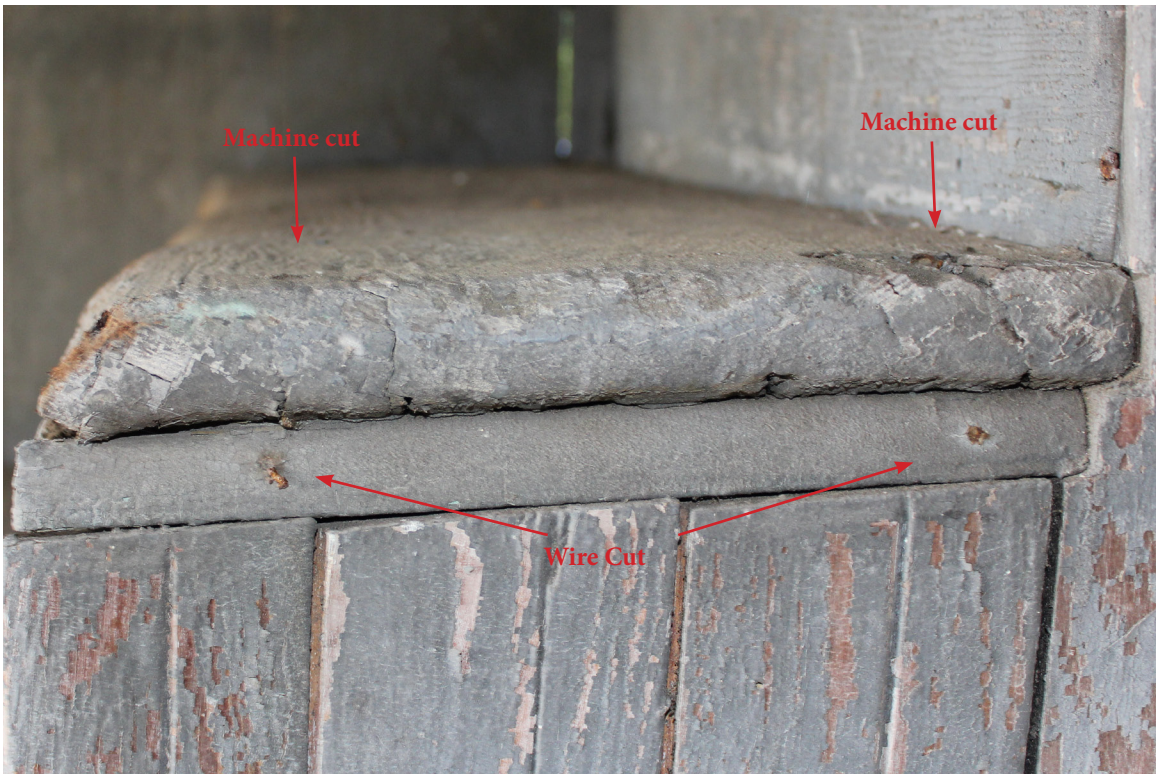


Figure 107: ca.1870 machine cut nails found in stair treads. Later wire cut nails seen on trim and tongue-in-groove panelling.

Change over Time

First Floor

Another benefit of nail chronology is the ability to determine subtle changes over time in the fabric of a structure. Examining the fasteners and finishes on the first floor reveals that much of the interior paneling is a later addition. Based upon the existing evidence, it is likely that the interior of the structure was very simple with the framing members exposed. Previous research has questioned if the staircase was original to the construction. Fastener analysis indicates that the stair treads and rises date to 1870, while the decorative trim and tongue and groove paneling appear to be a later addition (Figures 106-107). Additionally, the underside of the stair is whitewashed similar to the finish on the framing and backside of the clapboard in room 103. Therefore it is likely that the stair is an original feature.

Additionally, it appears that both interior partition walls on this floor are not original. Wire cut nails can be seen toe nailing the boards to the floor and the ceiling. With this evidence, the original configuration of the first floor was very simple with one large opening and a stair in the middle.

As discussed in the 2009 assessment, the backsides of the clapboards in room 102 are not whitewashed. However, investigation above the current ceiling boards indicates that the joists and underside of the second floor floor boards is whitewashed in a similar manner to room 103. The reclaimed wider horizontal wallboards appears to be original to the house, based on the presence of machine made cut nails (Figure 108). Thinner tongue and groove paneling found still in place throughout the room also appears to have been installed around the same time, due to the presence of machine cut nails. Based on existing evidence, it appears that this room was originally finished with a combination of wall panelling of various widths with a whitewashed ceiling and exposed whitewashed flooring joists (Figure 109).

Visually, the tongue and groove panelling in rooms 102 and 103 are completely different (Figure 110). Fasteners found in the panelling in room 103, in addition to the presence of whitewashed framing members and ceiling in this location, indicate that this type of paneling was installed at a later date (Figure 111).

Second Floor

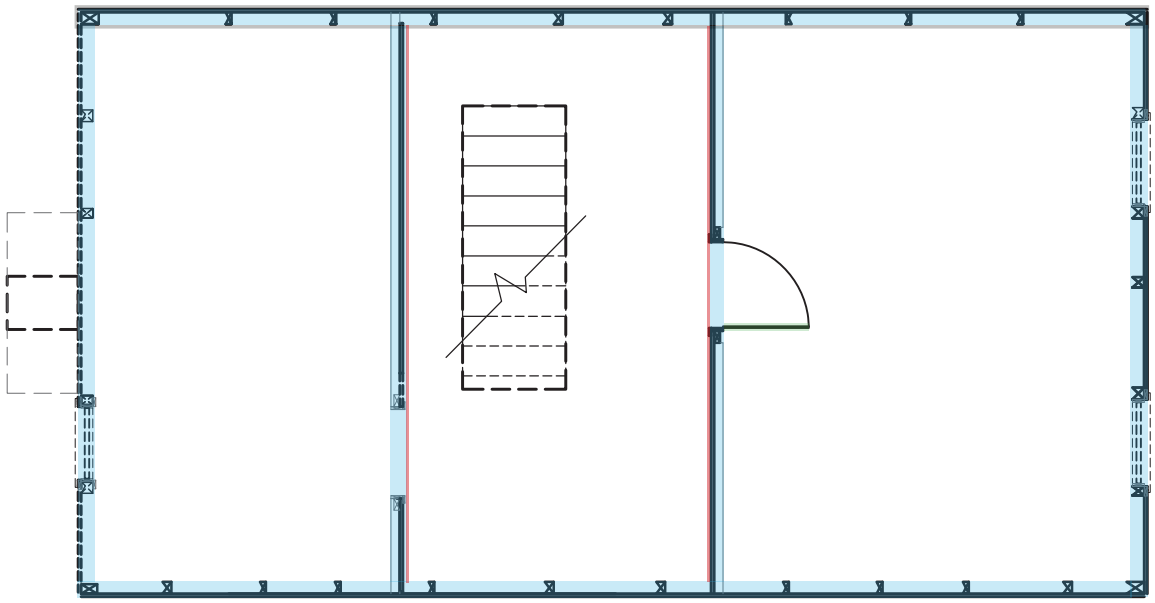
Analysis of the fasteners on the second floor indicates that many of the features are original to the house (Figure 112). However, on the vertical partition boards between the stair hall and bedchambers, the upper trim appears to have been added later, possibly in an attempt to add privacy to the chambers. This is further evidenced by the presence of whitewash behind this trim. The trim looks as if it was installed later than the existing white finish.

Figure 108: Room 102, North wall. Whitewash is not present on joists and clapboard. Nails indicate all panelling in room 102 is original.

Figure 109: Room 102, ceiling: Evidence of whitewashed joists behind ceiling boards.

Figure 110: Room 103. Whitewash present on framing members indicates they were originally left exposed. Later the tongue and groove panelling was added. This panelling was added later than the wall boards present in room 102, as evidenced by the fasteners.

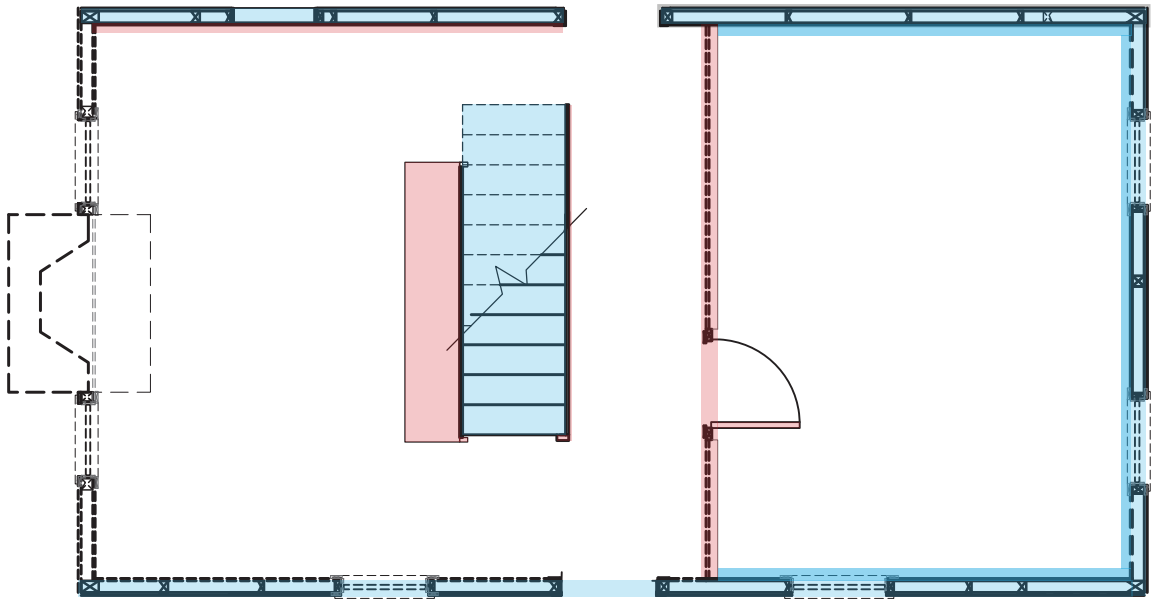
Figure 111: Above room 103, looking down from the second floor: Whitewash present on wall joists, matching finish on framing members in this room.



SECOND FLOOR PLAN

KEY:

- ORIGINAL
- LATER ADDITION
- RECLAIMED ITEMS



FIRST FLOOR PLAN

Figure 112: Room 102 & 103, looking west: Tongue and groove boards likely date to a later date.

Figure 113: Room 201, looking east: Interior partition walls appear to be original. The upper trim has later fasteners indicating it was added later.

Community Outreach

During the course of this project, two stakeholder meetings were conducted in order to seek input from the community which has a vested interest in the preservation of the Garvin House.

Stakeholder Meeting #1

The first stakeholder meeting was conducted on September 18, 2014 at the Rotary Club in Bluffton, SC. Primary stakeholders identified by the Town of Bluffton were invited to the meeting in order to allow Meadors Conservation to present an overview of the project and collect information and input related to preservation issues and project concerns. The meeting was attended by approximately 30 members of the public.

The meeting focused on identifying objectives and strategies related to the vision of the site and to promote discussion of issues related to the site's preservation. The purpose of this initial meeting was to create, facilitate, and maintain open channels of

Figure 114: Group discussions during Stakeholder Meeting #1. (Town of Bluffton)

communication with stakeholders to allow for full consideration of stakeholder views, feedback, and information in developing the preservation plan and recommendations.

The first meeting was broken into three distinct sections. During the first section, large informational boards were created by Meadors Conservation to present an overview of the current observed conditions identified during the initial site assessment, an assessment of the site's strengths and weaknesses, identification of themes related to the significance and interpretation of the resource, and an assessment of the site's current reputation and perception. Boards presented during this meeting can be found in Appendix B.

During the second portion of this initial meeting, Meadors Conservation gave a presentation of the ongoing work and the preliminary findings from paint analysis and nail chronology. An overview of observed conditions was presented to the public. Following the presentation, attendees were broken up into small groups to conduct a roundtable discussion.

Participants were broken up into three groups of approximately 8 people, led by a member of the Meadors team or the Town of Bluffton. The public was asked about their memories of the structure and their desired plans for reuse. When possible, specific questions were posed to the stakeholder groups. These discussions were recorded and main themes were transcribed according to each question asked. A copy of the collective findings from each group can be found in Appendix B.

Figure 115: Informational boards displayed during Stakeholder Meeting #2.

Following this meeting, the responses from the community were evaluated and compiled. Possible sources of new information discussed during the meeting was further explored. Ultimately, the information from this meeting was used to stimulate and inform the creation of a treatment philosophy for the preservation of the Garvin House.

Stakeholder Meeting #2

The second stakeholder meeting was conducted on November 03, 2014 at the Rotary Club in Bluffton, SC. Approximately 15 members of the public attended the meeting. The purpose of this second meeting was to present the draft findings and recommendations from the conditions assessment. Additionally, the statement of significance and treatment philosophy developed over the course of the study was presented to the public. Additionally, several potential reuse strategies were presented for public input and discussion. The goal of this meeting was to solicit input from stakeholders on the individual strategies and recommendations to be included in the report.

The meeting was conducted in a similar manner to the first stakeholder meeting. During the beginning of this meeting, several boards created by the Meadors team were displayed. The new boards presented additional research and the formulated statement of significance and treatment philosophy. Additional research of the Garvin family uncovered by Celebrate Bluffton was also displayed on a board.

Following this informational session, the Meadors team gave a presentation of the preservation planning process and development of the statement of significance and treatment philosophy. The primary goal for the reuse of the Garvin House was to use the building in a manner that is respectful to the history, while maintaining long-term self-sufficiency. Secondary goals for reuse included:

- Identify a use that is physically compatible with the building
- Maintain the integrity of the structure
- Share and interpret the history of the Garvin House with the community
- Be self-sufficient financially
- Make the building safe for visitors

Taking into account these goals and any existing zoning restrictions, three reuse strategies were presented. The three reuse strategies were as follows:

Interpretive Space/Short Term Rental

This reuse strategy involved opening the structure to the public during the week allowing for public interpretation while renting the structure out seasonally on the weekends and during special events to create revenue for the maintenance of the house.

Artist-In-Residence

This strategy would bring an artist into the community to experience Bluffton and create placed and story based works. Several artist-in-residence programs have been established throughout the United States and have been used by the National Park Service for more than four decades. The public would have access to the artist and studio during normal park or business hours and at least one work of art can be donated to the Town at the end of the residency.

Gullah Geechee Bookstore & Gallery

The third reuse strategy would take advantage of the structure's history and location within the Gullah Geechee Cultural Heritage Corridor. The Garvin House would serve as an important stop and resource for local heritage tours and help preserve and promote the Gullah Geechee culture. In this scenario, elements such as art, basket weaving, cast net making, and cuisine would be showcased and celebrated.

These potential reuse strategies were then compared against the goals for reuse and any interventions required for each use such as kitchen or rest room facilities.

Following this presentation, an open discussion was conducted with the participants to determine the pros and cons of each strategy. Following the open forum, participants filled out a ballot card and wrote additional comments relating to the reuse of the Garvin House.

