

prepared for Orange Hall Foundation, Inc. St. Marys, Georgia

prepared by Lord, Aeck & Sargent Architecture, Inc. April, 2006



### Prepared for

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### Acknowledgements

The Orange Hall Foundation would like to acknowledge the following individuals for their contributions to the success of this project.

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### Introduction

The Orange Hall Foundation commissioned the creation of this Historic Structure Report (HSR) as a first step in planning for the future treatment and use of Orange Hall. The Foundation and the City of St. Marys, co-stewards of the property, have over the years demonstrated a commitment to preserving, maintaining and promoting Orange Hall as a civic amenity and local museum. Under new leadership, the Foundation has recently broadened its vision for the property and has begun to explore opportunities for enhancement of the site and its elements. The ultimate goal of the Foundation, in cooperation with the city, is to develop Orange Hall into a premier historic house museum and heritage attraction through a comprehensive restoration of the building and its landscape. In conjunction with this effort, an expanded interpretive program that spans the history of the property from prehistoric times to the present will be developed. It was recognized that in order to realize this vision, a more comprehensive understanding of the history, significance and condition of the property and a plan for its treatment and interpretation was necessary.

Several primary goals were established for the Historic Structure Report project. First, the document was to develop a definitive history of the property through research and physical investigation with a focus on resolving the original construction date of the building. Second, an assessment of existing conditions and development of interim recommendations would provide the Foundation with information necessary for planning immediate or short term preservation efforts. Finally, based on this information, the HSR would present a treatment, use and interpretation strategy for the long term restoration of the property.

A comprehensive team of preservation professionals from a wide range of disciplines was assembled to create the HSR. The project team was expanded beyond the traditional assemblage of preservation planners, architects and engineers to include landscape architects, archaeologists, architectural finishes consultants and interpretation specialists. The research and investigation conducted by the individual project team members was coordinated to maximize the information collected about the property, its history and existing condition.

Development of the Historic Structure Report was made possible through a generous donation by Home and Garden Television Network (HGTV) in connection with the 2004 Dream Home project constructed in St. Marys, Georgia. Proceeds from visitation of the Dream Home were donated to the Orange Hall Foundation in recognition of their dedication and hard work preserving this significant local landmark.

### Research and Investigation Methodology

The historic background research for the HSR project built upon a foundation of previously completed work conducted primarily by local historian Eloise Bailey. Ms. Bailey's research efforts began while assembling the necessary background information required for the completion of the National Register of Historic Places nomination forms submitted to the Department of the Interior in 1975. Since then, Ms. Bailey has continued to add to the body of historical data by further documenting the people and events that have shaped Orange Hall over the past one-hundred and sixty years. Ms. Bailey was consulted in the initial phases of this project and provided an overview of her research efforts. In addition, a majority of the historic photographs used for the purposes of this report were obtained from Ms. Bailey.

Despite these previous efforts, Orange Hall's earliest history and the circumstances surrounding its construction have remained somewhat elusive. The history and evolution of the property and the lives of its former occupants are not well documented in the public record. An absence of both primary and secondary source information about the

history of Orange Hall presented a challenge to past researches as well as the current project team. Given this, it is anticipated that the collection of historical background information about Orange Hall's past will be an ongoing process.

For the purposes of developing the HSR, research was conducted in April 2004, beginning with the review of local records and repositories. This effort was expanded in the following months as the information collected led to other research leads. The following is a list of sources and repositories that were consulted during the research phase of the project.

- Miscellaneous Records and Holdings Located in Orange Hall.
- Miscellaneous City of St. Marys Records, St. Marys, Georgia.
- Files of the Department of Natural Resources, Historic Preservation Division, Atlanta, Georgia.
- Historic American Building Survey (HABS) Records, Library of Congress Internet Site.
- Consultation with Rick Delouize and a review of the First Presbyterian Church of St. Marys Records, St. Marys, Georgia.
- University of Georgia, Hargett Rare Book and Manuscript Library, Historical Maps Collection, Athens, Georgia.
- Georgia Historical Society, Newspaper Collection, Savannah, Georgia
- Bryan-Lang Historical Library, Woodbine, Georgia

Local histories and background materials Various Camden County Tax Digests and County Records Family and Subject Vertical files Official Records of the Union and Confederate Armies

- Presbyterian Historical Society, Records of the Presbyterian Church, Montreat, North Carolina and Philadelphia, Pennsylvania.
- Seeley G. Mudd library, Princeton University, Princeton, New Jersey.
- Princeton Theological Seminary Archives, Princeton, New Jersey.
- Yale University Library, Manuscripts and Archives, New Haven, Connecticut.
- Worcester Historical Museum, Worcester, Massachusetts.
- Worcester County Public Library, Worcester, Massachusetts.
- Old Sturbridge Village, Sturbridge, Massachusetts.
- Tioga County Historical Society, Owego, New York
- Rhode Island Historical Society, Providence, Rhode Island.
- Avery Periodical Index, University of Michigan, Ann Arbor, Michigan.
- Numerous Internet resources were utilized, specifically genealogical indexes.

Historical research was augmented by an intensive investigation of the building, its materials and construction. Initially, a program of medium format photography was conducted to document the condition of the building and property in 2005. In addition, the original Historic American Building Survey (HABS) drawings were translated into electronic CAD files and updated to reflect the as found condition.

Destructive investigation included the select removal of finishes materials in order to document construction technique, and observe hidden conditions. Care was taken to minimize impact to historic fabric. When possible, destructive investigation was carried out in areas that did not contain historic fabric or had been previously altered. No material testing was conducted beyond analysis of paint samples by the architectural finishes consultant. A

general survey of paint evidence and accumulation was used to determine the extent of intact historic finishes, to identify early decorative treatments and to help determine the construction sequence of the building.

In addition to the architectural investigation, survey and assessment of the existing landscape was also conducted. Historic documentation about Orange Hall's early landscape was limited to narrative descriptions of the property and its major design features as well as a few early photographs. The landscape investigation identified surviving specimen plants that may have been part of the earliest landscape schemes and attempted to locate physical evidence of intact features. Research was focused on identifying plant material that would likely have been used in early to mid nineteenth century landscapes along the Georgia coast. Descriptions and plans of contemporary landscapes were also sought to compare with known information about the early landscape at Orange Hall and inform the proposed treatment plan.

The archaeological investigation was focused on locating Orange Hall's builder's trench below the basement level kitchen floor. This investigation took place on the interior of the building since evidence of this feature along the exterior of the building was likely destroyed during recent interventions. The methodology to concentrate the archaeological investigation on the builder's trench and the surface beneath the kitchen floor was utilized so that data collected could help determine the building's date of construction.

### Major Findings

The following bullet points summarize the major findings or outcomes of the HSR research and investigation effort.

- Date of Construction Established as 1838 Although no single document or finding definitively identifies the date of construction for Orange Hall, the results of the historical research and physical investigation revealed a preponderance of evidence leading to the conclusion that the building was constructed in 1838 for Horace Southworth Pratt. In addition, further information was collected that reinforced a previous finding that Isaac Slayton of Brookfield, Massachusetts was the builder. No evidence was discovered during the archaeological investigation that would contradict or discount these findings.
- The historic research conducted as part of the HSR has not only provided a deeper understanding of the circumstances surrounding Orange Hall's construction but has also shed light on the events that have taken place within its walls and the lives of its former occupants. The research has revealed that the long succession of owners that have lived at Orange Hall has each held a unique place in the broader context of local history. The proposed interpretive plan embraces this by presenting multiple "stories" as opposed to focusing on a single episode in the building's history.

In addition, research has determined that the architectural style, form, scale and early construction date of Orange Hall and its presence on the lower Georgia coast make it unique and rare. Based on this new research, a review and update of the National Register of Historic Places nomination is warranted.

• Orange Hall was found to be in generally good condition, with moderate loss of historic fabric and minor alterations to the original building plan. Issues identified that require short term or immediate attention were limited to deferred maintenance items and general clean-up to minimize hazardous conditions, improved rainwater distribution, and the repair and reinforcement of structural members that have been compromised. The condition and age of the various building

systems suggest that they should be replaced as part of a comprehensive restoration project. Also within the context of a restoration of the building, consideration should be given to improving the building's fire and life safety systems.

- The preliminary survey of architectural finishes conducted as part of the HSR investigation reveal that enough paint evidence remains to conduct a more comprehensive analysis of the individual interior spaces. Other findings of the finishes investigation include evidence discovered suggesting that the walls were not painted originally but instead decorated with wall coverings. Paint sampling also revealed that the interior doors were originally grained and the interior wood trim was painted white.
- In terms of the landscape, the severing of the original property in the mid-twentieth century prevents a true restoration of the historic condition. However, sufficient property remains to reconstruct the major design elements of the early landscape plan in their original locations.
- The current archaeological investigation, as well as the numerous previous studies that have taken place on the property has determined that significant deposits remain present that could yield important information about the history of the site, from prehistoric occupation through to nineteenth and twentieth century activities and development.

### Administrative Data

### Current Use and Management Data

Orange Hall currently functions as a traditional house museum interpreting the history of the structure and its former occupants. The building and grounds are open to the visiting public, Tuesday through Saturday from 9:00 am to 4:00 pm and on Mondays by appointment. The interpretive program is generally limited to group or individual tours of the property. Visitors have the option of participating in a guided tour or walking through the building at their leisure. Information is presented through static displays, small exhibits and a free informational brochure. Antique furnishings, artwork, draperies and rugs, none of which are original to the house, enhance the interpretive message and help convey the historic scene. The current fee structure for touring Orange Hall is \$3.00 for adults and \$1.00 for children. Proceeds from visitation are collected by the City of St. Marys and go toward the staffing and maintenance of the property. Approximately 4,000 people visited Orange Hall over the past year.

Orange Hall is also used for special events, with weddings constituting a majority of these occurrences. These events are held on the grounds where a tent is set up on the lawn north of the building. During these events, guests are allowed to use the front porch of the building; however current policy restricts access to the interior. Power is supplied by exterior outlets or generators. The detached public restroom facilities are used by guests during these events. In recent years, policy has been adopted to prohibit the use of existing commercial catering equipment in the basement of the building.

Orange Hall is currently owned and operated by the City of St. Marys. The building is staffed by one full time property manager who is a city employee. The manager is responsible for the day to day operation of the property, and also provides tours of the building and coordinates the special events calendar. Repair and maintenance of the building and grounds are generally conducted by various departments within the city's organizational structure. Working in partnership with the city to preserve and promote Orange Hall, is The Orange Hall Foundation, an active, non-profit, "friends" group. The Foundation's mission statement defines its primary purpose;

> To protect Orange Hall, to advocate for her preservation and restoration, to generate community enthusiasm for her unique value, and to develop her into a preeminent Historic House Museum consistent with her origins and her placement on the National Register of Historic Places.

The specific goals of the organization are as follows;

Restore Orange Hall to a period-accurate historic site in order to provide interpretive and educational experiences for her steadily-increasing number of visitors.

Make available resources from various entities, such as from local and state allocations, grants, corporate sponsorships, citizen memberships and restoration grants to benefit Orange Hall.

Obtain expert assistance to stabilize, repair, and restore the Orange Hall building and grounds and to provide infrastructure upgrades necessary for her upkeep and maintenance.

Galvanize community support for Orange Hall via community activities and fundraisers in order to provide the civic mandate for critical funding allocations.

Make volunteers and philanthropic organizations aware of Orange Hall in order to deem her worthy of their time and resources.

Make Orange Hall a viable venue for various community activities and an attractive event rental destination for groups and individuals locally, throughout Georgia and the nation.

The board members of the Orange Hall Foundation are appointed by the City of St. Marys. The organization generates support though its membership which generally consists of local individuals and businesses. In recent years, the Foundation has shifted its focus away from the daily maintenance and management of Orange Hall to concentrate on the planning and implementation of broader, long term goals for the property. The Orange Hall Foundation is the group responsible for the commissioning of this Historic Structure Report (HSR). The Foundation sees the preparation of the HSR as an important and necessary first step towards realizing its ultimate goal which is to undertake a comprehensive restoration of the property.

### Locational Data

Orange Hall is located within the City of St. Marys, in Camden County, Georgia. St. Marys is in the extreme southeast corner of the state, located on the St. Marys River, which forms the boundary between Georgia and Florida in this area.



Figure 0-1. Aerial View of the City of St. Marys, Georgia

The city's gridded plan, initially laid out in 1792, generally extends from its waterfront on the river, inland to the north. The city is bounded on the east and west by marshland and inter-coastal tributaries.

Orange Hall is located at 311 Osborne Street which is the city's main north/south thoroughfare. The property is bounded to the north by Conyers Street, to the west by Wheeler Street and to the south by an adjacent property currently owned by the First Baptist Church.



Figure 0-2. Focused Aerial View of St. Marys. The Orange Hall property is outlined in white.

Currently only a portion of the original two plus acre lot remains associated with the historic structure. The western third of the property was severed in the 1940s and a single family dwelling was constructed on the newly formed parcel. Thick vegetative growth buffers the Orange Hall property visually from its neighbors to the west and south.

St. Marys is the largest community in Camden County and is also the "gateway" or embarkation point for travel to Cumberland Island and the Cumberland Island National Seashore.

### Climatic Data

The climate of St. Marys and the coastal Georgia area is relatively moderate with an average annual temperature of approximately 69 degrees. Mainland temperatures in the region tend to be slightly higher than those encountered on the barrier islands. Sea breezes moderate the hot afternoon temperatures of the summer months, which generally range from the mid 80s to low 90s.

The winter is relatively mild and short in duration. The coldest months are December and January with an average minimum temperature of 43 degrees. There are in excess of 300 frost-free days in St. Marys.

The average annual rainfall for St. Marys is 51.1 inches. A majority of this precipitation occurs in the summer and early fall. Precipitation occurring during the winter months is of the frontal type, while that which occurs in the summer comes in the form of convection or afternoon thunderstorms. Heavy rains occurring in the fall are usually associated with tropical disturbances.

Located within a coastal environment, St. Marys is occasionally impacted by tropical storms or hurricanes. These typically occur during the Atlantic Hurricane Season, which extends from June through November. Tropical weather disturbances have impacted St. Marys and Orange Hall in the past with varying degrees of severity, and will continue to do so in the future. The following provides an overview of hurricane activity along the Georgia coast.

> The first recorded hurricane to cause significant damage to the Georgia coast struck the Charleston, S.C., area on 15 September 1752 (Carter 1970a). Since that time, numerous hurricanes have passed along the Georgia coast, but surprisingly few have caused serious damage. Between 1886 and 1968, 669 tropical cyclones, developed in the Atlantic, the Caribbean, and the Gulf of Mexico. Of these, 93 passed into Georgia, or passed so near that they had an appreciable effect on the state's weather. Only 56 of these reached hurricane magnitude, and just eight

carried hurricane winds into the state. Therefore, the frequency of true hurricanes on the Georgia coast averages one per 10 years. Less intense storms may cause major damage more frequently (Carter 1970a).

Hurricanes off the east coast tend to follow the path of warm, lighter air above the Gulf Stream, which is flanked on both sides with heavier, cooler air. Brunswick, Ga., is farther (80 miles) from the Gulf Stream and the accompanying warm air than any other place on the southeastern coast. Consequently, the Georgia coastal area is less exposed to hurricanes than areas farther north or south (Gibson 1948).

All hurricanes that have affected Georgia between 1886 and 1968 have occurred between August and October (Carter 1970a).<sup>1</sup>



*Figure 0-3. Paths of major hurricanes in the vicinity of St. Marys.* 

<sup>1</sup> http://www.cr.nps.gov/history/online\_books/science/3/chap2.htm

A recent reexamination of the 1898 Hurricane data suggests that this storm was stronger than initially thought and the path was likely further south, meaning that it would have had a more substantial impact to the St. Marys area and Orange Hall.

#### Cultural Resource Data

#### National Register of Historic Places

Orange Hall is individually listed on the National Register of Historic Places. The information presented below has been culled from the Orange Hall National Register Nomination forms and current data available on the Internet-based National Register Information System (NRIS). Research conducted since Orange Hall was placed on the National Register, including that which has been completed for the purposes of this report, in some cases may contradict information presented below.

#### Date of Listing

Orange Hall was listed on the National Register of Historic Places May 7, 1975.

### Eligibility Criteria

Orange Hall has been deemed eligible for listing on the National Register of Historic Places under eligibility Criterion "C." To be found eligible for the National Register of Historic Places, an historic property must meet certain criteria. All properties must possess integrity of location, design, setting, materials, workmanship, feeling, and association and one or more of the following;

**A.** That are associated with events that have made a significant contribution to the broad patterns of our history; or

**B.** That are associated with the lives of persons significant in our past; or

**C.** That embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.

**D.** That have yielded or may be likely to yield, information important in prehistory or history.

### Short Statement of Significance

"Contributes to the local historic scene. Orange Hall is the most historically significant building in St. Marys and is one of the finest examples of Greek Revival architecture in Georgia."