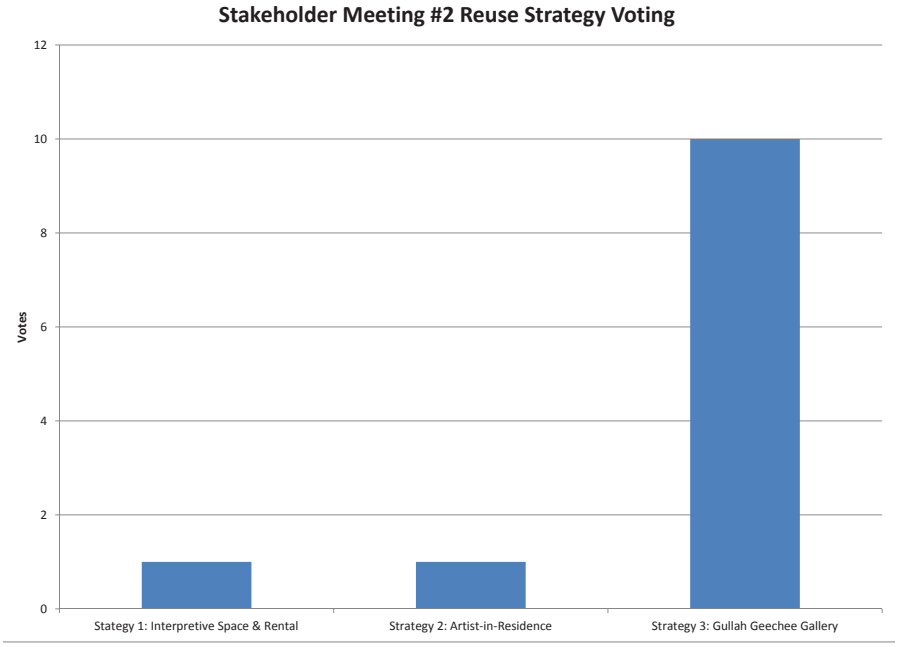


Figure 116: Ballot card results from stakeholder meeting #2.

The community response from the ballot cards was overwhelmingly in support of a combined Artist-In-Residence and Gullah Geechee Bookstore & Gallery. Comments indicated that any use must find a way to provide for public access to view the interpreted site. Additionally it was stressed that any future use must involve the Gullah Geechee community.

Statement of Significance

The Garvin House, built ca. 1870, is a rare surviving example of a home constructed and occupied by a freedman in the South Carolina Lowcountry. Located on a bluff, high above the May River in Bluffton's historic district, the Garvin House is a remnant of a once vibrant community of former slaves and freed people who resided in the Bluffton area during the era of Reconstruction. The folk methods used in the construction of this one and a half story post and girt structure incorporate reclaimed building materials and architectural elements, highlighting the resourcefulness and skill of the original builder, Cyrus Garvin. Since the construction of the home in 1870, at least three generations of the Garvin Family have occupied the site, using the structure and land as an active homestead. The interior of structure is particularly notable as it reflects the changing tastes of the Garvin family, as the building developed from a utilitarian two room white washed building to a hall and parlor structure with interior tongue and groove paneling.

The Garvin House is the earliest known home built by a free slave on the May River. Currently stabilized but in a state of continuing decay, the structure and surrounding site have the potential to offer further information relating to the life of a freedman during the late 19th century. The Garvin House serves as a strong connection to the town's celebrated past, and an important cultural resource for the future of Bluffton.

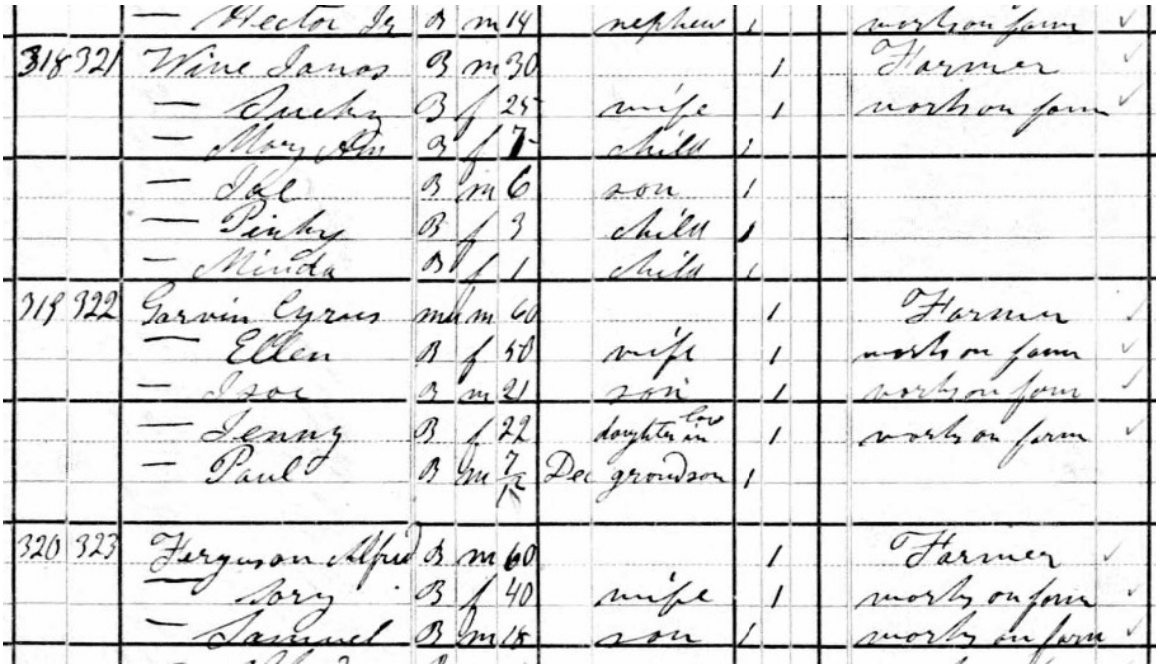


Figure 117: 1880 U.S. Census; Garvin family recorded on census records.

Treatment Philosophy

The preservation of the Garvin House will focus on preserving remaining items in situ to highlight the development of the structure over time during the Garvin family occupation. Interventions will abide by the Secretary of Interior's Standards and will combine the approaches of Preservation and Rehabilitation. Recommendations and interventions will also be guided by two integral goals.

The first goal will focus on maximizing the retention of historic character defining elements and minimizing the further loss of historic fabric. The second goal will focus on repairing all necessary elements of the Garvin House to provide the structure a successful future. Current and past deterioration mechanisms that have contributed to the decay of the structure will be addressed and remedied. Existing deficiencies in the structure will be sensitively addressed and modern interventions will be integrated seamlessly as not to detract from the preserved structure.

The preservation and rehabilitation of the Garvin House will ensure that this structure is restored to its most recent intact and occupied state during the mid 20th century. This period represents multiple phases of interventions and communicates the full evolutionary history of the structure.

Figure 118: South elevation: Window hardware.

Structural Recommendations

Based on the as-built conditions described in the Findings section, the following recommendations are provided to address the restoration of the structural components at the subject property. Structural plans and details discussed within this section will be provided in construction documents as part of the structural assessment of the subject property.

Foundation System

Due to exposure to the elements and age of the structure, the existing foundation system has deteriorated along the base of the exterior walls. Collapse of the timber piles has resulted in settlement of the structure and placed the floor framing system in direct contact with grade. The following bulleted items detail recommended repairs to the foundation system.

Foundation System:

1. *Foundation Piers*: Due to the deterioration of the existing timber piles, the installation of a new foundation system at the exterior walls is recommended. The foundation piers can be constructed of brick masonry and spaced approximately 6 feet on center throughout the perimeter of the structure. Piers are to be installed on isolated reinforced concrete footings. Dimensions of the piers have yet to be determined. Isolated footings are to be 2’ x 2’ by 12” deep and placed a minimum of 12” below grade. Reinforcement of the footings is to be provided by (2) #5 bars spaced equally each way.

2. *Raising the Structure*: Installation of a new foundation system will require the existing structure to be raised to a minimum of 21 inches above ground. Elevating the structure can be accomplished by use of the existing steel I-beams installed to stabilize the second floor. Prior to raising the structure, all second floor transition connections should be field verified and refastened to prevent damage to these components during the jacking process. The two interior first floor hallway walls and stairwell will also need to be stabilized prior to raising the structure. All efforts to minimize damage to the structure as it is raised should be provided.

Foundation System

Collapse of the timber piles has resulted in settlement of the structure and placed the floor framing system in direct contact with grade. Due to the contact with grade, termite activity and exposure to the elements, the majority of the perimeter sill band is rotted beyond repair and is no longer supporting the first floor system and the exterior wall studs. The following bulleted items detail recommended repairs to the first floor framing system.

First Floor Framing System:

1. *Perimeter Girder Sill:* Following the construction of new foundation piers, a new pressure treated 6x8 girder sill is to be installed below the perimeter of the structure. The girder sill is to be fastened to each foundation pier with (2) ½" diameter stainless steel epoxy anchors with a minimum embedment of 8 inches into the brick masonry pier.

2. *Floor Framing:* Due to the deterioration of the existing first floor framing, it is recommended the existing framing be removed and replaced with new 2x10 pressure treat floor joists spaced at 16" on center. The floor joist ends are to be notched in similar fashion to the existing framing and fastened to the 6x8 perimeter girder sill along the North and South walls. The joist to girder connection is to be notched at the joist end and will bear over the top face of the girder sill. Joist ends can be fastened to the girder sill with stainless steel nails or timberlok screws.

3. *Floor Boards:* The floor joists are covered with 1x8 or 10 sawn boards spanning parallel to the length of the structure. To replace the existing first floor joists, the existing floor boards will need to be removed and stored. Salvaged floor boards are to be reused following installation of the new first floor framing. Damaged floor boards are to be replaced with matching material where required. New floor boards are to be notched around the exterior wall studs similar to as-built conditions.

Foundation System

Due to the collapse of the foundation system, settlement of the exterior walls is evident throughout the structure. In addition, portions of the wood studs are exposed to the elements due to the absence of siding and deterioration of the structure. As-built conditions of the exterior wall components are detailed on the exterior wall framing plan in the drawings of this report. The following bulleted items detail recommended repairs to the first floor framing system.

Exterior Wall Components:

1. *Exterior Wall Studs:* Due to the settlement of the foundation system and stabilization of the second floor, several of the wall studs have pulled away

from the first floor framing and are not attached. Following the completion of the new first floor framing system, existing wall studs are to be fastened to the new 6x6 perimeter girder sill. Attachment to the girder sill can be provided by timberlok screws or a similar fastener. Missing wall studs are to be replaced with a full height stud of similar dimension and material. The location of existing window and door jambs is to be determined in the field. Replacement of these jambs and headers will also be required at the East and South walls. At locations where damaged walls studs are to remain, existing studs are to be sistered from the girder sill to the second floor transition. The locations of wall studs to remain are to be provided in the construction documents.

2. *Ledger Plate:* Directly below the second floor framing at the North and South walls, a 1½”x6” ledger plate has been notched and nailed to the inside face of the wall to the floor joists. At several locations, the ledger plate has shifted and is not adequately attached due to the settlement of the exterior walls. The existing ledger plate is to be refastened with timberlok screws at locations where the plate is detached from the wall studs and out of plane from the stud notch. At new and sistered stud locations, the inside face is to be notched to set in the ledger plate. At locations where the ledger plate is damaged, a new ledger plate of similar dimension and material is to be installed.

3. *Corner Posts:* As part of the exterior wall system, a 4x6½” wood post is installed at each corner of the structure. Each of the wood posts is intact however deterioration of the posts was evident as a result of exposure to the elements and termite activity. A full height replacement of each of the corner posts is recommended.

4. *Corner Post Diagonal Bracing:* At the first floor, diagonal bracing extends from the lower third of the post to the girder sills in each corner of the North and South walls. The base of the diagonal bracing is also damaged due to the settlement of the perimeter girder sill.

5. *Top Plate Connection:* At the top of exterior wall studs, bearing for the roof rafters is provided by a 3½”x5” top plate at the North and South Walls. At the exterior wall top plate, minimum of (2) new timberlok or stainless steel fasteners are to be installed at the plate to wall stud connection.

6. *Exterior Wall Siding:* The exterior wall closure system is provided by 1x8 horizontal lap siding fastened directly to the wood stud framing. Following completion of repairs to the exterior wall studs, existing exterior wall siding is to be reattached throughout. At locations where siding is damaged or missing, new lap siding of similar dimension and material is to be installed.

7. *Interior Wall Siding:* Following completion of repairs to the exterior wall studs, existing interior wall siding is to be reattached throughout. At locations where siding is damaged or missing, new lap siding of similar dimension and material is to be installed.

Second Floor Framing System

The second floor framing system is intact and has been stabilized by the installation of full length steel beams spanning parallel to North and South walls. The following bulleted items detail recommended repairs to the second floor framing system.

Second Floor Framing System:

1. *Floor Joists:* The second floor framing system of the structure consists of 2x6 floor joists spanning from the North to South Walls. Field measurements indicate the floor joist spacing to be approximately 30 inches on center. The condition of the floor joists could not be determined without removal of the floor boards or ceiling boards below. Field verification of the condition of the floor joists can be performed during the restoration process.

2. *Second Floor Live Load Capacity:* A structural analysis of the second floor framing was performed to determine the adequacy of the floor system. The clear span of the second floor framing is approximately 16'-0" from the North to South wall. As noted the floor system consists of 2x6 joists spaced at 30 inches on center. Based on this analysis, the live load capacity of the second floor system does not meet the deflection requirements as prescribed by the 2012 International Residential Code. It is recommended access to this floor be limited unless modifications to the floor framing are provided.

3. *Ledger Plate Connection:* At the North and South walls, support for the floor joists is provided by a 1½"x6" ledger plate that has been set in to a notch at the inside face of the wall studs. The second floor joist ends are notched and bear directly on top of the ledger plate. Following required repairs to the ledger plate, each floor joist should be fastened to the ledger plate with a timberlok or stainless steel fastener.

4. *Floor/Ceiling Boards:* The top of the second floor joists are covered by 1x10 sawn floor boards spanning perpendicular to the East and West walls. The first floor ceiling is provided by 1x10 sawn boards fastened to the bottom of the floor joists and spanning perpendicular to the East and West walls. The floor and ceiling boards are in good condition. Floor boards that require repair should be repaired or replaced with boards of similar dimension and material.

Roof Framing System

The existing roof system is a gable configuration and has been stabilized by the installation of steel beams below the second floor framing. As-built conditions of the roof framing are detailed on the roof framing plan in the drawings of this report. The following bulleted items detail recommended repairs to the roof framing system.

Roof Framing System:

1. *Roof Rafters:* The roof system is constructed of 2x4 rafters spaced at 34 to 37 inches on center with the ridge running parallel to the North and South walls. The roof is a gable configuration and has pitch of approximately 8 to 12. Based on field observations, three rafter locations are to be addressed for repair. Damaged rafters can be sistered or fully replaced with new rafters of similar dimension and material.

2. *Rafter Bearing Connection:* At the top of exterior wall studs, bearing for the roof rafters is provided by a 3½"x5" top plate at the North and South Walls. Roof rafters are notched at the top plate and extend beyond the exterior wall to create the roof eave. As part of stabilization efforts for the roof system, hurricane clips have been installed at the rafter to plate connection at the North and South wall. To allow for the removal of the hurricane clips, new timberlok fasteners are to be installed at each rafter to plate connection.

3. *Collar Ties:* At the ridgeline, the rafters abut each other and no ridge board is present. 2x4 collar ties have been installed at four rafter connections. It is recommended collar ties be provided at each rafter location. New collar ties are to match existing with like material of similar dimension.

4. *Tin Roof Panels:* The roof closure system is provided by tin roof panels installed over wood shake shingles. Due to age and exposure to the elements, the tin panels have signs of corrosion. It is recommended the existing tin panels be removed and replaced at the entire roof structure. Following the removal of the existing roof panels, damaged wood shake shingles are to be replaced where required with like material of similar dimension. New tin panels should be provided with fasteners that extend through the shake shingles to the roof purlins below.

5. *Roof Purlins:* The roof shake shingles are fastened to 1x3 wood roof purlins spaced at 10 inches on center. The roof purlins run parallel to the length of the structure and are supported by the rafter framing. Purlins are to be replaced at two locations. New purlins are to be of similar dimension and material.

6. *Fascia Board:* The roof eave extends just beyond the exterior wall siding and consists of a fascia board fastened to the end of the roof rafters. The fascia board is intact at the North and South wall. Damaged fascia board is to be replaced with like material of similar dimension.

Roof Framing System

The kitchen brick masonry at the West end of the structure has collapsed and no longer remains. The majority of the West end wall is exposed with only a portion of the exterior siding remaining below the upper gable end. The original configuration of the kitchen fireplace is not known. It is our understanding; the kitchen fireplace is to be reconstructed. The new fireplace is to be constructed with brick material matching existing brick that remains on site.