Area(s) of Significance

Architecture

Level of Significance

State

Period of Significance

1825-1849

#### Significant Years

1827 and 1849

#### Historic American Building Survey

Orange Hall was recorded in March 1934, as part of the Historic American Building Survey (HABS) program. The HABS program was established by the National Park Service, Department of Interior in the 1930s as a "make-work" project for unemployed architects, draughtsmen and photographers during the Great Depression. Participants were initially tasked with the broad assignment of documenting "a representative sampling of America's architectural heritage." During the mid 1930s, regional offices directed the activities of the recording teams, while overall administration of the program was conducted out of Washington D.C. The

program was expanded in 1969 to include the documentation of industrial and engineering heritage with the establishment of the Historic American Engineering Record (HAER). The HABS/HAER program continues to this day, documenting the country's built historic resources.

At the time of its recording, Orange Hall was recognized by HABS as possessing a level of significance that afforded a "complete" documentation of the property. As compared to other buildings recorded under the program, the documentation of Orange Hall represents a higher level of effort, specifically as it relates to the number of measured drawings completed (12).



Figure 0-4. Elevation drawing from 1934 HABS documentation

In recognition of those buildings that underwent a thorough documentation, certificates were presented to the individual owners of the properties. According to HABS correspondence from the period, the purpose of these certificates was two-fold, first to give "recognition to those who have made available their property as research material," and second as an incentive for preservation, as the communication states "the possession of such a certificate will serve in many cases to arrest the thoughtless destruction of historic American structures."<sup>2</sup> The owner of Orange Hall at the time, Mrs. S. C. Townsend, received a citation,

which remains within the structure, hanging in the central hall on the first floor. This document is an important part of the history of Orange Hall and should be preserved. According to HABS personnel these citations are becoming increasingly rare.

The Orange Hall HABS documentation that was completed and deposited in the Library of Congress consists of measured drawings, photographs and supplemental materials. Copies of the original documents can be obtained from the Library of Congress (Call Number - HABS, GA, 20-SAMA,1-). This same documentation is also available via the Internet, through the Library of Congress website.<sup>3</sup>

It should be noted that during the course of this study inaccuracies in the documentation completed during the HABS recording of the property were identified. The HSR attempts to identify these discrepancies when affected areas are referenced within the body of the report, however caution should be exercised when referencing the HABS documents to establish historic conditions. Copies of the HABS documentation have been included in Appendix C.

### Archaeological Data

The Georgia Archaeological Site Files (GASF) at the University of Georgia was consulted for information pertaining to previous archaeological studies at Orange Hall. The official Georgia state archaeological site number for the Orange Hall property is 9Cm146. Several archaeological investigations have taken place at Orange Hall during the last 30 years. Figure 0-5 shows the Orange Hall property and the location of the numerous archaeological test excavations that have been dug over the years, including the work completed for this report.

In 1975, Mr. Alan Bailey, a local resident of St. Mary's, excavated the pit, which was called an ash pit, below the oven in the Old Kitchen of Orange Hall. According

<sup>&</sup>lt;sup>2</sup> Personal Correspondence.

<sup>&</sup>lt;sup>3</sup> <u>http://memory.loc.gov/ammem/collections/habs\_haer/hhquery.html</u> (query "Orange Hall").





to Cothran<sup>4</sup>, bottles from the early to middle twentieth century were recovered as was a broken, but complete, dinner plate. Recently the artifacts were returned to Orange Hall although the reconstructed plate has been in a display case in the basement of Orange Hall for years. According to Bailey, a report was not written, but Bailey did screen all the ashy soil removed from the pit through 1/8" screen mesh and saved all of the artifacts, which consisted of brick, mortar, corroded iron fragments, wood charcoal, bone, a lot of broken glass, including several bottle necks, the transferprinted plate, a pipestem, and a button.<sup>5</sup> Because the plate has a recognized maker's mark on its obverse side, it is datable and is discussed later in the report.

The first professional work on the site occurred in June of 1979 when archaeologists Martin Dickinson and Tom Des Jeans, assisted by Beth Bennet, Jean Wollenberg, Helen Doney, and Malinda Stafford, conducted test excavations on the grounds prior to new sewer and water service lines being installed during the restoration of the structure.<sup>6</sup> This work resulted in the first recording of the site as 9Cm146 in the official records of the GASF.

Des Jeans and Dickinson worked with a crew of four for six days concentrating their efforts in the back (west) and side (south) yards of Orange Hall where new utility lines were to be constructed. Their work confirmed that the site, especially the back yard, contained significant archaeological deposits and features dating from Native American prehistory to the early nineteenth and twentieth centuries. They excavated 39.5 square meters of trenches recovering 16,136 artifacts from cultural deposits and eight features. Figure 0-6 shows the work in progress at the southwest corner of Orange Hall in 1979.

In addition to the archaeological deposits across the entire site, eight cultural features were discovered in 1979, of which three were pits filled with early and



Figure 0-6. A view of the 1979 Excavations Looking South. These Trenches Were Located at the Southwest Corner of the Orange Hall. Feature 3, a Trash Pit was Discovered Here (Photograph courtesy of Mr. Martin Dickinson).

middle nineteenth century artifacts. Features 5 and 7 were located near Conyers Street on the northwest portion of the site and Feature 3 was found near the southwest corner of the structure.<sup>7</sup>

Although the investigators did not reference in their preliminary report specifically where the artifacts came from, they indicated that most of the material came from the back yard as compared to the south yard.<sup>8</sup> The following is a tabulation of the basic artifact classes from the 1979 excavations at the site:

#### Class Count

Ceramics 3,763 Metal 3,707 Bone 2,535 Glass 6,131 Total 16,136

The artifacts from the 1979 work have not been located. In a letter to the St. Marys City Manager, Mr. Wayne Nettles, Martin Dickinson recommends that the artifacts from Features 5 and 7 found in the vicinity of Orange Hall "should be curated and that...The quantity is no

<sup>&</sup>lt;sup>4</sup> Cothran, Jim. Orange Hall, St. Marys Georgia, Historic Structure Report and Landscape Master Plan. Georgia State University, Atlanta. 2002.

<sup>&</sup>lt;sup>5</sup> Personal communication, Alan Bailey, Savannah, June 14, 2005; and personal communication, Jennifer Sisler, Manager of Orange Hall, June 10, 2005

<sup>&</sup>lt;sup>6</sup> Des Jean and Dickinson 1979:1

<sup>&</sup>lt;sup>7</sup> Ibid.

<sup>8</sup> Ibid 1979:3

larger than a shoe box."<sup>9</sup> The final outcome for the artifacts remains unknown.

In 2002, James Cothran, with students from Georgia State University, conducted an archaeological survey of the back (west) yard of Orange Hall<sup>10</sup> as part of an overall landscape plan study. Twenty-two shovel tests (30 cm in diameter) and one 50 x 50 cm (20 x 20 inches) test pit were excavated behind the house. Sixteen of the shovel tests and the 50 x 50 centimeter test yielded artifacts. The only area of the back yard that did not produce any artifacts was the northwest corner of the property where the public restrooms are located. An area directly behind Orange Hall yielded the greatest number of early nineteenth century artifacts including creamware and pearlware ceramics and a kaolin pipe-stem (shovel tests T2-4, T2-5 and T3-5). This same area had what is referred to as a moderate oyster shell scatter in the shovel tests, so Cothran dug the 50 x 50 cm test there. A dense oyster shell lens was discovered at 10 B 25 cm below surface and was interpreted to be part of an early twentieth century walk way.

Although Cothran recovered architectural artifacts (nails, concrete, window glass, brick and tabby fragments), he was unable to locate what he considered to be evidence of outbuildings. However, the concentration of architectural artifacts recovered from his survey directly behind Orange Hall strongly suggests that one or more nineteenth century structures were located in the vicinity. They may predate Orange Hall and be associated with the earlier occupation of the lot or they could be the remains of an outdoor kitchen, servant's quarters, or other building associated with Orange Hall. There is no mention of the final disposition of the artifacts or notes from Cothran's 2002 work.

#### **Related Studies**

Orange Hall has been subject of a number of investigative studies conducted over the last several decades. The reports vary in terms of scope and complexity and address a wide range of issues from paint finishes analysis to archaeology. Information from these reports has been considered and incorporated where necessary in preparation of the HSR. The studies identified during the research phase of this project include;

#### General

Conservation Assessment Report, Orange Hall, St. Marys, Georgia. Lord, Aeck & Sargent. March, 2004.

Orange Hall, St. Marys, Georgia, Historic Structure Report and Landscape Master Plan, Historic American Landscapes and Gardens, History 8650, Georgia State University, Completed under the direction of Jim Cothran. 2002.

Orange Hall Restoration Progress, St. Marys, Georgia. John K. Mott. April 1982.

#### Paint Analysis

Paint Color Analysis, First Floor Interior of Orange Hall, St. Marys, Georgia for the City of St. Marys Phillip P. Wisley. 1980.

#### Structural Investigation

Report of Limited Observations, Orange Hall, St. Marys, Georgia MACTEC Project 6739-3-1358.

#### Archaeology Studies

Results of Archaeological Test Excavations at the Site of Orange Hall, St. Marys, Georgia. Thomas P. Des Jeans and Martin F. Dickenson 1979-1980.

<sup>&</sup>lt;sup>9</sup> Dickinson 1979.

<sup>&</sup>lt;sup>10</sup> Cothran, 2002.

# PART I HISTORICAL BACKGROUND AND CONTEXT

### Prehistory

Modern humans have lived in what is now Camden County for millennia and left a rich archaeological record of their achievements and failures. The arrival of people on the North American continent may have happened as early as 50,000 years ago if evidence excavated by Dr. Albert Goodyear at the Topper Site in South Carolina holds up to scrutiny (Goodyear 2005). Most archaeologists agree that the Georgia Coast was inhabited at least 12,000 years ago during the Paleo-Indian Period (12,000 BC - 8,000 BC).<sup>1</sup> The earliest sites are now inundated and lie off shore, a result of rising sea levels since the end of the Ice Age. Around 5,000 years ago, during the Archaic Period (8,000 BC - 1,000 BC) environmental conditions began to stabilize and the location that would become St. Marys became hospitable for people. It is during the Late Archaic Period (ca. 3,000 - 1,000) BC that archaeologists have recorded sizable populations up and down the southeastern coast and interior. Late Archaic people are hunter-gatherers who harvest the abundant food resources of the coastal environment. Oyster Shell mounds and shell rings from these Indian's villages are found along the southeastern coast. Durable cooking containers made from soft soapstone or created from clay were invented during the period. The earliest pottery (called St. Simmons and Stallings Island Fiber Tempered) on the North American continent occurs along the Georgia and South Carolina coasts. Archaeologists have recovered Late Archaic Period St. Simmons Fiber Tempered pottery sherds and portions of soapstone vessels from beneath and behind Orange Hall suggesting that the earliest occupation of the property began about 2,000 BC.

The Woodland Period (1,000 BC – AD 900) follows the Archaic and is characterized by more people, permanent residential sites, and an economy still based on hunting and gathering with some gardening beginning. Archaeologists recognize a culture called Deptford across the southeastern United States. Deptford Check Stamped and Simple Stamped pottery were manufactured late in the Early Woodland Period (ca. 500 BC to AD 200) and both have been recovered by archaeologists working at Orange Hall. A Late Woodland culture that archaeologists refer to

<sup>&</sup>lt;sup>1</sup> Weisman, Russell M., S. Dwight Kirkland, and John E. Worth. 1998. An Archaeological Reconnaissance of Trails Ridge, Charleton County, Georgia. On file at Southern Research, Historic Preservation Consultants, Inc., Columbus, Georgia.

as Wilmington may also have lived here. Archaeologists have found cord marked pottery sherds, that may be Wilmington Cord Marked, beneath and behind Orange Hall. This is a style that post dates Deptford.

During the Mississippian Period (ca. AD 900 – 1540) the southeastern Indian cultures were sophisticated farmers who continued to rely heavily on hunting and gathering wild resources. Hereditary chiefs ruled large chiefdoms and many of the people lived with extended families in residential compounds, often in large villages. Mississippian pottery has been recovered by archaeologists in the back yard of Orange Hall marking the terminal Native American occupation on the site. At the end of the Mississippian Period, explorers from Spain entered what is now the southeastern U. S. and forever changed the world. They brought warfare, subjugation, and communicable diseases and within one century it is estimated that ninety percent of the native population perished. Beginning in the sixteenth century, Spain, England and France all established settlements and outposts along the coast from South Carolina to Florida resulting in such disruption to native societies that they never recovered. By 1602, Spain had established San Pedro de Mocama, a Franciscan mission, on what is now Cumberland Island<sup>2</sup> and most of the Indians in the region had been subjugated and converted to Catholicism by Franciscan missionaries living at many of their villages.

### Early Camden County

The first documented European contact with the lower Georgia coast is generally accepted to have occurred during an expedition led by French explorer Jean Ribault in 1562. Landing at St. Augustine, Ribault sailed north exploring the coast of Georgia and South Carolina. He gave French names to a number of the rivers and islands he encountered, naming that which later became the St. Marys River, the Siene. Traveling with 150 Huguenots, it was Ribault's intention to establish a colony in the new world, which he did, further north at Port Royal near Beaufort, South Carolina.

Spain responded to France's attempts to settle the lower coast by sending a large military force to protect its interests and claim Florida as her own. Spain was able to regain control of the region, and over the next hundred years established a number of missions along the coast. The primary purpose of these missions was to convert the native populations to Christianity and ensure obedience to Spanish rule.<sup>3</sup>

<sup>&</sup>lt;sup>2</sup> Ibid.

<sup>&</sup>lt;sup>3</sup> Rock, Carolyn. A Cultural Resource Survey of the Proposed Weed/Ready Street Effluent Line, St. Marys, Georgia. Report Presented to the City of St. Marys. 1990. p. 5.

In the early eighteenth century, the lower Georgia coast was part of "the debatable land" claimed by both Spain and England.<sup>4</sup> An earlier Indian uprising against the Spanish missions had left the area largely uninhabited but for pirates and smugglers who found safe haven among the numerous coastal islands and tributaries. England continued its efforts to establish a presence in the region resulting in the founding of Savannah by James Edward Oglethorpe in 1734. England's foothold was extended as far south as Cumberland Island where Oglethorpe established Fort St. Andrews and later Fort William. Spain attempted to oust the English from Georgia on several occasions, but it was the decisive victory at the Battle of Bloody Marsh that resulted in England's undisputed possession of Georgia. A treaty of peace was proclaimed between the two nations and Florida was ceded to England. In addition, by royal proclamation, Georgia's southern boundary was extended from the Atlamaha River to the St. Marys River.<sup>5</sup> As a result, four additional parishes were laid out, St. Davids, St. Patricks, St. Marys and St. Thomas'. Camden County was later formed from the parishes of St. Thomas' and St. Marys.<sup>6</sup> Those named among the earliest settlers of St. Marys parish were James Edward Pavell, a member of the Governor's Council, Lieut. Governor John Graham, Sir James Wright the last Royal Governor of Georgia as well as Messrs. Charles and Jermyn Wright and William Knox.<sup>7</sup>

During the Revolutionary War, military operations in the southern most parish consisted mainly of small skirmishes and raids across the Florida border. No major battles are recorded in the area. A group of loyalists who organized themselves and became known as the Florida Rangers harassed those defending Georgia's and the united colonies' southern frontier by stealing, plundering and taking part in small military operations. Fort Tonyn constructed ca. 1777 by the British and named for Florida's Royal Governor was used by the Rangers as a base of operations. The fort, however, was later destroyed by the Rangers, in advance of a Continental Army offensive led by Major General Robert Howe to capture East Florida. Howe's efforts to pursue the loyalists and take Florida proved unsuccessful and he returned to Savannah.

Military contact continued to occur along the coast of Georgia over land and by sea. At least two other forts were constructed in the area, these included Fort McIntosh on the Satilla River and a small loyalist stronghold built by Jermyn and Charles Wright near Coleraine. Both forts were the focus of small military operations neither of which proved consequential in the larger struggle.

<sup>&</sup>lt;sup>4</sup> Ibid, p. 5.

<sup>&</sup>lt;sup>5</sup> Vocelle, James T. History of Camden County, Georgia. The Southeast Georgia, Kingsland, Georgia, 1967. p. 21.

<sup>&</sup>lt;sup>6</sup> Ibid, p. 21.