Exterior Fireplace

Adjacent to the Northwest corner of the structure, a freestanding brick masonry fireplace remains. The fireplace dimensions are 2' x 3'-6" with an approximate height of 10 feet. The brick masonry is in poor condition and portions of the chimney stack and fireplace opening have collapsed. Temporary shoring of the fireplace has been provided however the shoring does not appear to be adequate in preventing further collapse. It is not known whether the exterior fireplace is to remain as part of the restoration of the subject property. If the fireplace is to remain, it is recommended additional temporary shoring of the structure be provided. Following the installation of shoring, the fireplace can be reconstructed with similar brick to match existing.

Covered Porch/One Story Addition

Earlier photographs of the structure indicate the existence of a covered porch along the South wall facing the May River and a one story section constructed along the length of the North wall. Both of these structures were covered by a shed roof. The covered porch and North wall one story section have since been removed and no evidence of their construction was observed during the field investigation. It is our understanding these elements of the structure are to be reconstructed as part of the restoration of the subject property. The construction of the porch and one story section is to match similar structures in the area and utilize photographic evidence of the existing structure where possible. Structural details for the covered porch and one story section are provided in the construction documents.

Non-Structural Recommendations

The findings from the conditions assessment and structural assessment have confirmed that the Garvin House is in a state of disrepair and requires immediate attention before further historic material is lost. The aforementioned structural issues and non-structural recommendations are regarded as the highest priority for the preservation of the entire structure. Several additional recommendations have been formulated based upon stakeholder feedback and the treatment philosophy to preserve the Garvin House for future generations.

It is recommended that the north addition and south porch be reconstructed in order to further illustrate the development of the structure over time. The benefits of recreating the back addition are twofold, as this space can be interpreted to show the evolution of the structure and the addition can contain any facilities necessary for a proposed use without damaging the original fabric. The south elevation porch was also likely an active and heavily used space during the period of the Garvin family, and should be restored.

The Town of Bluffton's primary goals are to stabilize and weatherize the home with interventions and materials that require minimal maintenance. In order to ensure the restored building is watertight, it is recommended that the existing corrugated metal roof be replaced with a new metal roof directly over the historic shakes. Installation of the new metal roof will insure that the historic wood shakes are preserved and remain visible from the second floor chambers. To improve the longevity of the structure, it is recommended the masonry piers are constructed instead of the previously used timber piles. The original timber piles are missing in most locations and the existing piles are too deteriorated to reuse.

In addition, it is recommended that the chimney on the west gable be reconstructed based upon the existing evidence. The chimney and fireplace were an integral element to the structure during its main period of significance, and should be rebuilt so this relationship can be restored. The existing back addition chimney is also a significant element of the Garvin House and further illustrates the evolution of the structure. This element should be further stabilized and partially rebuilt so that it may be reintegrated into the planned back addition. Based upon the current condition and rapid deterioration, the chimney may need to be disassembled and rebuilt.

Windows should be reconstructed and restored based upon the existing evidence and similar examples in contemporary structures found within the region. Photographic evidence of the structure indicates the first floor had 6/6 double hung sash with exterior board and batten shutters. The second floor windows were 9 lite casement windows.

Forensic evidence indicates that the west chimney gable had two first story windows and only one second story opening. This fenestration pattern should be reinstated in the restored structure.

Much of the existing hardware is not original to the building and was likely added at a later date. Existing hardware in good condition can be used or replicated where needed to further illustrate the evolution of the structure. Items currently placed in protective storage should be used as templates, and where possible, reinstated into the structure. In order to improve the safety of the historic stairs, a simple handrail should be constructed that matches the existing notches in the stair treads. The original handrail is no longer extant.

The interior partition walls on the first floor were damaged during the recent stabilization. It is recommended that the damaged partition walls be restored and rebuilt including the missing interior doors in Room 103.

The restoration of these features and elements, along with the structural recommendations, will ensure that this structure is restored to its most recent intact and occupied state. This period represents multiple phases of interventions and communicates the full evolutionary history of the structure.

Prioritized Recommendations

The following pages include prioritized recommendations based upon Meadors' assessment of the structure. Approximate costs have been determined for each recommended repair and have been organized according to priority level. The priority levels are arranged as follows:

Priority level 1: Repairs that should be completed immediately. These repairs are necessary to stabilize and repair the foundation and all structural members within the building. Upon the completion of these items, the building should be able to stand independently without the existing stabilization.

Priority level 2: Repairs that should be completed in the next three to six months. These repairs are necessary to stabilize and repair second floor and roof framing system. Upon the completion of these items, the second floor will be retrofitted for increased live loads and the roof will now be weather tight.

Priority level 3: Repairs that should be completed within the next one to two years. These repairs are necessary to seal the exterior envelope from water intrusion and address necessary life safety issues. These repairs are important for the long term durability of the building and will extend the service life of the historic building materials. Upon the completion of these recommended items, the structure will be weatherized and secured.

Priority level 4: Repairs that should be completed within the next three to five years. These repairs are often aesthetic in nature and/or do not pose an imminent deterioration risk. Completion of these repairs would contribute to the overall preservation of the structure and enable the structure to be fully utilized.

Priority Level	Item	Recommendations	Cost
Immediate	Additional Shoring	◦ *Mobilization* ◦ *Stabilize interior hallways and stairwell* ◦ *Installation of work fence* ◦ *Verify second floor structural connections and refasten to prevent damage to components prior to raising* ◦ *Elevate structure a minmum of 21 inches above ground or as necessary to install new foundation*	$21,060.64
	Foundation	◦ *Construct masonry piers on isolated reinforced concrete footings*	$18,198.00
	First Floor Framing	◦ *Document, remove, & store existing floor boards* ◦ *Install new 6x8 pressure treated girder sill* ◦ *Replace existing first floor framing with 2x10 pressure treated floor joists*	$20,386.00
	Exterior Wall Components	◦ *Document, remove, & store existing siding as required to repair existing framing* ◦ *Sister or repair existing wall studs and replace missing studs in kind* ◦ *Refasten ledger plate with timber lok screws* ◦ *Install new 4x6-1/2" wood post at each corner* ◦ *Replace diagonal corner braces where missing* ◦ *Refasten top plate to exterior wall studs with timber lok screws* ◦ *Lowering building and removing stabilization* ◦ *Temporary bracing and exterior weatherization* ◦ *Demobilization*	$48,639.00
	Exterior Fireplace	◦ *Deconstruct fireplace, clean and store bricks.*	$1,089.00
		Total Estimated Budget for Immediate Repairs	**$109,372.64**

Priority Level	Item	Recommendations	Cost
PRIMARY (3-6 Months)	Second Floor Framing System	◦ *Repair ledge plate as required* ◦ *Refasten second floor joists to ledger plate* ◦ *Add additional support for the 2nd floor framing to allow for larger loads*	$5,035.00
	Roof Framing System	◦ *Sister or fully replace damaged rafters in kind. 3 rafters require repair or replacement.* ◦ *Refasten west-end gable to repaired rafters* ◦ *Refasten rafters to top plate with timber lok screws* ◦ *Install additional collar ties at each rafter location to match existing* ◦ *Remove existing metal roof, Install ½" layer of plywood on top of existing shakes (paint underside brown), install grace ice and water shield, install 5v roof* ◦ *Replace damaged fascia board in kind.* ◦ *Replace existing purlins in kind where damaged*	$27,529.00
		Total Estimated Budget for Immediate Repairs	**$32,564.00**

Note: Exterior envelope should be temporarily dried in following completion of Priority Level 1 repairs. Final costs to be determined upon completion of construction drawings and specifications.

Priority Level	Item	Recommendations	Cost
Short Term (1-2 Years)	Flooring	◦ *Re-Install historic floor boards on interior. Replace in kind where damaged or missing*	$9,619.00
	Exterior Wall Components	◦ *Reinstall existing historic siding and trim. Replace in kind where damaged or missing*	$20,435.00
	Doors	◦ *Install exterior doors on the north and south elevations*	$6,545.00
	Windows	◦ *Install exterior windows on all elevations. Install sashlocks on all windows*	$35,377.00
	West End Wall Fireplace	◦ *Reconstruct west end wall fireplace to match existing evidence*	$25,000.00
	Exterior Finishes	◦ *Paint exterior envelope*	$5,445.00
	Covered Porch	◦ *Install foundation for porch* ◦ *Reconstruct front porch utilizing existing photographic evidence*	$23,506.00
	One-Story Addition	◦ *Install foundation for addition* ◦ *Reconstruct addition utilizing existing photographic evidence*	$40,611.00
	Items in Protective Storage	◦ *Where possible, reinstall stored architectural elements on the restored structure*	$450.00
		Total Estimated Budget for Short Term Repairs (1-2 Years)	**$166,988.00**

Priority Level	Item	Recommendations	Cost
Long Term (3-5 Years)	Doors (Interior)	◦ *Restore and rehang doors where required* ◦ *Construct new doors where missing using the existing doors as a template* ◦ *Install historically appropriate fasteners where required*	$10,104.00
	Windows	◦ *Install historic shutters on all windows. Match existing and replace in kind where missing*	$6,776.00
	Interior Finishes	◦ *Reinstall and restore existing interior panelling, ceiling, trim, and walls. Replace in kind where missing or damaged* ◦ *Install handrail on stairs* ◦ *Remove modern table in Room 203* ◦ *Paint interior*	$21,477.00
	HVAC & Electrical	◦ *Install necessary wiring and equipment in a historically sensitive manner to allow for environmental control and for electricty.* ◦ *Install ductless mini-split units where required*	$35,090.00
	Exterior Fireplace	◦ *Rebuild addition chimney with historically appropriate materials*	$18,150.00
		Total Estimated Budget for Long-Term Repairs (3-5 Years)	**$91,597.00**
		Total Estimated Budget for Project	**$400,521.64**

MAINTENANCE PLAN

Introduction

Maintenance plans are an essential preservation tool that can help retain the integrity of a historic structure by reducing the likelihood of deterioration and protecting the materials and workmanship of the building. Proactive maintenance and preventative care is one of the most effective ways to prevent costly catastrophic repairs and restoration work. Additionally, routine maintenance can reduce the need for the replacement of historic features and result in less physical disruption to the historic material.

The following maintenance plan has been developed for the restored and rehabilitated Garvin House and is based upon the assumption that conducting simple, regularized inspections and repairs as part of a year long inspection plan can prevent future costly expenditures.

All repairs and interventions for each material type should abide by the Secretary of Interior's Standards. Recommendations for inspection have been formulated in accordance with Preservation Brief 47 "Maintaining the Exterior of Small and Medium Size Buildings," and the Preservation Alliance for Greater Philadelphia "Minimum Maintenance Program for Facade Easements."

GENERAL GUIDELINES FOR INSPECTION:

ROOF

- Inspect corrugated metal.
- Inspect roof flashing.
- Inspect chimney flashing.
- Check for deterioration and metal corrosion.
- Keep roof free of leaves, moss, fungi, and debris.
- Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments, rust, holes, wear, or deteriorated finishes.
- Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.

MASONRY (CHIMNEYS AND PIERS)

- Check for moist areas, cracks, crumbling, loose brick, mortar loss, or efflorescence.
- Check for moisture intrusion into masonry and repair leaks and voids with an appropriate mortar.
- If significant cracks are present, spalling, or deterioration is found, review condition with Architect, Conservator, or Restoration Contractor.

WINDOWS (DOUBLE HUNG & CASEMENT)

- Check for moisture damage, warping, splitting, and unsound joints.
- Check window putty for cracks or missing sections.
- Inspect all window woodwork for area of decay or moisture intrusion.
- Inspect for cracked or broken panes of glass.
- Clean window glass as needed.
- Check for loose attachments of hardware.
- Inspect windows and keep free of leaves, moss, fungi, and debris.
- Inspect for paint failure on all woodwork.

DOORS (INTERIOR & EXTERIOR)

- Check for moisture damage, warping, splitting, and unsound joints.
- Inspect all woodwork for areas of decay or moisture intrusion.
- Check for loose attachments of hardware.
- Inspect doors and keep free of leaves, moss, fungi, and debris.
- Inspect for paint failure on all woodwork.

WOODWORK (CORNICE, PORCHES, TRIM, SIDING)

- Check for moisture damage, warping, splitting, and unsound joints.
- Check for worn or bare spots, blistering, peeling, and mildew.
- Inspect all woodwork for areas of decay or moisture intrusion.
- Check for loose attachments of hardware.
- Inspect all surfaces and keep free of leaves, moss, fungi, and debris.
- Inspect for paint failure on all woodwork.

STRUCTURAL (FOUNDATION, MASONRY PIERS)

- Check exposed exterior and interior surfaces of walls and foundations, with particular attention to stairways, floor and wall openings. Check for cracks, collapsing, leaning, bulging, or other signs of uneven settlement, movement, or structural deterioration.
- Check interior wall surfaces at upper levels, with attention to joints between side and front walls, joints between floors and end walls, and joints between partitions and ceilings. Check for cracks, gaps, or other signs of movement.

BUILDING INSPECTION FREQUENCY CHART		
Building Feature	Inspection Frequency	Season
Roof	Annually, every 5 years by roofer	Spring/Fall
Chimneys	Anually, every 5 years by mason	Spring or Fall
Roof Drainage	6 months, after major storms	6 months; Spring and Fall
Exterior Walls	Annually	Spring or Fall
Front Porch	Annually	Spring or Fall
Windows	Annually	Spring or Fall
Doors	Annually	Spring or Fall
Entryways	Annually; heavily used entries may merit greater frequency	Spring or Fall
Building Perimeter	Annually	Spring or Fall
Woodwork & Paint	Annually	Spring or Fall
Foundation and Grade	Annually	Spring or during wet season
2nd Floor Interior	4 months, or after a major storm	Spring, Summer, Fall
1st Floor Interior	4 months, or after a major storm	Spring, Summer, Fall
Structural	Annually	Spring or Fall
Termites	6 months	Spring and Fall
HVAC Equipment	6 months	Spring and Fall
Electrical	6 months	Spring and Fall
Fire Extinguishers	Annually	Spring or Fall

Figure 119: Building Inspection Frequency Chart.

TERMITES

- Inspect building for termites and other wood-damaging insects.

MECHANICAL BUILDING SYSTEMS (HVAC)

- Change and clean filters, vents, and condensation pans to control fungus, mold, and other organisms as often as needed.
- Inspect for adequate ventilation, ensure that area is free of musty smell.
- Check for visible signs of moisture damage from HVAC system including staining, wet patches, bubbling.

ELECTRICAL (LIGHTING, WIRING)

- Check interior lights and bulbs. Check fittings and wall connections.
- Check electrical outlets for damage and secure plate connections.
- Check wiring, sockets, and fixtures. Visually inspect for sparks, frayed ends, loose connections, corrosion, and other damage.

FIRE EXTINGUISHERS

- Check all fire extinguishers and test annually.
- Ensure regular inspection by a licensed professional. Ensure that extinguishers are not blocked by equipment or other objects that could interfere with access in an emergency.
- Ensure extinguisher pressure is at the recommended level.
- Note if the extinguisher nozzle or other parts are damaged in any way, and if the pin and tamper seal are intact.
- Inspect for dents, leaks, rust, chemical deposits, and other signs of abuse or wear.

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Appendix A:
Structural Assessment Report

MICHAEL H. HANCE, PE LLC
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January 9, 2014

Betty Prime
Meadors, Inc.
2811 Azalea Drive
Charleston SC 29407

SUBJECT: Structural Assessment
Garvin House
Oyster Factory Park
Bluffton, South Carolina

Ms. Prime:

The following review details the structural assessment of the Garvin House located at the Oyster Factory Park in Bluffton, South Carolina. The findings described within this report were limited to visual observations of existing structural components obtained during site inspection performed on August 12, 2014. The structural investigation was performed with Meadors Construction per request as part of an overall assessment of the subject property. The findings discussed in this letter will be incorporated with structural construction documents to be provided by my office.