<sup>&</sup>lt;sup>7</sup> Ibid, p. 22.

Spain, as an ally of France, and siding with the patriots, entered the War in 1779. In the largest battle fought in Florida, Spain seized Pensacola in 1781 and then later was granted control of the rest of Florida as part of the peace treaty that ended America's war for independence.

In the years after the Revolutionary War, many of those who had abandoned the area during the conflict, returned to begin the process of rebuilding. Development in Camden County was at the time, sparse, consisting of widely disbursed farms and plantations. Loyalists returning to Georgia found their lands and property were seized by the state. Returning patriots were joined by an influx of new settlers from the north who entered the county during the post-war years. A majority of these settlers chose to locate on Cumberland Island, where the economy was driven by timber harvesting, the raising of cattle and hogs and the cultivation of cotton, rice and indigo. On the mainland, the fertility of the soil had "attracted the attention of rich planters" who looked to reap the benefits of the expanding cotton and rice markets. Although farms and plantations began to spring up "here, there and everywhere," at the time, no villages or towns had been established within the county. Given this, governmental and administrative affairs were left to be conducted, "wherever several responsible citizens happened to congregate."<sup>8</sup> The need for building a town and permanently organizing the government of the county was soon recognized.

### St. Marys

As early as 1767, members of the Colonial Council identified the site on which the town of St. Marys was later established, as suitable for development. Twenty years later, Jacob Weed was granted a large tract of land from the State of Georgia that included the earlier identified site. The same tract had previously belonged to Charles and Jermyn Wright mentioned above, who were the brothers of Royal Governor James Wright. The property had been confiscated by the government due to their allegiance to the crown during the War. Upon receiving the property, Weed soon began the process of establishing a town. In November of 1787, an "Articles of Agreement" was drafted establishing the parameters by which town lots would be distributed. Twenty proprietors, including Weed, were named; each was to receive four squares, of four acres each, and a share of the public squares and common for the sum of thirty-eight dollars. The town Plat of 1792, laid out by County Surveyor James Findley shows a gridded plan encompassing 2,046 acres. A majority of the streets were named for the proprietors of the town. The four acre lots were numbered sequentially beginning at the waterfront on the St. Marys River and extending inland to the north.

<sup>&</sup>lt;sup>8</sup> Reddick, Marguerite. Camden's Challenge, A History of Camden County, Georgia<u>.</u> Fernandina Beach, Florida: Wolfe Publishing, 2004. p. 4.

Two, 16 acre public squares and a large "common" were reserved for town use. The public squares were located on axis with Osborne Street establishing it as the town's main thoroughfare (Figure I-1).

Just prior to the founding of St. Marys, the town of St. Patricks had also been established by similar means on the "south side of the Great Satilla River." Although some of the earliest administration of the county was conducted from St. Patrick's, for reasons that are unclear, the Act naming St. Patrick's as the county seat was repealed and St. Marys was established as the second county seat by 1792.

The Federal Census of 1790 shows Camden County had a population of 305, and of this number seventy were slaves and fourteen were free persons of color.<sup>9</sup> Early descriptions of the county and its environs were not flattering, describing the people as poor, and without religion or education and the countryside as "sickly." An exception to the negative remarks is mention of an "elegant society" that is said to have existed on the cotton plantations of the sea islands and rice plantations on the mainland.

#### Lot 43

The property, on which Orange Hall stands today, Lot 43 as identified on the original town plat, was originally granted to William Ashley, one of the twenty founders of St. Marys. Also among the original proprietors of the town were Ashley's father (Nathaniel) and brother (Lodowick). Nathaniel Ashley and his family are identified as being present in the area as early as 1783 when the Spanish conducted a census of East Florida. Although the census lists Nathaniel as a farmer from Virginia, other sources suggest the family came from Anson County, North Carolina to settle on the Georgia coast. William Ashley was a member of the South Carolina militia during the Revolutionary War and later was a Captain in the Camden County militia. He was also on the board of the St. Marys Academy.<sup>10</sup> Ashley eventually left Camden County to settle in Telfair County, Georgia where he later died in 1839. In addition to Lot 43, Ashley was granted town lots 13, 35, 37 and a marsh lot (133). It is unknown on which lots, if any, he may have made physical improvements or chose to reside. Of Ashley's town lots, 43 was in closest proximity to the St. Marys River where a majority of the physical development of the town was

<sup>&</sup>lt;sup>9</sup> Ibid, p. 4.

<sup>&</sup>lt;sup>10</sup> Ibid, p. 8.





Figure I-1. St. Marys Town Plat, 1792. Inset showing Lot 43 and vicinity.

concentrated. Therefore based on its location alone, it would have been the most attractive lot of the four on which to build.

Phineas Miller is listed as the owner of Lot 43 when it was sold to Ethan Clarke later in 1803. It is unknown if the property passed directly from Ashley to Miller or if there were other owners during the intervening period. Miller came to coastal Georgia with the family of General Nathaniel Greene as a tutor to the Greene children. Originally from Connecticut, Miller was educated at Yale and after the death of General Greene in 1786, stayed on at the Greene's Mulberry Grove Plantation near Savannah, as plantation manager. It was here that Miller met Eli Whitney who was a guest of the Greenes' in 1793. Together, the two worked in a partnership to develop and promote Whitney's invention, the cotton gin. Due to a number of unfortunate events however, Whitney and Miller never realized the financial return they had anticipated when embarking on the project. In 1796, ten years after the death of her husband, the widow Greene and Miller were wed and moved from Mulberry Grove to the Greene's estate, Dungeness, on Cumberland Island. By this time, Whitney and Miller had spent years in court trying to defend their patent for the invention and receive retribution. Although some royalties were received from various southern states for patent rights; in 1803, the states repudiated their agreements and sued Whitney for all the monies received.

Given Miller resided at Dungeness on Cumberland Island, he may have rented out his town lot in St. Marys. The 1803 deed for the purchase of Lot 43, reveals that it was occupied at the time of the sale, describing it as "number (43) on which Capt. H[K?]er now lives, containing four acres." <sup>11</sup> It is unknown however, what portion of the lot was developed at the time. A portion of Lot 41 was also included in this same transaction. The properties, "together with all the buildings and improvements," were sold to Clarke for the sum of \$3,200. Three years after the sale of the property, Miller died of lockjaw after pricking his finger on a thorn.<sup>12</sup>

Clarke was from East Greenwich, Rhode Island and was involved in the West Indies mercantile trade establishing the firm of Clarke and Hammond. Trade with the West Indies was a tenuous enterprise at the time, as Britain had restricted American commerce in the region and had seized its ships on several occasions in the decades prior to the turn of the century. In an effort to ease once again growing tensions between the two nations, Chief Justice, John Jay was sent to Britain to negotiate an agreement. Jay proved to be a poor negotiator, and although several issues were resolved, the agreement reached was extremely unpopular to the American public. Ultimately, trade with the West Indies was opened up to American vessels; however, it was under very restrictive terms. Despite public outcry, the Senate ratified the agreement known as "Jay's Treaty" in 1795. Clarke may have been drawn to St.

<sup>&</sup>lt;sup>11</sup> Camden County Deed Book F p. 267. On file at Bryan Lang Library, Woodbine, Georgia.

<sup>&</sup>lt;sup>12</sup> http://www.camdencounty.org/history/cumberland\_island.html

Marys as its location would have provided a convenient jumping off point between the northeast and the islands of the West Indies.

At the turn of the century, the population of St. Marys was 190 white males and females, seventy three slaves and five free persons. A visitor to St. Marys in 1811 described the town as follows;

Very few of the streets were built upon and the whole town only had fifty or sixty houses and those built near the river. They were all built of wood without much regard for comfort or beauty. With the forests so near the houses, the town had the appearance of being buried in the woods. The planters have found the lumbering business more profitable than farming and as a result the food is quite scarce and even though the waters of the St. Marys produce much food, the table had little food upon it...

The following year, America declared war against England. At the time, Camden County had a population of 3,941 and represented the southern reaches of the country bordering Spanish ruled East Florida. Troops were sent to Camden County and Point Peter, a military installation near St. Marys, to defend the lower Georgia coast. By 1813, eight hundred reserves were training at Point Peter, however this number was dramatically reduced by the time the war impacted the area.<sup>13</sup> Recognizing their vulnerability, the people of Camden County appealed to the Governor for assistance. Approximately one month after peace had been declared in 1815, a fleet of British vessels entered Cumberland Sound with a force of 1,500 soldiers. Unaware the war had ended; the British forces took Cumberland Island and then moved into St. Marys and occupied the town. Many of its occupants had fled in advance of the arrival of British forces. The occupation lasted approximately one week and during this time the town was plundered. Eventually word was received that the war had ended and the British quietly withdrew from the area.