The Garvin House is a one and a half story wood framed structure located along the May River in the historic district of Bluffton, South Carolina. The subject property is considered to be the oldest freedman-own home in the Bluffton area. It is estimated to have been built in 1870 by Cyrus Garvin. The existing structure is approximately 17 feet by 30 feet with the length of the structure facing the North and South directions. The exterior walls of the structure are covered with wood siding. The roof system is a gable configuration covered with tin panels over the original wood shakes. The original finish floor elevation of the Garvin House is unknown due to deterioration of the foundation system. However, field observations of an existing piling provided evidence the structure to be approximately 21 inches above grade. Earlier photographs of the structure indicate the existence of a covered porch along the South wall facing the May River and a one story section constructed along the length of the North wall. Both of these structures were covered by a shed roof. The covered porch and North wall one story section have since been removed and no evidence of their construction was observed during the field investigation.

TEMPORARY SHORING:

Due to the age of the structure and exposure to the elements over time, the original foundation system has deteriorated resulting in settlement of the exterior walls and floor systems. Exposure to the elements has also resulted in the deterioration of portions of the exterior wall siding and gable end wall framing. To prevent further collapse of the structure, stabilization of the second floor framing was provided until restoration of the existing framing and foundation could be provided. To achieve stabilization of the structure, two steel I-beams were installed directly below the second floor framing. The steel beams extend parallel to the North and South walls of the structure. The steel beams are supported by wood cribbing at the East and West ends of the structure. In 2014 as part of continued stabilization efforts, the existing wood cribbing supporting the steel I-beams was replaced with new pressure treated wood cribbing at each end. Additional strapping of the first to second floor framing was also provided to protect the floor transition during the installation of new wood cribbing.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Two

FINDINGS – BUILDING COMPONENTS:

Foundation System:

The following bulleted items detail typical foundation components observed during the site investigation. Findings are also detailed on the foundation plan - Sheet SA1 attachment of this report. Due to exposure to the elements and age of the structure, the existing foundation system has deteriorated along the base of the exterior walls. Collapse of the timber piles has resulted in settlement of the structure and placed the floor framing system in direct contact with grade. Due to the contact with grade, termite activity and exposure to the elements, the majority of the perimeter sill band is rotted beyond repair and is no longer supporting the first floor system and the exterior wall studs. As part of the structural assessment, proposed repairs to the foundation system are provided in the Recommendations section of this report.

Foundation System:

1. The existing foundation system consisted of timber piles placed at grade with a height of approximately 21 inches. The spacing and depth of embedment below grade of the timber piles was not able to be determined due to the deterioration of the foundation system.
2. No evidence of interior foundation support was observed and it appears the first floor framing spanned clear from the South to the North walls.
3. Original construction consisted of timber piles supporting a perimeter girder sill along the perimeter of the structure. The majority of the girder sill has rotted and resulted in collapse of the first floor system and settlement of the exterior walls. Field measurements of the girder sill indicate it was approximately 6” x 6”. The attachment of the girder sill to the timber piles was not able to be determined.
4. The foundation system for the covered porch at the South wall was not able to be determined and the porch does not remain.
5. The foundation system for the one story section at the North wall was not able to be determined and this portion of the structure does not remain.

First Floor Framing:

The following bulleted items detail typical first floor framing components observed during the site investigation. Findings are also detailed on the first floor framing plan - Sheet SA1 attachment of this report. Due to exposure to the elements and age of the structure, the existing foundation system has deteriorated along the base of the exterior walls. Collapse of the timber piles has resulted in settlement of the structure and placed the floor framing system in direct contact with grade. Due to the contact with grade, termite activity and exposure to the elements, the majority of the perimeter sill band is rotted beyond repair and is no longer supporting the first floor system and the exterior wall studs. As part of the structural assessment, proposed repairs to the first floor framing system are provided in the Recommendations section of this report.

First Floor Framing System:

1. The first floor of the structure consists of 2x8 floor joists spanning from the North to South Walls. Field measurements indicate the floor joist spacing to be approximately 30 inches on center. No evidence of interior foundation support was observed.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Three

First Floor Framing: (Continued)

2. Floor joist ends are supported by the 6x6 perimeter girder sill along the North and South walls. The joist to girder connection was achieved by notching the joist end to allow for bearing over the top face of the girder sill. Due to deterioration of the girder sill and joist ends, notch depth was not able to be determined. The method or presence of nail fastener attachment from girder to joist was also not able to be determined due to the deterioration of these components.
3. Due to the contact with the ground and age of the structure, the first floor joists are in poor condition and are severely damaged at the West end of the structure. Further examination of the floor joists will be required during restoration of the structure. Access to the floor joists was limited due to the settlement of the structure.
4. The floor joists are covered with 1x8 or 10 sawn boards at the interior. The floor boards are notched around the exterior wall studs. The floor boards are in fair condition but have deteriorated in sections adjacent to the West end wall in the kitchen area.
5. The foundation system for the one story section at the North wall was not able to be determined and this portion of the structure does not remain.

Exterior Wall Components:

The following bulleted items detail typical exterior wall framing components observed during the site investigation. Findings are also detailed on the exterior wall framing plan - Sheet SA1 attachment of this report. Due to the collapse of the foundation system, settlement of the exterior walls is evident throughout the structure. In addition, portions of the wood studs are exposed to the elements due to the absence of siding and deterioration of the structure. As part of the structural assessment, proposed repairs to the exterior wall components are provided in the Recommendations section of this report.

Exterior Wall Components:

1. Typical exterior wall construction consists of 2x4 wood studs spaced at approximately 30 to 36 inches on center. The wood studs extend the full height of the structure and bear directly on the 6x6 perimeter girder sill. The attachment of the wood studs to the girder sill was not able to be determined with the deterioration of the sill and nail fasteners. Due to the settlement of the foundation system and stabilization of the second floor, several of the wall studs have pulled away from the first floor framing and are not attached.
2. Directly below the second floor framing at the North and South walls, a 1½”x6” ledger plate has been notched and nailed to the inside face of the wall to the floor joists. The second floor joist ends are notched and bear directly on top of the ledger plate. At several locations, the ledger plate has shifted and is not adequately attached due to the settlement of the exterior walls.
3. As part of stabilization efforts, an exterior band board has been bolted to the exterior framing at the second floor transition to allow for additional support and bracing of the second floor transition.
4. As part of the exterior wall system, a 4x6½” wood post is installed at each corner of the structure. The corner post extends the full height of the structure and bears at the perimeter girder sill. At the first floor, diagonal bracing extends from the lower third of the post to the girder sills in each corner of the North and South walls. Each of the wood posts is intact however deterioration of the posts was evident as a result of exposure to the elements and termite activity. The base of the diagonal bracing is also damaged due to the settlement of the perimeter girder sill.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Four

Exterior Wall Components: (Continued)

5. As part of the exterior wall system, a 4x6½" wood post is installed at each corner of the structure. The corner post extends the full height of the structure and bears at the perimeter girder sill. At the first floor, diagonal bracing extends from the lower third of the post to the girder sills in each corner of the North and South walls. Each of the wood posts is intact however deterioration of the posts was evident as a result of exposure to the elements and termite activity. The base of the diagonal bracing is also damaged due to the settlement of the perimeter girder sill.
6. At the top of exterior wall studs, bearing for the roof rafters is provided by a 3½"x5" top plate at the North and South Walls. Roof rafters are notched at the plate bearing and extend beyond the exterior wall to create the roof eave. As part of stabilization efforts for the roof system, hurricane clips have been installed at the rafter to plate connection at the North and South wall. Coil strapping has also been installed at the top plate to stud connections. The top plate is in good condition and has minimal settlement due to the stabilization of the second floor.
7. Due to exposure to the elements and settlement of the foundation and floor system, the exterior wall studs at the West end wall have collapsed. In addition, the existing kitchen chimney has also collapsed and no longer exists. The majority of the West end wall is exposed with only a portion of the exterior siding remaining below the upper gable end. As part of stabilization efforts, additional studs have been installed above the second floor to the gable end top plate to support this remaining siding. Due to the absence of wall stud framing, additional bracing was provided at the base of each corner post to help stabilize the North and South wall.
8. At the East end wall, the wood stud framing is in poor condition and does not extend to the full height of the gable wall. As with the West end wall, exterior siding only remains at the upper portion of the wall from the second floor to the gable end rafter.
9. The exterior wall closure system is provided by 1x8 horizontal lap siding fastened directly to the wood stud framing. At the North wall, the majority of siding is intact however exterior siding is absent along the full length of the wall at the second floor transition. Siding at this location may be missing at this location as a result of the collapse of the one story section at the North wall. At the South wall, exterior siding is absent at the middle portion of the wall and at the second floor transition. As noted for the North wall, siding absent at the floor transition may be the result of the collapse of the covered porch. In addition, portions of the remaining siding have become detached as a result of settlement of the exterior walls.

Second Floor Framing System:

The following bulleted items detail typical second floor framing components observed during the site investigation. Findings are also detailed on the second floor framing plan - Sheet SA1 attachment of this report. The second floor framing system is intact and has been stabilized by the installation of full length steel beams spanning parallel to North and South walls. As part of the structural assessment, proposed repairs to the second floor framing are provided in the Recommendations section of this report.

Second Floor Framing System:

1. The second floor framing system of the structure consists of 2x6 floor joists spanning from the North to South Walls. Field measurements indicate the floor joist spacing to be approximately 30 inches on center.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Five

Second Floor Framing System: (Continued)

2. At the North and South walls, support for the floor joists is provided by a 1½"x6" ledger plate that has been set in to a notch at the inside face of the wall studs. The second floor joist ends are notched and bear directly on top of the ledger plate. As noted previously, the ledger plate has shifted at several locations and is not adequately attached due to the settlement of the exterior walls.
3. The top of the second floor joists are covered by 1x10 sawn floor boards spanning perpendicular to the East and West walls. The first floor ceiling is provided by 1x10 sawn boards fastened to the bottom of the floor joists and spanning perpendicular to the East and West walls. The floor and ceiling boards are in good condition.
4. To prevent further collapse of the structure, stabilization of the second floor framing was provided until restoration of the existing framing and foundation could be provided. To achieve stabilization of the structure, two steel I-beams were installed directly below the second floor framing. The steel beams extend parallel to the North and South walls of the structure. The steel beams are supported by wood cribbing at the East and West ends of the structure. In 2014 as part of continued stabilization efforts, the existing wood cribbing supporting the steel I-beams was replaced with new pressure treated wood cribbing at each end. Additional strapping of the first to second floor framing was also provided to protect the floor transition during the installation of new wood cribbing.

Roof Framing System:

The following bulleted items detail typical roof framing components observed during the site investigation. Findings are also detailed on the roof framing plan - Sheet SA1 attachment of this report. The existing roof system is a gable configuration and has been stabilized by the installation of steel beams below the second floor framing. As part of the structural assessment, proposed repairs to the exterior wall components are provided in the Recommendations section of this report.

Roof Framing System:

1. The roof system is constructed of 2x4 rafters spaced at 34 to 37 inches on center with the ridge running parallel to the North and South walls. The roof is a gable configuration and has pitch of approximately 8 to 12. At the top of exterior wall studs, bearing for the roof rafters is provided by a 3½"x5" top plate at the North and South Walls. Roof rafters are notched at the plate bearing and extend beyond the exterior wall to create the roof eave. As part of stabilization efforts for the roof system, hurricane clips have been installed at the rafter to plate connection at the North and South wall. Coil strapping has also been installed at the top plate to stud connections. At the ridgeline, the rafters abut each other and no ridge board is present. 2x4 collar ties have been installed at four rafter connections. Overall, the roof rafters are in good condition. During the site investigation, cracks were noted in two rafters and termite damage was noted at one rafter end on the North wall.
2. The roof closure system is provided by tin roof panels installed over wood shake shingles. It is not known whether the wood shake shingles are original. Due to age and exposure to the elements, the tin panels have signs of corrosion, but the majority of the panels are intact. At the Southwest corner of the roof system, a section of panel has detached, but the wood shake shingles remain.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Six

Roof Framing System: (Continued)

3. The roof shake shingles are fastened to 1x3 wood roof purlins spaced at 10 inches on center. The roof purlins run parallel to the length of the structure and are supported by the rafter framing. Overall, the roof purlins are in good condition. Water damage to purlins due to openings in the roof system was noted at two locations.
4. The roof eave extends just beyond the exterior wall siding and consists of a fascia board fastened to the end of the roof rafters. The fascia board is intact at the North and South wall.

West End Wall Fireplace:

1. As noted in the Exterior Wall Components section, the kitchen brick masonry at the West end of the structure has collapsed and no longer remains. The majority of the West end wall is exposed with only a portion of the exterior siding remaining below the upper gable end. The original configuration of the kitchen fireplace is not known.

Exterior Fireplace:

1. Adjacent to the Northwest corner of the structure, a freestanding brick masonry fireplace remains. The fireplace dimensions are 2' x 3'-6" with an approximate height of 10 feet in height. The brick masonry is in poor condition and portions of the chimney stack and fireplace opening have collapsed. Temporary shoring of the fireplace has been provided however the shoring does not appear to be adequate in preventing further collapse.

RECOMMENDATIONS –BUILDING COMPONENTS:

Based on the as-built conditions described in the Findings section above, the following recommendations are provided to address the restoration of the structural components at the subject property. Structural plans and details discussed within this section will be provided in construction documents as part of the structural assessment of the subject property.

Foundation System:

Due to exposure to the elements and age of the structure, the existing foundation system has deteriorated along the base of the exterior walls. Collapse of the timber piles has resulted in settlement of the structure and placed the floor framing system in direct contact with grade. The following bulleted items detail recommended repairs to the foundation system.

Foundation System:

1. *Foundation Piers:* Due to the deterioration of the existing timber piles, the installation of a new foundation system at the exterior walls is recommended. The foundation piers can be constructed of brick masonry and spaced approximately 6 feet on center throughout the perimeter of the structure. Piers are to be installed on isolated reinforced concrete footings. Dimensions of the piers have yet to be determined. Isolated footings are to be 2' x 2' by 12" deep and placed a minimum of 12" below grade. Reinforcement of the footings is to be provided by (2) #5 bars spaced equally each way.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Seven

Foundation System: (Continued)

2. *Raising the Structure:* Installation of a new foundation system will require the existing structure to be raised to a minimum of 21 inches above ground. Elevating the structure can be accomplished by use of the existing steel I-beams installed to stabilize the second floor. Prior to raising the structure, all second floor transition connections should be field verified and refastened to prevent damage to these components during the jacking process. The two interior first floor hallway walls and stairwell will also need to be stabilized prior to raising the structure. All efforts to minimize damage to the structure as it is raised should be provided.

First Floor Framing System:

Collapse of the timber piles has resulted in settlement of the structure and placed the floor framing system in direct contact with grade. Due to the contact with grade, termite activity and exposure to the elements, the majority of the perimeter sill band is rotted beyond repair and is no longer supporting the first floor system and the exterior wall studs. The following bulleted items detail recommended repairs to the first floor framing system.

First Floor Framing System:

1. *Perimeter Girder Sill:* Following the construction of new foundation piers, a new pressure treated 6x8 girder sill is to be installed below the perimeter of the structure. The girder sill is to be fastened to each foundation pier with (2) ½" diameter stainless steel epoxy anchors with a minimum embedment of 8 inches into the brick masonry pier.

2. *Floor Framing*: Due to the deterioration of the existing first floor framing, it is recommended the existing framing be removed and replaced with new 2x10 pressure treat floor joists spaced at 16" on center. The floor joist ends are to be notched in similar fashion to the existing framing and fastened to the 6x8 perimeter girder sill along the North and South walls. The joist to girder connection is to be notched at the joist end and will bear over the top face of the girder sill. Joist ends can be fastened to the girder sill with stainless steel nails or timberlok screws.

3. *Floor Boards:* The floor joists are covered with 1x8 or 10 sawn boards spanning parallel to the length of the structure. To replace the existing first floor joists, the existing floor boards will need to be removed and stored. Salvaged floor boards are to be reused following installation of the new first floor framing. Damaged floor boards are to be replaced with matching material where required. New floor boards are to be notched around the exterior wall studs similar to as-built conditions.

Exterior Wall Components:

Due to the collapse of the foundation system, settlement of the exterior walls is evident throughout the structure. In addition, portions of the wood studs are exposed to the elements due to the absence of siding and deterioration of the structure. As-built conditions of the exterior wall components are detailed on the exterior wall framing plan - Sheet SA1 attachment of this report. The following bulleted items detail recommended repairs to the first floor framing system.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Eight

Exterior Wall Components: (Continued)

Exterior Wall Components:

1. *Exterior Wall Studs:* Due to the settlement of the foundation system and stabilization of the second floor, several of the wall studs have pulled away from the first floor framing and are not attached. Following the completion of the new first floor framing system, existing wall studs are to be fastened to the new 6x8 perimeter girder sill. Attachment to the girder sill can be provided by timber lok screws or a similar fastener. Missing wall studs are to be replaced with a full height stud of similar dimension and material. The location of existing window and door jambs is to be determined in the field. Replacement of these jambs and headers will also be required at the East and South walls. At locations where damaged walls studs are to remain, existing studs are to be sistered from the girder sill to the second floor transition. The locations of wall studs to remain are to be provided in the construction documents.

2. *Ledger plate:* Directly below the second floor framing at the North and South walls, a 1½"x6" ledger plate has been notched and nailed to the inside face of the wall to the floor joists. At several locations, the ledger plate has shifted and is not adequately attached due to the settlement of the exterior walls. The existing ledger plate is to be refastened with timber lok screws at locations where the plate is detached from the wall studs and out of plane from the stud notch. At new and sistered stud locations, the inside face is to be notched to set in the ledger plate. At locations where the ledger plate is damaged, a new ledger plate of similar dimension and material is to be installed.

3. *Corner Posts:* As part of the exterior wall system, a 4x6½" wood post is installed at each corner of the structure. Each of the wood posts is intact however deterioration of the posts was evident as a result of exposure to the elements and termite activity. A full height replacement of each of the corner posts is recommended.

4. *Corner Post Diagonal Bracing:* At the first floor, diagonal bracing extends from the lower third of the post to the girder sills in each corner of the North and South walls. The base of the diagonal bracing is also damaged due to the settlement of the perimeter girder sill. A full replacement of each diagonal brace at the corners of the structure is recommended.

5. *Top Plate Connection:* At the top of exterior wall studs, bearing for the roof rafters is provided by a 3½"x5" top plate at the North and South Walls. At the exterior wall top plate, minimum of (2) new timber lok or stainless steel fasteners are to be installed at the plate to wall stud connection.

6. *Exterior Wall Siding:* The exterior wall closure system is provided by 1x8 horizontal lap siding fastened directly to the wood stud framing. Following completion of repairs to the exterior wall studs, existing exterior wall siding is to be reattached throughout. At locations where siding is damaged or missing, new lap siding of similar dimension and material is to be installed.

7. *Interior Wall Siding:* Following completion of repairs to the exterior wall studs, existing interior wall siding is to be reattached throughout. At locations where siding is damaged or missing, new siding of similar dimension and material is to be installed.

Second Floor Framing System:

The second floor framing system is intact and has been stabilized by the installation of full length steel beams spanning parallel to North and South walls. The following bulleted items detail recommended repairs to the second floor framing system.

Second Floor Framing System:

1. *Floor Joists:* The second floor framing system of the structure consists of 2x6 floor joists spanning from the North to South Walls. Field measurements indicate the floor joist spacing to be approximately 30 inches on center. The condition of the floor joists could not be determined without removal of the floor boards or ceiling boards below. Field verification of the condition of the floor joists can be performed during the restoration process.

2. *Second Floor Live Load Capacity:* A structural analysis of the second floor framing was performed to determine the adequacy of the floor system. The clear span of the second floor framing is approximately 16'-0" from the North to South wall. As noted the floor system consists of 2x6 joists spaced at 30 inches on center. Based on this analysis, the live load capacity of the second floor system does not meet the deflection requirements as prescribed by the 2012 International Residential Code.

3. *Second Floor Framing Retrofit:* To meet a live loading requirement of 30 psf prescribed for sleeping rooms by the 2012 International Residential Code; the existing second floor system will need to be upgraded. Based on the structural analysis performed, the new floor system will require 1¾" x 7¼" LVL joists spaced at 16" on center. The new 7¼" deep joists can be sistered to the existing floor system where applicable. The installation of the new joists will require the ceiling height to be lowered approximately 1¾" from its current elevation.

4. *Ledger Plate Connection:* At the North and South walls, support for the floor joists is provided by a 1½"x6" ledger plate that has been set in to a notch at the inside face of the wall studs. The second floor joist ends are notched and bear directly on top of the ledger plate. Following required repairs to the ledger plate, each new floor joist should be fastened to the ledger plate with a timber lok or stainless steel fastener.

5. *Floor/Ceiling Boards:* The top of the second floor joists are covered by 1x10 sawn floor boards spanning perpendicular to the East and West walls. The first floor ceiling is provided by 1x10 sawn boards fastened to the bottom of the floor joists and spanning perpendicular to the East and West walls. The floor and ceiling boards are in good condition. Any damaged floor boards should be repaired or replaced with boards of similar dimension and material.

Roof Framing System:

The existing roof system is a gable configuration and has been stabilized by the installation of steel beams below the second floor framing. As-built conditions of the roof framing are detailed on the roof framing plan - Sheet SA1 attachment of this report. The following bulleted items detail recommended repairs to the roof framing system.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Ten

Roof Framing System: (Continued)

Roof Framing System:

1. *Roof Rafters:* The roof system is constructed of 2x4 rafters spaced at 34 to 37 inches on center with the ridge running parallel to the North and South walls. The roof is a gable configuration and has pitch of approximately 8 to 12. Based on field observations, three rafter locations are to be addressed for repair. Damaged rafters can be sistered or fully replaced with new rafters of similar dimension and material.

2. *Rafter Bearing Connection:* At the top of exterior wall studs, bearing for the roof rafters is provided by a 3½"x5" top plate at the North and South Walls. Roof rafters are notched at the top plate and extend beyond the exterior wall to create the roof eave. As part of stabilization efforts for the roof system, hurricane clips have been installed at the rafter to plate connection at the North and South wall. To allow for the removal of the hurricane clips, new timber lok fasteners are to be installed at each rafter to plate connection.

3. *Collar Ties:* At the ridgeline, the rafters abut each other and no ridge board is present. 2x4 collar ties have been installed at four rafter connections. It is recommended collar ties be provided at each rafter location. New collar ties are to match existing with like material of similar dimension.

4. *Tin Roof Panels:* The roof closure system is provided by tin roof panels installed over wood shake shingles. Due to age and exposure to the elements, the tin panels have signs of corrosion. It is recommended the existing tin panels be removed. Following the removal of the existing roof panels, damaged wood shake shingles are to be repaired or replaced where required with like material of similar dimension.

5. *5V metal roof system:* The existing tin panel roof system is to be replaced with a new 5V metal roof system. The following items are to be provided for installation of the new 5V metal roof system:

    - A layer of ½" exterior grade plywood roof sheathing is to be installed over the existing wood shakes. Plywood sheathing is to be fastened through the wood shakes to the roof framing below.
    - Following the installation of the plywood roof sheathing, grace ice and water shield is to be applied throughout.
    - The new 5V metal roof panels are to be installed over grace and water shield per manufacturer specifications.

6. *Roof Purlins:* The roof shake shingles are fastened to 1x3 wood roof purlins spaced at 10 inches on center. The roof purlins run parallel to the length of the structure and are supported by the rafter framing. Purlins are to be replaced at two locations. New purlins are to be of similar dimension and material.

7. *Fascia Board:* The roof eave extends just beyond the exterior wall siding and consists of a fascia board fastened to the end of the roof rafters. The fascia board is intact at the North and South wall. Damaged fascia board is to be replaced with like material of similar dimension.

Structural Assessment
Garvin House
Bluffton, SC
January 9, 2014
Page Eleven

West End Wall Fireplace:

1. The kitchen brick masonry at the West end of the structure has collapsed and no longer remains. The majority of the West end wall is exposed with only a portion of the exterior siding remaining below the upper gable end. The original configuration of the kitchen fireplace is not known. It is our understanding; the kitchen fireplace is to be reconstructed. The new fireplace is to be constructed with brick material matching existing brick that remains on site.

Exterior Fireplace:

1. Adjacent to the Northwest corner of the structure, a freestanding brick masonry fireplace remains. The fireplace dimensions are 2' x 3'-6" with an approximate height of 10 feet in height. The brick masonry is in poor condition and portions of the chimney stack and fireplace opening have collapsed. Temporary shoring of the fireplace has been provided however the shoring does not appear to be adequate in preventing further collapse. Based on the condition of the fireplace masonry, it is recommended additional temporary shoring be provided. Following the installation of shoring, the fireplace is to be reconstructed with similar brick to match existing. Efforts to salvage existing brick should be made where possible.

Interior Stairwell:

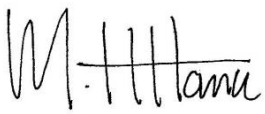
Currently, handrails at the interior stairwell are not provided. New handrails are to be installed to meet the requirements of the 2012 International Residential Code.

Covered Porch/One Story Section:

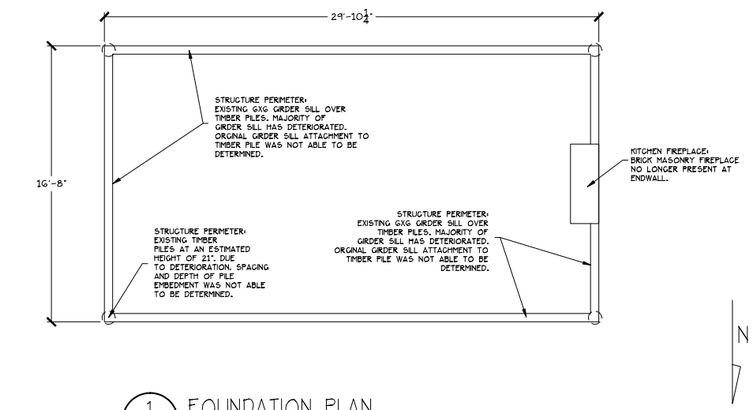
Earlier photographs of the structure indicate the existence of a covered porch along the South wall facing the May River and a one story section constructed along the length of the North wall. Both of these structures were covered by a shed roof. The covered porch and North wall one story section have since been removed and no evidence of their construction was observed during the field investigation. It is our understanding these elements of the structure are to be reconstructed as part of the restoration of the subject property. The construction of the porch and one story section is to match similar structures in the area and utilize photographic evidence of the existing structure where possible. Structural details for the covered porch and one story section will be provided in the construction documents.

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

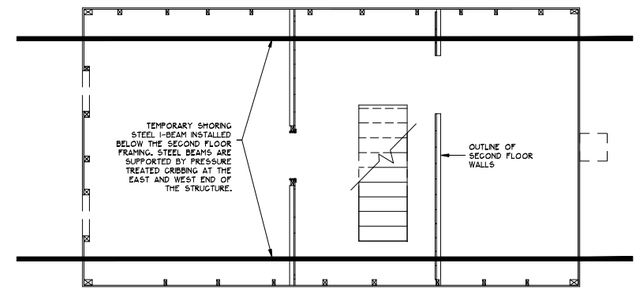
Respectfully yours,



Michael H. Hance, PE
Michael H. Hance PE LLC



1 SA1 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



4 SA1 TEMPORARY SHORING
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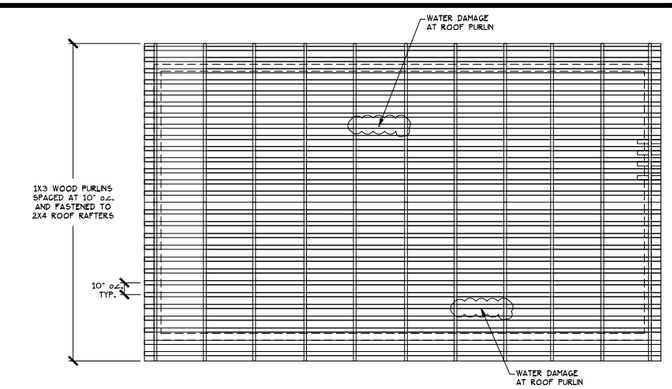
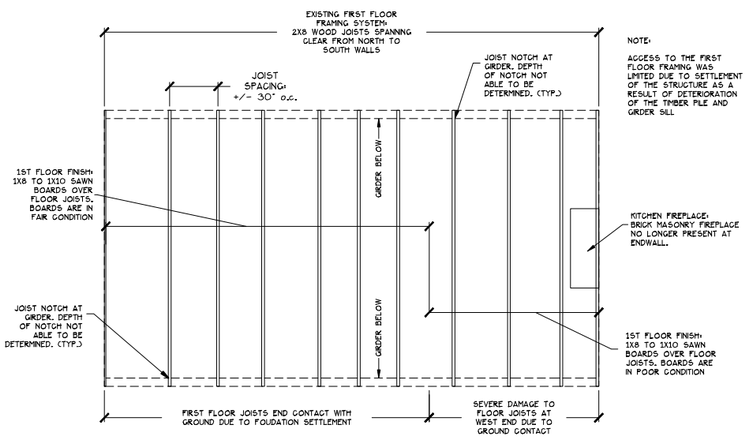
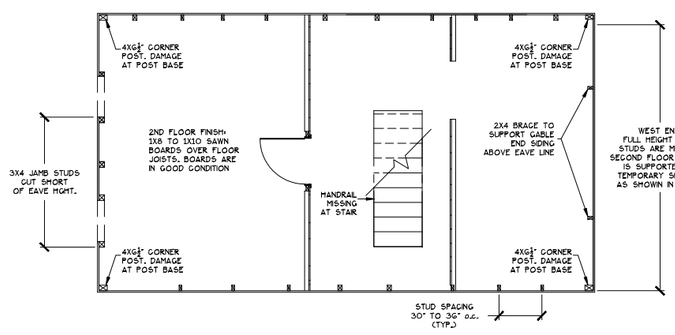


7 SA1 WOOD PURLIN FRAMING PLAN
SCALE: 1/4" = 1'-0"

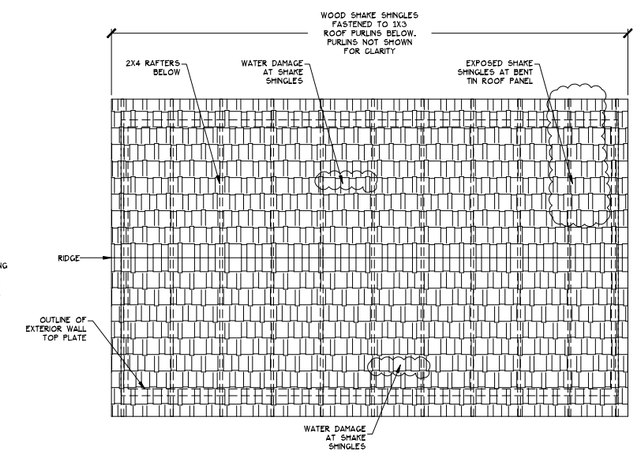


NOTE:
ACCESS TO THE FIRST FLOOR FRAMING WAS LIMITED DUE TO SETTLEMENT OF THE STRUCTURE AS A RESULT OF DETERIORATION OF THE TIMBER PILE AND GIRDER SILL

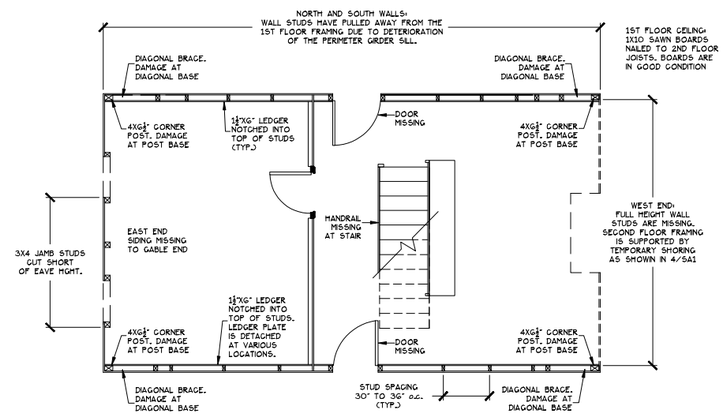
2 SA1 1ST FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"