It is unknown if Clarke actually resided on Lot 43 for any period, if his purchase of the property may have been for the purposes of land investment or for one of his children. Clarke's wife, Anna Ward, niece of Governor Samuel Ward of Rhode Island,<sup>14</sup> died in 1798, however at least two of the Clarke children are known to have resided in the vicinity of St. Marys in the early part of the nineteenth century. Anna Maria Clarke married Nathaniel Ray Greene (son of General Nathaniel Greene) in 1808. Their first child was born at Dungeness on Cumberland Island the following year. The 1810 Federal Census shows Ethan Clarke living in East Greenwich, Rhode Island, however, his son, Ray Clarke corresponded with his father from St. Marys in 1813.<sup>15</sup>

<sup>&</sup>lt;sup>13</sup> Reddick, Camden's Challenge, 21.

<sup>&</sup>lt;sup>14</sup> http://archiver.rootsweb.com/th/read/GREEN/1998-08/0902762849

<sup>&</sup>lt;sup>15</sup> http://dlg.galileo.usg.edu/meta/html/dlg/zlna/meta\_dlg\_zlna\_rcl001.html

Ethan Clarke owned Lot 43 for 23 years. In 1826 it was divided and the north half was sold to John Wood and Horace S. Pratt. It is with John Wood and Horace Pratt that the story of Orange Hall begins.

### Horace Southworth Pratt and John Wood

Horace Southworth Pratt was born in Say-Brook Connecticut in 1794, the son of Ezra Pratt and Temperance Southworth (Figure I-2). Pratt pursued his collegiate courses at Yale College, studying during the presidency of Dr. Timothy Dwight. While at Yale, Pratt could not avoid being influenced by the "revivals" and the required daily regimen of religious obligation marking Dwight's administration. According to a Pratt Family Genealogy, while at college, he was "awakened under the ministry of Dr. Dwight and united with the church in that institution."<sup>16</sup> Pratt was not the only young man affected by Dr. Dwight's revival movement, as it is said that Dwight and his successors supplied "the churches of the land with a body of ministers whose ability and devotion to their work are beyond a question."17

After his graduation in 1817, Pratt went on to study at Princeton Theological Seminary where he spent "three very happy" years. In 1821 he was licensed to preach the gospel by the Presbytery of New Brunswick, New Jersey. Biographical information kept by Princeton states that Pratt also supplied for a short time at Shrewsbury, New Jersey.<sup>18</sup> It was immediately following this assignment that he ventured to St. Marys as a young missionary. The motivations behind Pratt selecting coastal Georgia for his missionary work are unknown. One possibility is that the Georgia Presbytery may have sent out a request for graduate ministers to fill a void of Presbyterian clergy in the state. A less likely theory may be that Pratt felt a personal connection to Camden County given that its namesake, the Earl of Camden, Charles Pratt, was a distant relative.

<sup>&</sup>lt;sup>16</sup> Chapman, A. M., Rev. F. W. The Pratt Family: or the Descendents of Lieut. William Pratt, one of the First Settlers of Hartford and Say-Brook with Genealogical Notes of John Pratt of Hartford; Peter Pratt, of Lyme; John Pratt (Taylor,) of Say-Brook. Hartford: Case, Lockwood and Company, 1864. p. 192. <sup>17</sup> http://www.yale.edu/chaplain/battell/history.html

<sup>&</sup>lt;sup>18</sup> Dexter, Franklin Bowditch. Biographical Notices of Graduates of Yale College, Including Those Graduated in Classes Later than 1815, Who are Not Commemorated in the Annual Obituary Records. New Haven, 1913. p. 24. (An interesting side note is that during the time of Horace Pratt's supply at Shrewsbury, the cornerstone for the new church was laid. This is the same church that is present today).



Figure I-2. Horace Southworth Pratt.

Later, Pratt's younger brother, Nathaniel Alpheus Pratt, also pursued the ministry after studying at Yale and Princeton. In addition, he spent time as a supply at Shrewsbury, New Jersey before leaving for Georgia where he accepted the pastorate of the church at Darien in 1825 or 1826.

At the time of Pratt's arrival in St. Marys, religion was said to be in a "low and languishing state" and no Presbyterian Church existed in the town. Two places of worship had been established by this time, a nondenominational or Union Church and a Methodist Church. The Union Church was organized in 1808 "for the promotion of divine worship." A church building was constructed on Lot 89, which was severed from one of the original public squares, and deeded by the city of St. Marys to the church trustees in 1807. Given the Union Church had a minister in place when Pratt arrived in the early 1820s, he began his work at the nearby Methodist Church. Upon recognizing Pratt's "piety, zeal and talents" a number of citizens organized to secure him as their minister and form a Presbyterian congregation. The group consisted of a number of existing members of the other congregations as well as new members seeking to find religion under Pratt. It is unknown how the transition occurred, but the previously established Union Church was reorganized as the new Presbyterian Church and Pratt was installed as its minister less than a year after his arrival. In June of 1822, the Presbytery of Georgia met at St. Marys for the first time, officially establishing the Presbyterian Church of St. Marys. It was not until 1828, however, that the church was incorporated by an Act of the Georgia Legislature under the name of First Presbyterian Church of St. Marys.

Pratt took to his new position immediately establishing a number of new programs within the church. These included the addition of prayer meetings, Sunday school classes and missionary societies. He also tutored college bound young men and organized a church for local Negroes that became known as the "African Church."<sup>19</sup> It is said that Pratt purchased this church building with his own funds.<sup>20</sup>

In 1823 Pratt married Jane Farley Wood, the only daughter of John Wood and Laleah Johnston.<sup>21</sup> John Wood was born in Yorkshire, England, and is said to have fled Georgia as a loyalist during the Revolutionary War. Laleah Johnston was the daughter of Dr. Lewis Johnston and Laleah Peyton of Savannah. At the outset of the war, Wood was in Savannah and then proceeded to Florida. In 1784 he went to the Bahamas and may have fled with the Johnston family to Nassau, New Providence (Bahamas), for it is here that Dr. Johnston later died in 1797. While in

<sup>&</sup>lt;sup>19</sup> Bailey, Eloise. Orange Hall, St. Marys Georgia. Published through the Courtesy of the Orange Hall Committee. 1983. p. 8.

<sup>&</sup>lt;sup>20</sup> Ibid.

<sup>&</sup>lt;sup>21</sup> According to genealogical information provided by a descendent living in Australia, John Wood and Laleah Johnston may also have had a son named George Matson Wood. George Matson Wood was born in the Bahamas in 1797 and educated in England where he may have stayed. This contradicts information inscribed on Jane Wood's headstone which states she was "the only child of her mother."
the Bahamas, Wood "held a number of government positions...including Comptroller of Customs in Exuma."22 Prior to coming to the Georgia coast it is said that Wood was a resident of Columbia County, Georgia. Miscellaneous notes credited to "Arnow" found in the vertical files of the Bryan-Lang Library state that Wood was "well connected in England and the first cousin of the then Lord Halifax."<sup>23</sup> Although it is difficult to substantiate his wealth or from what sources it was attained, it appears that Wood and his family were of some means. An early publication from Yale that tracks the whereabouts of its alumni states of Pratt that he "married a fortune,"24 unmistakably referring to his union with Jane Wood and the inheritance he would later realize from the estate of John Wood.

The earliest records of the Union Church list Wood as contributing towards its establishment in 1808. Later for the years 1819 and 1820, the Camden County Tax Digests list two entries for Wood.<sup>25</sup> The first entry is Wood's individual assessment, listing only "1 Poll" as a taxable possession for both years. The second entry is for Wood together with James Johnston and lists several parcels of land and 89 Negroes. By 1820, two, two-wheeled carriages were added to the assessment and the number of Negroes increased to 91. It is likely that James Johnston was either the uncle or brother of Wood's wife, Laleah. Given this information, it may be that that the source of at least some of Wood's wealth lies with his wife's family.

By 1826, Pratt had been pastor of the Presbyterian Church for almost five years and he and his wife had two children. Beginning in this same year he began to acquire a number of parcels of land. These included a 300-acre tract from Zebulon Rudolph and the following year a 215-acre tract from Henry Jones.<sup>26</sup> It is unknown where Pratt resided during his first years in St. Marys.