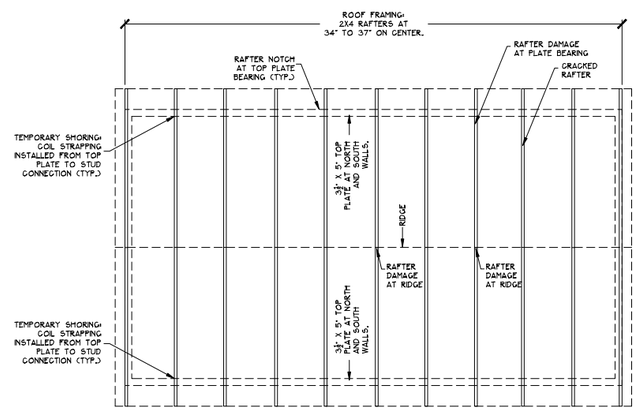
5 SA1 2ND FLOOR WALL COMPONENTS
SCALE: 1/4" = 1'-0"



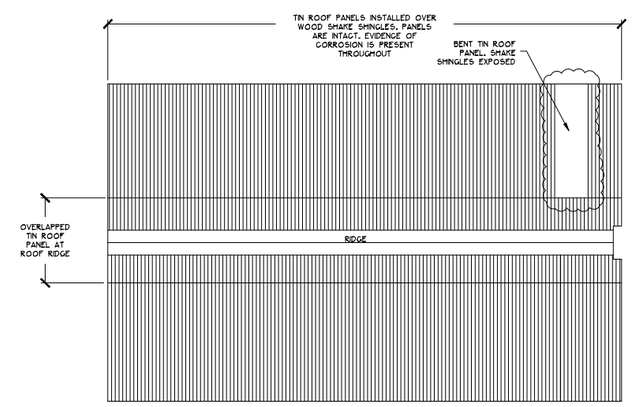
8 SA1 WOOD SHAKE SHINGLE PLAN
SCALE: 1/4" = 1'-0"



3 SA1 1ST FLOOR WALL COMPONENTS
SCALE: 1/4" = 1'-0"



6 SA1 RAFTER FRAMING PLAN
SCALE: 1/4" = 1'-0"



9 SA1 TIN PANEL ROOF PLAN
SCALE: 1/4" = 1'-0"

rev	drwn	chkd	appr	date	description

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SCALE: AS SHOWN
DRAWN: MHH
DESIGN: MHH
APP'D: MHH
DEPT.: STRUCTURAL

PROJECT
STRUCTURAL ASSESSMENT
GARVIN HOUSE
BLUFFTON, SC

TITLE
AS-BUILT CONDITIONS

GARVIN HOUSE

DWG NO:
SA1

DATE:
January 9, 2015

Appendix B:
Stakeholder Meeting Boards

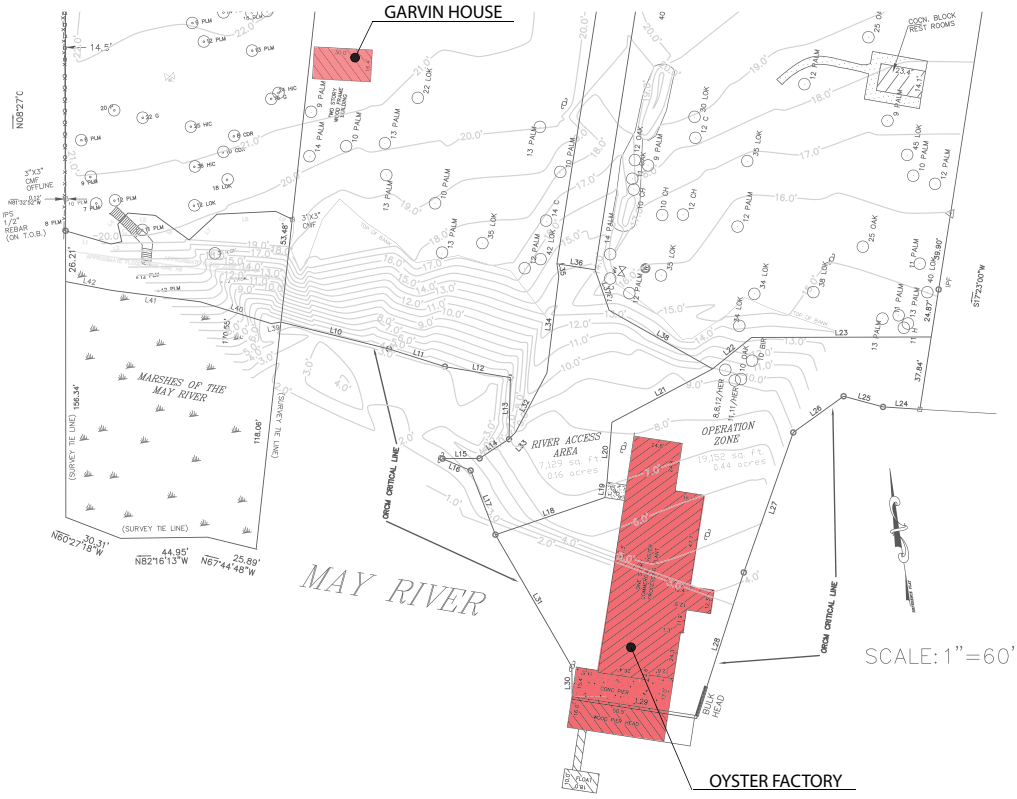
HISTORY

1980

MID-1980's

UNKNOWN

UNKNOWN



CRAFTS
DESIGN SERVICES
CONSTRUCTION
ARCHITECTURE
RESTORATION
CONSERVATION

[MEADORS]

CONSERVATION- AREAS OF DETERIORATION

WHAT WE FOUND:

THE GARVIN HOUSE IS AN EXCELLENT EXAMPLE OF HISTORIC WOOD FRAME CONSTRUCTION. HOWEVER, THE STRUCTURE HAS DETERIORATED RAPIDLY SINCE IT WAS LAST OCCUPIED IN THE 1960S. MUCH OF THIS DAMAGE HAS BEEN CAUSED BY MULTIPLE TERMITE INFESTATIONS. EXCESSIVE MOISTURE AND A PLENTIFUL SOURCE OF FOOD (WOOD) HAS CREATED THE PERFECT ENVIRONMENT FOR THESE INSECTS. CURRENTLY THERE IS NO ACTIVE INFESTATION, BUT A GREAT AMOUNT OF DAMAGE HAS OCCURRED. A FEW OF THE IMAGES BELOW ARE COMMON AREAS OF DETERIORATION FOUND THROUGHOUT THE STRUCTURE.

[1]

[2]

[3]

[4]

WHAT HAS ALREADY BEEN DONE:

[1] STUDS/ VERTICAL FRAMING MEMBER:

STUDS ARE VERTICAL FRAMING MEMBERS THAT ARE SET AT ROUGHLY EQUAL DISTANCES BETWEEN POSTS. THROUGHOUT THE STRUCTURE, THE STUDS HAVE SEVERELY DETERIORATED DUE TO A COMBINATION OF MOISTURE INTRUSION AND TERMITE DAMAGE. THIS IMAGE SHOWS AN AREA WHERE A FRAMING MEMBER HAS COMPLETELY DETERIORATED, REVEALING THE NAILS THAT ONCE WERE HAMMERED INTO THE NOW MISSING POST.

[2] LOG SILL:

THE SILL IS USUALLY THE LONGEST BEAM IN A HOUSE AND LAID HORIZONTALLY ALONG A FOUNDATION OR BETWEEN PIERS. THE ORIGINAL SILL AT THE GARVIN HOUSE APPEARS TO HAVE BEEN A CUT LOG APPROXIMATELY 6" X 6" WITH A 4" NOTCH THAT SUPPORTED THE FIRST FLOOR FRAMING MEMBERS. THIS SILL ORIGINALLY RESTED DIRECTLY ON THE DIRT BELOW THE STRUCTURE. OVER TIME, TERMITES HAVE ATTACKED THIS SILL ON ALL SIDES OF THE BUILDING, ALLOWING IT TO DETERIORATE AND CAUSE SETTLEMENT THROUGHOUT THE STRUCTURE.

[3] CORNER POSTS:

IN WOOD FRAME CONSTRUCTION, THE POSTS TYPICALLY DEFINE THE EXTERIOR CORNERS OF A BUILDING AND ARE USUALLY THE LARGEST VERTICAL MEMBERS. THE FOUR POSTS AT EACH CORNER OF THE GARVIN STRUCTURE ARE SEVERELY DETERIORATED AT THE LOWER ENDS. TERMITES HAVE EATEN AWAY AT THESE LARGE POSTS, CAUSING THE STRUCTURE TO FURTHER SETTLE OVER TIME.

[4] FIREPLACE GABLE:

CLAPBOARD AND RAFTERS ON THE SECOND FLOOR EXHIBIT MULTIPLE BURN MARKS AND CHARRING. THIS TYPE OF DAMAGE IS HISTORIC AND LIKELY OCCURRED DURING THE GARVIN OCCUPANCY AS THE FIREPLACE WAS CONSTANTLY USED FOR HEAT AND FOR COOKING. OCCASIONALLY SMALL LEAKS IN THE CHIMNEY WOULD ALLOW HOT EMBERS FROM THE FIRE TO ESCAPE FROM THE FLUE. THIS WOULD CAUSE SMALL FIRES THAT WOULD NEED TO BE EXTINGUISHED QUICKLY BEFORE MORE DAMAGE COULD OCCUR.

CONSERVATION- NAIL CHRONOLOGY

WHY IS HISTORIC NAIL CHRONOLOGY IMPORTANT:

NAILS ARE OBJECTS THAT ARE COMMONLY FOUND AT MOST HISTORIC SITES. THESE SEEMINGLY INSIGNIFICANT ARTIFACTS CAN BE ASSESSED AND EVALUATED IN ORDER TO DETERMINE A NAIL'S AGE AND METHOD OF MANUFACTURE. ANALYSIS OF RECOVERED NAILS COMBINED WITH A THOROUGH UNDERSTANDING OF THE HISTORY OF NAIL PRODUCTION CAN ASSIST IN DETERMINING THE RELATIVE AGES OF CERTAIN ARCHITECTURAL ELEMENTS. A FULLY DEVELOPED NAIL CHRONOLOGY IS USEFUL FOR DECIPHERING THE DEVELOPMENT OF THE GARVIN HOUSE, AND FOR DETERMINING WHAT ARCHITECTURAL ELEMENTS WERE SALVAGED FOR THE CONSTRUCTION OF THIS BUILDING.

[1]

[2]

[3]

[4]

[5]

NAILS EXTRACTED FROM THE GARVIN HOUSE

WHAT WE FOUND:

[1] NAIL TYPE: MACHINE CUT NAIL, HAMMERED HEAD APPROXIMATE DATE: 1810s TO 1830s

MACHINE CUT NAIL WITH A HAND MADE HEAD. THIS IS THE LARGEST NAIL FOUND DURING THE SURVEY. MULTIPLE FACETS ARE PRESENT ON THE NAIL HEAD. NAIL WAS SAMPLED FROM AN INTERIOR FRAMING MEMBER. IT IS POSSIBLE THIS NAIL WAS FROM A SALVAGED ITEM THAT WAS REUSED WITHIN THE GARVIN HOUSE.

[2] NAIL TYPE: MACHINE CUT NAIL APPROXIMATE DATE: 1830s TO 1870s

MODERN MACHINE-CUT NAIL WITH MACHINE MADE HEAD. NAIL WAS SAMPLED FROM A FRAMING MEMBER ON THE NORTH FACADE. THIS TYPE OF NAIL WAS PRODUCED FROM THE 1830S TO THE 1870S AND IS CONTEMPORARY WITH THE CONSTRUCTION OF THE GARVIN HOUSE.

[3] NAIL TYPE: MACHINE CUT NAIL, HAMMERED HEAD APPROXIMATE DATE: 1810 TO 1830s

NAIL SAMPLES FROM THE EAST FACADE CLAPBOARD. NAIL APPEARS TO BE A MACHINE CUT NAIL WITH A HAND HAMMERED HEAD. NAIL APPEARS TO HAVE TWO HAMMERED FACES, POSSIBLY INDICATING AN EARLY DATE OF MANUFACTURE. THIS NAIL WAS LIKELY SALVAGED FROM AN EARLIER STRUCTURE.

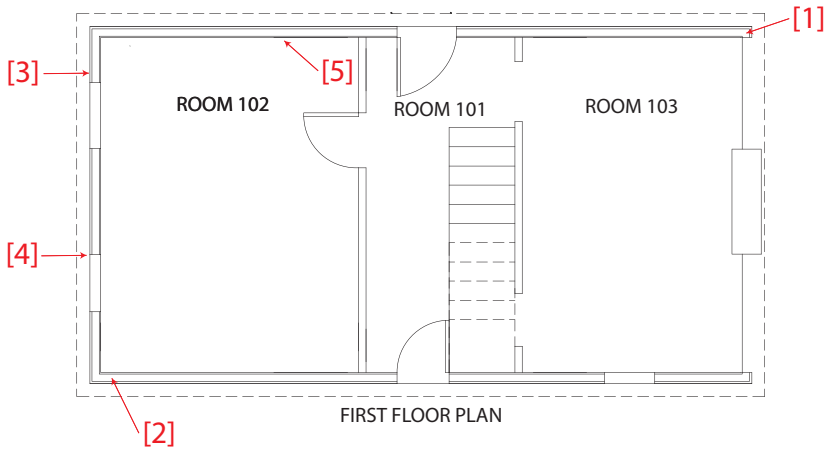
[4] NAIL TYPE: MACHINE CUT NAIL APPROXIMATE DATE: 1830s TO 1870s

NAIL WAS SAMPLED FROM THE EAST FACADE, ADJACENT TO A WINDOW OPENING. NAIL HEAD IS UNIFORMLY CONVEX ON EACH SIDE. THIS NAIL IS CONTEMPORARY WITH THE CONSTRUCTION OF THE GARVIN HOUSE.

[5] NAIL TYPE: MACHINE CUT NAIL APPROXIMATE DATE: 1830s TO 1870s

THIS NAIL WAS SAMPLED FROM THE SOUTH ELEVATION ON THE INTERIOR OF THE STRUCTURE. IT IS HEAVILY DETERIORATED. THIS NAIL IS SIMILAR TO #4 AS IT HAS A UNIFORM FLAT HEAD.

WHERE WE FOUND THEM:

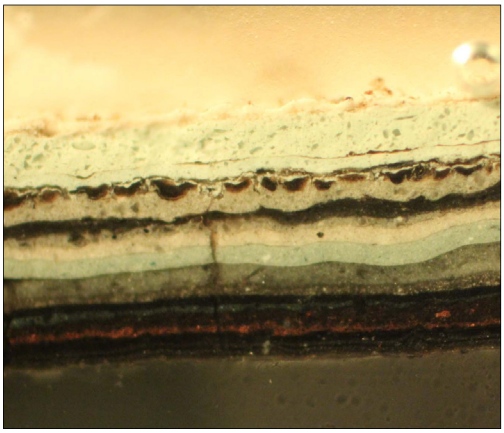


FIRST FLOOR PLAN

CONSERVATION- PAINT ANLAYSIS

WHY IS HISTORIC PAINT ANALYSIS IMPORTANT?

THE STUDY OF ARCHITECTURAL FINISHES PROVIDES A RECORD OF A BUILDINGS' DECORATIVE HISTORY AND CAN INFORM THE SELECTION OF PAINT COLORS FOR HISTORICALLY ACCURATE RESTORATIONS. SCIENTIFIC PAINT ANALYSIS AND ON-SITE FINISHES INVESTIGATIONS CAN ALSO PROVIDE CLUES TO CONSTRUCTION CHRONOLOGY AND AID IN THE DATING OF HISTORIC STRUCTURES.