Also in 1826, he and his father-in-law together purchased Lot 43, the same lot on which Orange Hall stands today. Located adjacent to the Presbyterian Church and described as "containing about two acres," the property was purchased from Ethan Clarke for the sum of \$1,620.<sup>27</sup> The deed reveals that at the time of purchase, John Wood was a tenant on the property. It is unknown if this was Wood's primary residence, a "city house" to escape a rural plantation or if he may have been renting the property near the church for his daughter and her pastor husband.

<sup>&</sup>lt;sup>22</sup> Personal Correspondence from Debbie Britt.

 <sup>&</sup>lt;sup>23</sup> Miscellaneous type written pages. Orange Hall Vertical File. Bryan Lang Library.
<sup>24</sup> Class of Alumni of Yale College for the Year 1817. On file Yale University Library, New Haven, Connecticut.

<sup>&</sup>lt;sup>25</sup> Camden County Tax Digest, 1820. On file at Bryan Lang Library, Woodbine, Georgia.

<sup>&</sup>lt;sup>26</sup> Miscellaneous type written pages. Orange Hall Vertical File. On file at Georgia Department of Natural Resources, Historic

Preservation Division. Atlanta, Georgia. <sup>27</sup> Camden County Deed Book F p. 206. On file at Bryan Lang Library, Woodbine, Georgia.

Wood and his wife would have been in their 60s at this time and, therefore, their preference may have been to reside in town close to their only child and her family.

The following year, the tax assessment rolls list Wood's holdings under the entry "John Wood for himself and Horace Pratt." This seems to demonstrate reliance by Pratt on the graces of his father-in-law for the purchase of the property. This is to be expected as Pratt's salary was in the range of \$600 per year. Wood's holdings in 1827 appear to include those he had held earlier with James Johnston as well as some additional parcels and several town lots (29, 55 and 56). For the year 1827, the assessed value of the north half of Lot 43, was \$1,500, a slight drop from its original purchase price.

In 1829, misfortune struck Pratt and his extended family. John Wood died in March, and later the same year in September, Pratt's wife Jane died two months after the birth of their fourth child. Both were buried in the side yard of the Presbyterian Church. Tradition has held that Orange Hall was constructed by John Wood for his daughter and son-in-law, however, in order for this to be true, construction of the house would have had to begin prior to Wood's death in March of 1829. Examination of the tax records reveals no change in the assessed value of the property between 1829 and 1835. An increase in the taxable value of the property would be expected if an improvement such as the construction of a residence had occurred. In fact, the assessed value of the property drops dramatically between 1827, when it is assessed at \$1,500, and 1829 when its value is stated as \$600. It is possible that it was Wood's intention to construct a residence for his daughter and her husband on the property and that these plans were disrupted due to his untimely death. Further, the drop in the property's assessment value during this period could be attributed to the demolition of existing improvements, carried out to prepare the lot for a new residence.

Prior to the death of his wife and father-in-law, Pratt had contemplated leaving the pulpit of the Presbyterian Church. Dissatisfied with the congregation's rate of growth, Pratt felt "his voice had become too familiar to their ears"<sup>28</sup> and that the calling of a new pastor would be beneficial to the people. With the added burden of his personal loss, Pratt resigned his position as pastor in late 1829. Pratt, now a widower was left with three children to care for, as his second of four children by Jane Wood, Horatia Jane Pratt died in infancy. At least one source states that at this time he moved his family to a plantation on the St. Marys River.<sup>29</sup> Despite his apparent relocation, he remained active in the church and closely involved with the search for his replacement. In late 1831, the ladies of the

<sup>&</sup>lt;sup>28</sup> Transcribed correspondence and records of the First Presbyterian Church of St. Marys. On file at the First Presbyterian Church of St. Marys. St. Marys, Georgia. <sup>29</sup> Vertical File. Georgia Department of Natural Resources, Historic Preservation Division.

congregation made a pledge to Pratt to once again fill the pulpit until his successor could be found. Pratt declined the invitation stating his "permanent residence in St. Marys has become very uncertain."<sup>30</sup>

After the deaths of Pratt's wife and father-in-law, he and his mother-in-law were left as the nucleus of the immediate family. Laleah Wood who was almost 70 at the time of her husband's death inherited his holdings. As an elderly widow with no other surviving family, she may have relied on her son-in-law to help settle her husband's affairs and manage the family's properties.

In 1832 Pratt returned to the pulpit and in the same year married Isabel Ann Drysdale, the first cousin and "beloved friend" of his deceased wife. Isabel Drysdale was born in Long Island Bahamas in 1791, the daughter of Alexander and Sarah Drysdale. Pratt and Miss Drysdale were wed at Edgefield Village South Carolina where Drysdale was living at the time. Prior to her marriage, Isabel Drysdale was an accomplished writer whose works were published by the American Sunday School Union in Philadelphia whose mission was to collect copies of Maps, Charts, Books, and the Visual Arts. Drysdale has in present day been cast loosely as an abolitionist writer; however her writing portrays vividly the life of the pious south, as well as containing wonderful descriptions of the Georgia coastal area. One such description, taken from her book *Scenes in Georgia*, gives a sense of what the coastal wilderness must have been like:

A chain of very small islands in the popular phrase of the country called keys or hammocks, stretches along a part of the southern shores of Georgia. They seem set as a firm but slender barrier to stem the ocean's fury and screen the neighboring coast from its violence. Accordingly we find that while the restless waters rage and foam along their seaward shore, narrow inlets which separate them from the continent lie still and placid as a glassy pool. This islet chain appears to have been originally an interrupted bank of sand, accumulated by the impetuous currents of the sea. Imperceptibly coated with soil and gradually clothed with vegetation so that now dark woodlands wave where once seen only the swaying of the crested billow. There is something remarkably bleak and desolate in their appearance. Incessantly lashed by the fierce blast of ocean, stunted foliage of the forest is thin and scattering while innumerable naked branches are presented barked and silvered by exposure. Here and there indeed a solitary cabbage-tree rears its stately head, resisting the strife of elements, with shaggy strength and wrestling its stiff palmate leaves uninjured by the storm.<sup>31</sup>

In this same year, Pratt, his brother Nathaniel and Reverend Joseph Stiles held a number of meetings in Tallahassee Florida, resulting in the establishment of the First Presbyterian Church of Tallahassee. The small congregation which numbered 16 at the time of its organization was placed under the care of the Hopewell Presbytery. The church was incorporated in 1833 and by 1838 a building had been constructed. Although it has undergone a number

<sup>&</sup>lt;sup>30</sup> Records of the First Presbyterian Church of St. Marys.

<sup>&</sup>lt;sup>31</sup> Drysdale, Isabel. Scenes in Georgia. American Sunday School Union, Philadelphia, PA. 1827.

of alterations, the First Presbyterian Church of Tallahassee remains today one of the oldest public buildings in the city.

Between 1832 and 1835 Pratt expanded his immediate family having three more children with his new wife. Given that he lost a second child in infancy, there were five children in the household at the time. Although Pratt remained active in the church during this period, he continued to limit his commitment to serving as supply to the pulpit. In 1834 he reluctantly agreed to continue in this role stating that if he could find a good pastor he would decline the position based on his "peculiar circumstances."

Pratt's mother-in-law remained active in the church during this period, purchasing a pew each year. However, in 1836, Laleah Wood died suddenly at St. Marys in her 76<sup>th</sup> year. Her obituary states that she was stricken by an illness of only a few minutes.<sup>32</sup> Upon the death of Laleah Wood, it appears Pratt inherited the remainder of the Wood family's holdings. In the following years Pratt expanded his business pursuits purchasing numerous shares in the Bank of St. Marys for himself and his children and speculating in the St. Marys and Columbus Railroad Company and the Brunswick Land Company. He also took several trips, traveling to New York by steamboat at least twice in the first half of 1838.<sup>33</sup>

Correspondence between Pratt and the First Presbyterian Church of St. Marys during this period reveals a sense of uncertainty by Pratt as to his future in St. Marys as well as his commitment to serve the church in a full time capacity. By late 1837, however, it appears he came to some resolution on this point, for it would have been at approximately this time that he made the decision to remain in St. Marys and construct a permanent home for himself and his family. It could be that Pratt felt an obligation to bring to fruition the project that was envisioned and possibly initiated by his former father-in-law some 10 years earlier.