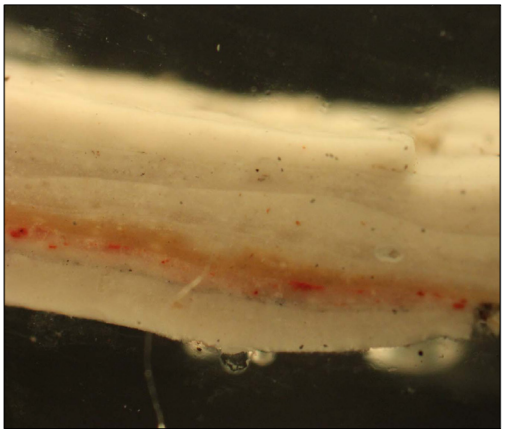
20X MAGNIFICATION

WHAT WE FOUND:

LOCATION: ROOM 103 MANTEL

THE STRATIGRAPHY OF THE PAINT SAMPLE EXTRACTED FROM THE MANTEL IN ROOM 103 CONTAINS ~19 LAYERS OF PAINT. EARLY COLOR SCHEMES APPEAR TO BE DARK BROWN IN COLOR. THE STRATIGRAPHY OF THE WALLS AND CEILINGS IN THIS ROOM CONTAINED ONLY A FEW LAYERS OF PAINT.

THE MANY LAYERS OF PAINT, WHEN COMPARED TO OTHER ELEMENTS IN THE SAME SPACE, INDICATES THAT THE MANTEL WAS MOST LIKELY SALVAGED FROM ANOTHER STRUCTURE AND REUSED IN THE GARVIN HOUSE.



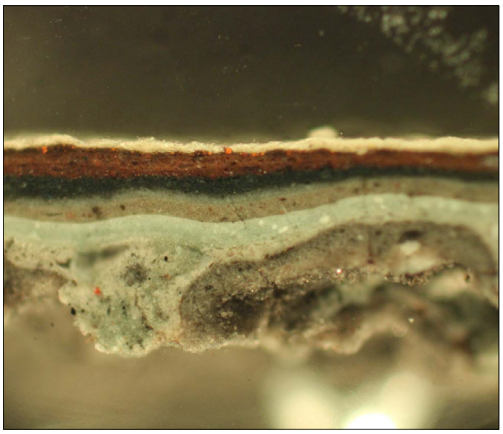
10X MAGNIFICATION

WHAT WE FOUND:

LOCATION: SIDING, SOUTH ELEVATION

THE STRATIGRAPHY OF THE PAINT SAMPLE EXTRACTED FROM A SIDING BOARD CONTAINS ~8 LAYERS OF PAINT. EARLY COLOR SCHEMES APPEAR TO BE WHITE IN COLOR. THE STRATIGRAPHY OF THE SIDING BOARDS HAS A TRANSLUCENT QUALITY. EARLY PAINT SCHEMES APPEAR TO BE LIMEWASHES. DISTINCT GRAINS OF PIGMENT ARE NOT VISIBLE IN THE EARLIEST LAYERS OF PAINT.

A LIMEWASH IS TRADITIONALLY A SOLUTION OF WATER AND LIME. LIMEWASHES TYPICALLY HAVE A MATTE APPEARANCE.



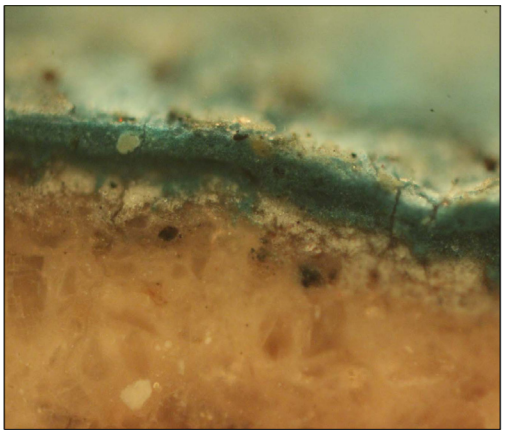
10X MAGNIFICATION

WHAT WE FOUND:

LOCATION: INTERIOR DOOR

THE STRATIGRAPHY OF THE PAINT SAMPLE EXTRACTED FROM AN INTERIOR DOOR CONTAINS ~9 LAYERS OF PAINT. THE EARLIEST COLOR SCHEME APPEARS TO BE GRAY IN COLOR. THE STRATIGRAPHY OF THE DOOR MATCHES LATER PAINT GENERATIONS IN THE MANTEL STRATIGRAPHY.

WHEN COMPARING THE MANTEL TO THE INTERIOR DOOR, IT APPEARS THAT THE MANTEL MAY HAVE BEEN PAINTED GRAY ONCE IT WAS INSTALLED IN THE GARVIN HOUSE. EARLY PAINT SCHEMES IN THE MANTEL ARE NOT ORIGINAL TO THE GARVIN HOUSE.



40X MAGNIFICATION

WHAT WE FOUND:

LOCATION: SASH, GLAZING PUTTY

THE STRATIGRAPHY OF THE PAINT SAMPLE EXTRACTED FROM THE GLAZING PUTTY OF A WINDOW SASH CONTAINS ~3 LAYERS OF PAINT. EARLY COLOR SCHEMES APPEAR TO BE GREEN IN COLOR. THE STRATIGRAPHY OF THE GLAZING PUTTY SHOWS TWO GENERATIONS OF GREEN PAINT. THE FIRST PAINT CAMPAIGN HAS AN OFF-WHITE PRIMER AND A GREEN FINISH COAT.

GREEN SHUTTERS WERE VERY COMMON FOR BUILDINGS OF THIS TIME PERIOD.

CONSERVATION- RECOVERED ARCHITECTURAL ELEMENTS

WHAT WE FOUND:

SEVERAL ITEMS HAVE BEEN REMOVED FROM THE GARVIN HOUSE TO PROTECT THEM FROM FURTHER DAMAGE OR LOSS. THESE ITEMS ARE SIGNIFICANT ARCHITECTURAL ELEMENTS THAT CAN BE REUSED OR REPLICATED FOR THE FUTURE RESTORATION. BELOW ARE SEVERAL SALVAGED ITEMS THAT AID IN THE STUDY AND PRESERVATION OF THE GARVIN HOUSE.

[1]

[2]

[3]

INVENTORY OF ITEMS:

[1] MANTEL- 1st Floor, Room 103

THIS MANTLE WAS SALVAGED FROM THE INTERIOR OF THE WEST ELEVATION CHIMNEY. THE MANTLE IS CURRENTLY MISSING A LEG. THE PIECE IS CONSTRUCTED OUT OF PINE AND WAS LIKELY SALVAGED FROM ANOTHER BUILDING PRIOR TO 1870. THE TRIM PROFILE FROM THIS MANTLE IS NOT PRESENT ANYWHERE ELSE IN THE STRUCTURE, PROVIDING FURTHER EVIDENCE THAT THIS IS A SALVAGED PIECE. THE MANTLE IS IN GOOD CONDITION WITH SEVERAL LAYERS OF PAINT.

[2] SHUTTER- 2nd Floor

THIS BOARD AND BATTEN SHUTTER LIKELY WAS ONCE ATTACHED TO THE SECOND FLOOR WINDOWS. IT IS ONE OF SEVERAL SHUTTERS CURRENTLY IN STORAGE. UNFORTUNATELY, THIS ELEMENT HAS SEVERE ROT, AS EVIDENCED BY THE WHITE POWDER IN THE IMAGE. THIS PIECE WILL LIKELY HAVE TO BE REPLICATED, BUT REMAINS AN IMPORTANT ELEMENT THAT SHOULD BE RETAINED FOR FUTURE STUDY.

[3] INTERIOR DOOR - 2nd Floor

THIS IS ONE OF THREE INTERIOR DOORS STILL PRESENT AT THE GARVIN HOUSE. THIS DOOR IN STORAGE MATCHES THE EXISTING DOOR ON THE SECOND FLOOR, AND WAS LOCATED IN THE WEST END BEDROOM. THE DOOR HAS LATE 19TH CENTURY FASTENERS, POSSIBLY INDICATING THAT THE DOOR MAY NOT BE ORIGINAL TO THE 1870 CONSTRUCTION DATE. THE BOARD AND BATTEN DOOR IS IN EXCELLENT CONDITION AND CAN BE REUSED FOR THE FUTURE RESTORATION.

CONSERVATION- UNIQUE FINDINGS

WHAT WE FOUND:

THE GARVIN HOUSE IS SIGNIFICANT FOR ITS UNIQUE MATERIALS AND CONSTRUCTION TECHNIQUES, INCLUDING THE USE OF RECLAIMED MATERIALS AND HAND HEWN FRAMING MEMBERS. THESE DETAILS CONTRIBUTE TO AN UNDERSTANDING OF LIFE OF A FREEDMAN DURING THE ERA OF RECONSTRUCTION. BELOW ARE SEVERAL IMAGES OF UNIQUE ELEMENTS THAT CONTRIBUTE TO THE BUILDING'S SIGNIFICANCE.

[1]

[2]

[3]

[4]

INVENTORY OF ITEMS:

[1] HAND SPLIT WOOD SHAKES & RECLAIMED ITEMS

ORIGINAL HAND SPLIT WOOD SHAKES STILL EXIST BELOW THE EXISTING METAL ROOF. A SHAKE IS A BASIC WOOD SHINGLE THAT IS MADE FROM SPLIT LOGS. SHAKES ARE TRADITIONALLY CUT BY HAND USING A FROE AND MALLET. MANY EARLY SOUTH CAROLINA WOOD SHAKE ROOFS WERE MADE OF CYPRESS. IN ADDITION, A GHOST OF A STAIR TREAD CAN BE SEEN IN THE RED BOXES. THIS INDICATES THAT THESE BOARDS WERE RECLAIMED FROM A PREVIOUS STRUCTURE.

[2] MORTISE AND TENON JOINTERY

ORIGINAL MORTISE AND TENON JOINERY WAS FOUND IN MANY WALL FRAMING CONNECTIONS. MORTISE AND TENON JOINTS HAVE BEEN USED FOR THOUSANDS OF YEARS. THE JOINERY METHOD JOINS TWO PIECES OF WOOD TOGETHER USING A MORTISE HOLE AND A TENON TONGUE. THIS METHOD OF JOINERY IS STRONG AND COMMON FOR SOUTHERN BUILDINGS OF THE SAME TIME PERIOD. THE USE OF THIS TYPE OF JOINERY INDICATES THE FINE CARPENTRY OF THE BUILDER.

[3] DIAGONAL CORNER BRACE

DIAGONAL CORNER BRACES WERE INCORPORATED INTO THE ORIGINAL FRAMING OF THE BUILDING ON THE NORTH AND SOUTH WALLS. THE DIAGONAL VERTICAL FRAMING MEMBERS ARE CUT AND REST ON THE DIAGONAL MEMBERS. THE ADDITIONAL STRUCTURAL MEMBER FORMS A TRIANGLE ENHANCING THE RIGIDITY AND STRENGTH OF THE BUILDING.

[4] TIMBER SILLS

THE GARVIN HOUSE WAS CONSTRUCTED ON TIMBER SILLS PLACED DIRECTLY ON THE GROUND. THE TIMBER SILLS WERE DRESSED ON ONE SIDE, WITH THE THREE REMAINING SIDES ROUGH. THE WALL FRAMING MEMBERS REST ON THE DRESSED SURFACE OF EACH TIMBER SILL. THE CORNER POSTS OF EACH WALL WERE ALSO CONSTRUCTED ON TOP OF VERTICALLY PLACED LOGS.

- Garvin family members achieved prominence in local social circles, evident by their appearance in the Savannah Tribune. Such mentions suggest that they were well known, not only in Bluffton, but also Savannah.

- By the time of the 1919 article in the Savannah Tribune, Isaac Garvin had inherited the house. The article announces a visit from his son Paul Garvin.

A Bluffton Entertainment

Quite a unique entertainment was given at the home of Mrs. P. A. Riley on Friday evening of last week The parlor was tastily decorated with vines and palms and the ladies were very becomingly dressed. The games of flinch and pit were played, after which Mrs. T. N. Rivers rendered some very pretty selections of instrumental music. Mrs. W. E. Dezon also introduced some very interesting games, which were much enjoyed. The dancing and parlor games were indulged in until 11:30 then a very dainty repast was served after which the guests bid each and every one a merry good night. The merriment of the night will always be stamped on the minds of the visiting guests. Those present were, Mrs. W. E. Dezon, Mrs. T. N Rivers, Mrs P. E. Perry, Mrs. Henry Springs, Mrs. Robert Fields, Miss Miriam Simms, Miss Emily Smith, Miss Addie Springs, of Savannah; Mrs. Paul Garvin, Mrs. P. A. Riley, Mrs. Lopez, Miss Laura Lee Jenkins, Miss Ida Ray, Messrs. M. C. Riley, Paul Garven, James Miller, Samuel Wyley, P. A. Riley and Horace Davis.

Mrs. W. E. Dezon and the two boys are spending awhile in Bluffton.

Bluffton Entertainment 1905

Bluffton Social.

Quite a delightful flinch party was given in honor of Mrs. L. A. Spring and the Misses Spring at the home of Mrs. Isaac Garvin "on the Bluff." Those ipvited were Mrs. L. A. Springs, Misses Addie and Luella Springs, Mrs Rena Fields, Mrs. Sarah Rivers, Mrs. Susie Perry, Miss Emily Smith, Mr. Chas Royal of Savannah; Mr. and Mrs. Paul Garvin, Miss Ida Taylor, Mr. and Mrs Chas. Frazier, Messrs. James Miller, M. C. Riley, Eddie Symons, David Frazier, B. Bruen. Dainty refreshments were served and dancing indulged in until a late hour.

Mrs. L. A. Spring and children are at the home of Mr. and Mrs. Paul Garvin "on the Bluff"

Misses Addie and Luella Spring, after spending three weeks of pleasure in Charleston are rusticating at Bluffton.

Bluffton Social Article

BLUFFTON, S. C. NEWS

Mr. P. S. Garvin of New York, formerly of Bluffton is spending four weeks with his mother and father, Mr. and Mrs. Isaac Garvin.

Mrs. Josephine White and daughter Edith and Birtha of 56 Montgomery street are spending a month with her sister, Mrs. Louisa Riley and Mr. John Gadsden.

Mr. William T. Rogers of White Plains, N. Y. is spending his vacation with his aunt and cousin, Mrs. Mary Taylor and Miss Addie Taylor.

Mrs. Bessie L. Miller Pickens returned to Bluffton after spending five days with relatives and friends.

Bluffton and Hardeeville will cross bats at Bluffton Wednesday Sept. 3. Dancing at the K. of P. hall from 5 to 12 p. m., good music. Admission 15c.

Rev. Thomas of Thunderbolt spent a pleasant day fishing and boating.

Mrs. Harlite Washington of Thunderbolt spent some time at Bluffton with relatives.

Paul S. Garvin Visits 1919

Bluffton Dots.

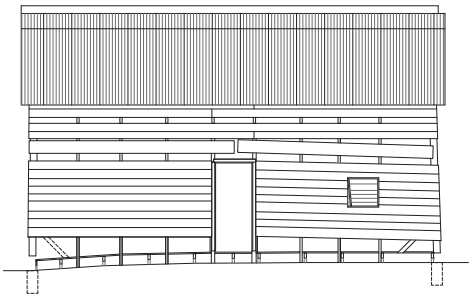
Mrs. Amelia Garvin and Mrs. Pattie Mitchell, after spending three weeks with mother and friends in Savannah, have returned to their pleasant home at Bluffton.

Bluffton Dots 1908

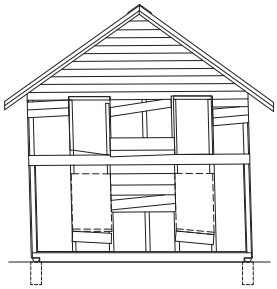
ARCHITECTURAL DRAWINGS- ELEVATIONS

Recording Current Conditions :

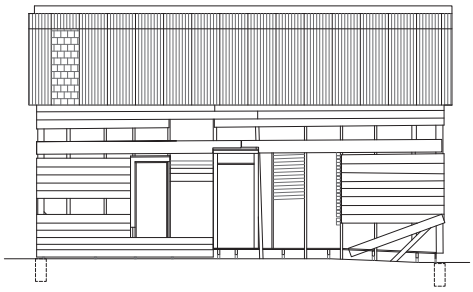
[north elevation]



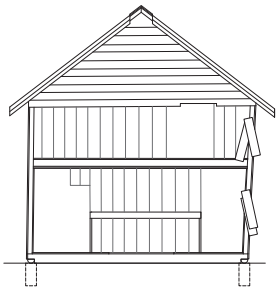
[east elevation]



[south elevation]



[west elevation]

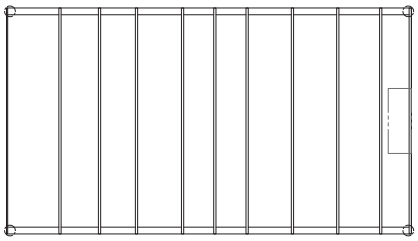


ARCHITECTURAL DRAWINGS- PLANS

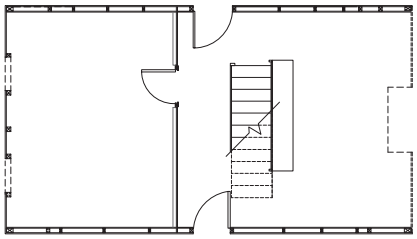
N

Recording Current Conditions :

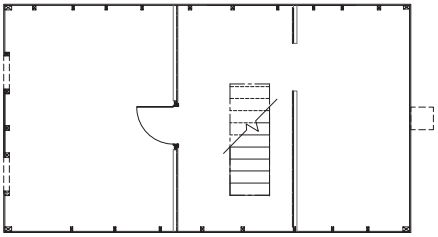
[1st floor joist framing plan]



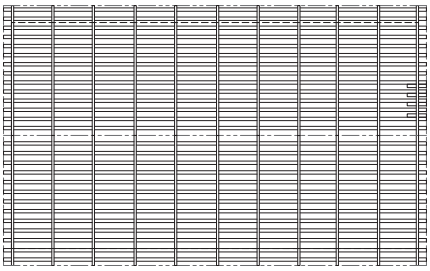
[1st floor plan]



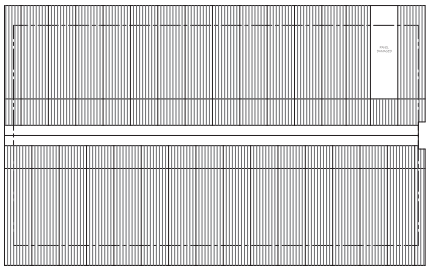
[2nd floor plan]



[rafter plan]



[roof plan]



CONSERVATION- NAIL CHRONOLOGY

How can we obtain useful information from a nail chronology?

Nails are objects that are commonly found at most historic sites and can help a conservator understand the development of a structure. Previous on-site research at the Garvin House uncovered nails and fasteners with a wide range of fabrication dates. Several nails predated the structure, indicating they came from a reclaimed piece that was reused in the building. Others fasteners dated to 1870 and around the construction of the Garvin House. Additionally, 20th century nails were found throughout the building on pieces installed at a later date. By understanding and mapping these differences, changes in the structure over time become readily apparent.

2ND FLOOR HALLWAY, LOOKING EAST

STAIR, LOOKING WEST

What we found :

LOCATION: Room 201, Looking East

The second floor of the Garvin house is in an excellent state of preservation. Analysis of the fasteners on this floor indicates that there has been little alteration to this space over the last 150 years.

Examination of the upper trim on the interior walls indicates that this piece was installed at a later date, likely in an attempt to improve privacy or to upgrade and decorate the space. The fasteners on the trim boards are all wire cut nails dating from the early 20th century.

What we found :

LOCATION: Room101, Looking West

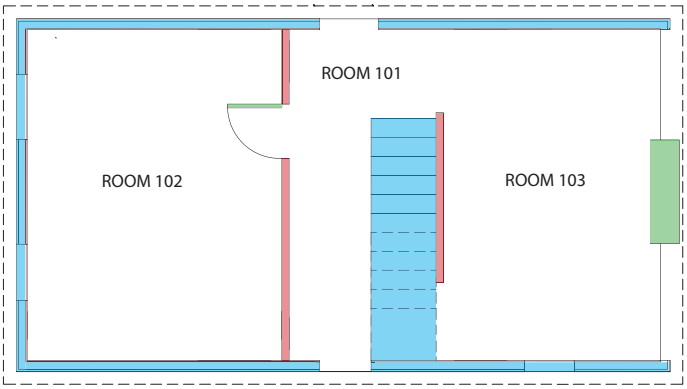
Analysis of the fasteners on the stairs indicates that the stair treads and risers date to the construction of the house. The tongue-in-groove boards and molding on the east side of the stair appear to have been added at a later date. The wall behind the stairs also dates to a later construction phase .

The stair appears to have been constructed at the same time of the Garvin house. However, it can not be determined if the stair risers and treads were reclaimed from a previous structure and incorporated later.

EXTRAPOLATING THE DATA :

Key:

- ORIGINAL
- LATER ADDITION
- RECLAIMED ITEMS



FIRST FLOOR PLAN

What does this mean ?

LOCATION: First Floor Plan

By developing a nail chronology, it is clear the first floor of the structure has changed drastically over time. Originally thought to be a hall and parlour structure, evidence indicates the first floor originally was open with the framing members exposed. Over time, the room was subdivided into three spaces, and the framing members and ceiling joists were covered. This evidence helps us understand the development of the structure from a simple utilitarian building to a sophisticated residence.

MEADORS

RESTORATION ARCHITECTURE CONSTRUCTION DESIGN SERVICES ARTISANS

The Garvin House – Group 1

Stakeholder Meeting #1 (9.18.2014)

Questions for Group 1 Discussion:

1. What does the Garvin House mean to you?
    a. What does the Garvin House represent?
        i. One of the oldest houses in town. Rare example of a freedman's cottage. It can be traced to hundreds of people in the community. We used to call them "Garvy." They were the last African American family to really be on the river.
2. What are your memories of the Garvin House?
    a. There was a porch Mrs. Garvin used to sit out there and look at the river. She was rocking, in the screened in porch. This was in the 30s. Porch did not wrap around, non river side porch might have been added later. This group wants it look as it did at the turn of the century.
    b. Paul (Cyrus grandson) built another house in the late 30s early 40s where the parking lot is now. He was married and lived there. His mother was blind and still living in the Garvin House (died in the 50s).
    c. Do you have any photographs/documents to share?
        i. Ruth and mother Geneva (deceased in January) was close to the family and would have a lot of pictures.
        ii. Check with congregation of St. John's Church. Cyrus Garvin was a member of that church.
3. What do you see as the most distinct element of the Garvin House?
    a. Architectural? Historical? The site?
4. Why is this building significant to Bluffton?
    a. Why is this building significant to you?
5. What is your vision of a future use?
    a. Stabilize it and tell the story over time. No electricity, no water, just original. We need to ask the people of Bluffton.
    b. How can this structure benefit the community?
        i. No museum, tours can be arranged. Friends and fairly of the Garvins could hopefully help out.
    c. An interpretive scene, people who are curious what Bluffton was like.
6. How often do you visit Oyster Factory Park?

   a. How do you see the Garvin House becoming a more integral part of the park?
7. Materials?
   a. Framing members, nails are all from different time periods.
   b. The framing and flooring system are gone. The floor boards can be reused. Exterior walls are reasonably stable. All basic deterioration continues. “I would lift it up to get some working room, and reinstall the floor system new, collecting and cataloguing all reusable materials.” Maybe have modern material for structure and old framing materials for the fabric. For looks.
   c. Corner posts all need to be replaced. The framing all seems to be southern long leaf pine. Maybe some cypress mixed in. Doors are pine. Roof shingles are probably swamp cypress.
   d. Not too many wall boards would need to be replaced. Second floor almost perfect first not so much.
8. Cost?
   a. It’s going to be a grassroots effort so there need to be options to get people involved. Approach it in phases, “We need X amount for Phase 1.”
   b. Let it be a community project, don’t take any money from the government. Let everybody chip in, and then everybody owns it and cares about it.
   c. Who will pay for a caretaker?
      i. “Friends of the Garvin House”

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MEADORS

RESTORATION ARCHITECTURE CONSTRUCTION DESIGN SERVICES ARTISANS

The Garvin House – Group 2

Stakeholder Meeting #1 (9.18.2014)

Questions for Group 2 Discussion:

1. What does the Garvin House mean to you?
    a. A valuable asset to the town's history. A link to the past that distinguishes the town from "Anytown, USA." A documentation of the African American experience in Bluffton. The first two generations were illiterate so well never have family letters from that period. It's not documented any other way.
    b. What does the Garvin House represent?
        i. The plight of the freedman. Not everyone was as lucky as Cyrus – makes this story extra special.
        ii. It's the first freedman's cottage we know of in Bluffton and the only one on the river.
        iii. Gullah Geechee culture.
        iv. Cyrus probably helped build similar structures, so he knew exactly what he was doing.
        v. It represents hope, independency in the Reconstruction Era.
2. What are your memories of the Garvin House?
    a. Overgrown.
    b. Do you have any photographs/ documents to share?
3. What do you see as the most distinct element of the Garvin House?
    a. Architectural? Historical? The site?
    b. These buildings are common in Beaufort but not in Bluffton. The ownership is what makes it distinct. There's nothing else around that is like it. The people would never want this building moved from the site.
    c. Additions, like the modern bathroom in the 50s, are not as important to the people.
        i. We could make an outline of what we think, but actually restore what we know.
4. Why is this building significant to Bluffton?
    a. The fact that Bluffton is willing to restore this structure says something about the town of Bluffton, they care.
    b. Why is this building significant to you?
        i. "This is the gem, we can't let it go…Time is of the essence with each season."
        ii. It's a big opportunity for archaeological research.

5. What is your vision of a future use?
    a. People want it to look like it did in Garvin's lifetime. Perhaps a garden planting what they would have planted. Maybe a living history piece, somewhere people could walk around on the site and in the house.
    b. A walkthrough piece with state of the art learning center on site. You could put original pieces here that couldn't be reinserted into the house for whatever reason. This building could yield classroom space and a place where events could be held. This would be expensive.
    c. "Not a house museum. As the reconstruction starts it will determine its own boundaries."
    d. Hopefully this would bring tourists to Bluffton. This is a success story coming out of the Civil War.
    e. It would appeal to all African Americans, not just the Gullah culture. All African Americans can relate somehow.
    f. Bluffton could get the school system involved in caring for the community garden.
6. How often do you visit Oyster Factory Park?
    a. Citizens buy their fish there.
    b. Visits range from every day to once a month.
    c. How do you see the Garvin House becoming a more integral part of the park?
        i. More people would come if there were benches and something to look at.

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MEADORS

RESTORATION ARCHITECTURE CONSTRUCTION DESIGN SERVICES ARTISANS

The Garvin House-Group 3

Stakeholder Meeting #1 (9.18.2014)

Questions for Group 3 Discussion:

1. What does the Garvin House mean to you?
    a. What does the Garvin House represent?
        i. "It's a freedman's cottage; a Civil War era building is very significant for a town like this."
2. What are your memories of the Garvin House?
    a. This group didn't have many memories. The Church of Jacob congregation might yield some results. Look at the African American community especially through the churches.
    b. Do you have any photographs/documents to share?
        i. A video should be at Penn Center from 1970s interview.
3. What do you see as the most distinct element of the Garvin House?
    a. Architectural? Historical? The site?
        i. The second floor is the most significant part.
        ii. The chimney
        iii. Footprint of Baynard property after archaeology.
4. Why is this building significant to Bluffton?
    a. Why is this building significant to you?
5. What is your vision of a future use?
    a. Some want to add the later structures. Not just the original structure, because these buildings do change over time. This will depend on the building's use. Some did not want a "park building" for recreational use. Restoration with beautiful garden, right on the river with a museum on it. Benches.
    b. "We need to be able to go in it and see how they lived. Not necessarily open all the time."
        i. Show some of the evolution. Its primitiveness is a part of its story. It should be kept as close to its origins, and its steps of evolution rather than one entity.
        ii. What about a video?
    c. Don't waste money on grass for parking lot – salt water will kill it.
    d. Some people were concerned about vandalism (kids).
        i. Put up a sign, we'll take you to jail or tell your parents.
    e. How can this structure benefit the community?

i. The community needs this narrative. The Heyward house has a lot of charitable funding. People want the same attention for the Garvin House. The town can apply for a grant. National trust funding? They want the community heavily involved. Needs to be hammered in the media, Rotary Club, maybe the schools? The community needs to know a budget.
    1. What about a Kickstarter page?

6. How often do you visit Oyster Factory Park?
    a. How do you see the Garvin House becoming a more integral part of the park?
7. Has funding been established for the house?
    a. Yes for our work and possibly other funds for restoration, but there might not be enough. Fundraising will of course help.
8. What about archaeology?
    a. Highly recommended. Before landscaping.
9. What about the foundation?
    a. The new must support the old.

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STANDARDS FOR TREATMENT OF HISTORIC BUILDINGS

Treatment Approaches: :

The National Park Service (NPS)
U.S. Department of the Interior

The approach to the treatment of the Garvin House will be based on the Secretary of Interior Standards. The Standards are neither technical nor prescriptive, but are intended to promote responsible preservation practices that help protect the Nation's irreplaceable cultural resources. The guidelines provide philosophical consistency to the treatment of historic structures and help guide communities through the decision making process.

There are Standards for four distinct, but interrelated, approaches to the treatment of historic properties—preservation, rehabilitation, restoration, and reconstruction.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

[1]

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

[2]

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

[3]

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

[4]

Note: Definitions and content based on the Secretary of the Interior's Standards for the Treatment of Historic Properties, 1995.

STATEMENT OF SIGNIFICANCE

Why should we preserve the Garvin House?

The Garvin House, built ca. 1870, is a rare surviving example of a home constructed and occupied by a freedman in the South Carolina Lowcountry. Located on a bluff, high above the May River in Bluffton's historic district, the Garvin House is a remnant of a once vibrant community of former slaves and freed people who resided in the Bluffton area during the era of Reconstruction. The folk methods used in the construction of this one and a half story post and girt structure incorporate reclaimed building materials and architectural elements, highlighting the resourcefulness and skill of the original builder, Cyrus Garvin. Since the construction of the home in 1870, at least three generations of the Garvin Family have occupied the site, using the structure and land as an active homestead. The interior of structure is particularly notable as it reflects the changing tastes of the Garvin family, as the building developed from a utilitarian two room white washed building to a hall and parlor structure with interior tongue and groove paneling.

The Garvin House is the earliest known home built by a freed slave on the May River. Currently stabilized but in a state of continuing decay, the structure and surrounding site have the potential to offer further information relating to the life of a freedman during the late 19th century. The Garvin House serves as a strong connection to the town's celebrated past, and an important cultural resource for the future of Bluffton.

Garvin House- unknown

CRAFTS DESIGN SERVICES CONSTRUCTION ARCHITECTURE RESTORATION CONSERVATION
[MEADORS]

TREATMENT PLAN

What is the Treatment Philosophy for the Garvin House?

The preservation of the Garvin House will focus on preserving remaining items in situ to highlight the development of the structure over time during the Garvin family occupation. Interventions will abide by the Secretary of Interior's Standards and will combine the approaches of Preservation and Rehabilitation. Recommendations and interventions will also be guided by two integral goals.

The first goal will focus on maximizing the retention of historic character defining elements and minimizing the further loss of historic fabric. The second goal will focus on repairing all necessary elements of the Garvin House to provide the structure a successful future. Current and past deterioration mechanisms that have contributed to the decay of the structure will be addressed and remedied. Existing deficiencies in the structure will be sensitively addressed and modern interventions will be integrated seamlessly as not to detract from the preserved structure.

Garvin House 2014