## Construction of Orange Hall

Although no single document records the precise date of construction of Orange Hall, a preponderance of evidence suggests the structure was completed circa 1838. The most compelling documentation supporting this is provided by the Camden County Tax Digests for the years surrounding this suggested date of construction. In 1837, the tax assessment for "part of Lot 43 and improvements" is found at its previous valuation of \$500. By 1839, the

 <sup>&</sup>lt;sup>32</sup> The Savannah Daily Georgian, 8 March 1836. p. 2.
<sup>33</sup> The Savannah Daily Georgian, Various Editions, 1838.

assessment of Pratt's "lot and improvements in St. Marys" had increased to \$12,000. The 1839 entry is not specific to Lot 43 and therefore may include the value of the other lots he held at the time, 25, 29, 55 and 56, however the dramatic increase can only be attributed to a substantial improvement on one of these properties. The most likely being construction of a residence on the scale of Orange Hall. This increased assessment is carried forward to 1840. Further, an undated digest in the collection of the Bryan Lang Library provides an assessment of lots 25, 43, 29, 55 and 56 of \$4,140. This incremental increase in the assessment of the lots may have been valuated during the construction period, which would place the date of this digest to 1838. Based on later sales figures for the property, it appears that this initial appraisal of \$12,000 may have been inflated or an exaggeration of the property's actual worth. This may be explained by the scale and elaborateness of the new structure and a lack of comparable properties in St. Marys for the assessor to use as a basis for valuation.

In addition to the increased assessment of Lot 43, in November 1838, Isaac Slayton, a "Master Carpenter" claimed an encumbrance against the house and property of Horace Pratt. The encumbrance states;

Isaac Slayton (master carpenter) claims an encumbrance on the house and premises on which it is erected of Horace S. Pratt being part of Lot known in the plan of City of Saint Marys as lot (No. 43) forty three adjoining other part of said lot, said to belong to the Estate of Ethan Clarke dec'd. for the building of the said house. St Marys November 27, 1838.

This encumbrance not only establishes that Pratt was indeed constructing a residence on Lot 43 in 1838, it also suggests that the project was distinctive or extraordinary, given the services of a master carpenter were required.

Finally, also of note is the relocation of a structure from the north half of Lot 43 to Lot 41 in 1839. Referred to as "Pratt's Study" and later the "Pratt-Gillican House," the building was moved from Lot 43 to the corner of Conyers and Wheeler streets, by Jane Aldrich, upon her purchase of Lot 41. If the building in question pre-existed Orange Hall on Lot 43, its relocation might be expected following the construction of a new residence on the property, further reinforcing the 1838 construction date. Although it has been somewhat altered, the building remains standing today on the southeast corner of Lot 41.

### Isaac Slayton

The encumbrance of 1838 establishes Isaac Slayton as the builder of Orange Hall. Isaac Slayton was born in Brookfield, Worcester County, Massachusetts in 1804, the son of Isaac Slayton and Sarah Walker. Slayton married

Lucy Guilford in Sturbridge in July of 1830. From this marriage he had four children. A Slayton family history reveals that Isaac Slayton was a farmer and carpenter and that he bought and sold property and worked at his trade around Brookfield until the mid 1830s. The most provocative information included in the history states that "about 1837, he [Slayton] went by ship to southern Ga., [and] worked at his trade at and near St. Marys."<sup>34</sup> The timing of his arrival in St. Marys strongly suggests that he was called to Georgia for the commission of constructing the residence of Pratt and the specificity of the words "at and near St. Marys" suggests that he participated in at least one other project in the vicinity. It is unknown how Pratt became familiar with Slayton or his work.

It may have been Slayton's intention to return to Massachusetts upon completion of the Pratt residence however, given that he had difficulty receiving compensation for his work, he remained in St. Marys for a number of years. The encumbrance executed in 1838 by Slayton had not been resolved by 1842.<sup>35</sup> A motion to set aside an award to Slayton is recorded in the Minutes of the Camden County Superior Court for the year 1842. The minutes suggest that there was some question about the actual value of work completed by Slayton. The document also reveals that Israel Geer, who was a local builder and member of the Presbyterian Church was consulted on the matter and asked to provide an impartial assessment of Slayton's work. The minutes also contain some interesting comments on the intricacies of the project and shed some light on its construction. Specifically mentioned in the minutes is the "great deal of extra work that was done to the stairs such as the mahogany banister and that Mr. Pratt had made them too short and Mr. Slayton had to piece them."<sup>36</sup> This not only provides insight into the finish materials used but suggests that Pratt was intimately involved in the construction process. Eventually Slayton prevailed and was awarded, from Pratt's estate, \$4,600 beyond that which he had already received for his work.

Upon resolution of the encumbrance, Slayton returned north to visit relatives in 1843. Subsequently he went back to Georgia and is said to have gained property to the point where he was estimated to be worth ten to twelve thousand dollars.<sup>37</sup> Slayton died of "fever" at St. Marys in September of 1848. According to the Slayton Family History, his widow traveled to Georgia to settle the estate but was only able to collect a few hundred dollars.

As a builder or master carpenter in the vicinity of Brookfield in the 1820s and 30s, Slayton would have been witness to the emergence of a new form of architectural expression that was replacing the building traditions of the colonial era. Throughout New England, the Greek Revival Style was beginning to flourish in the early decades of the

<sup>&</sup>lt;sup>34</sup> Slayton, Asa W. History of the Slayton Family, Biographical and Genealogical. Grand Rapids, Michigan, Dean Printing Company, 1898. p. 69.

<sup>&</sup>lt;sup>35</sup> This was likely complicated by Pratt's death which occurred in 1840.

 <sup>&</sup>lt;sup>36</sup> Minutes of the Superior Court, Camden County, Georgia. November 1842. On file at Bryan Lang Library, Woodbine, Georgia.
<sup>37</sup> Slayton, History of the Slayton Family. p. 69.

nineteenth century and was strongest in the larger cities and other centers of growth. Worcester, which is approximately 15 miles from Slayton's home town of Brookfield, was one such community that was experiencing unprecedented growth at the time and remains known for its collection of Greek Revival Style buildings constructed during this period.

In terms of the quantity and quality of its Greek Revival style architecture, Massachusetts benefited greatly from the presence of Asher Benjamin and Elias Carter whose work is found throughout the central and western portions of the state. Although Benjamin's contributions to the movement through his pattern books are well documented, it is the work of Elias Carter with which Slayton would likely have been most familiar. Carter, who at one time worked with Benjamin, settled in Worcester in 1828 and subsequently did an "enormous amount of work there."<sup>38</sup> Prior to moving to Worcester, Carter spent time in the south, and specifically Georgia, joining other northern architects who were finding work in the region. Although the extent of Carter's travels in Georgia are undocumented, his work has been identified in Savannah's First Baptist Church (1833) and in Macon in "several full-blown Greek Revival style houses."<sup>39</sup> Upon returning to Worcester, Carter designed a number of churches and commercial buildings, however, he is best known for his residential projects. Talbot Hamlin in his Greek Revival Architecture in America, states of Carter's residential work:

His houses are large in scale, dignified and simple in mass, and wherever he could he used a two story colonnade of Greek Doric or Ionic columns extending the full width of the house. Some people, because of these colonnades, have sought to find in them a southern influence. In reality these Worcester examples frequently pre-date many of the southern mansions.<sup>40</sup>

No information could be located documenting Slayton's career as a builder in either Massachusetts or Georgia. In addition no connection between Slayton and Carter or any of the other architect/builders of the region could be found. However, given Slayton's formative years as a builder were spent in the vicinity of Brookfield and Worcester, it can not be denied that he would have been familiar with Carter's work and likely developed his craft working on buildings exhibiting the form and detailing of the Greek Revival movement.

<sup>&</sup>lt;sup>38</sup> Hamlin, Talbot. Greek Revival Architecture in America, Being an Account of Important Trends in American Architecture and American Life Prior to the War Between the States. Dover Publications, Inc., New York. 1944. p. 171.

<sup>&</sup>lt;sup>39</sup> http://www.brimfieldhistoricalcommission.com/federal\_hist2.htm

<sup>&</sup>lt;sup>40</sup> Hamlin, Greek Revival Architecture in America, p. 171.

#### The Greek Revival Movement in Georgia

As Pratt contemplated the design of his new home in 1837, it is obvious that he was not inhibited by the conservative architectural traditions that he observed around him. Many, if not all, of the buildings constructed in St. Marys at the time would have been simple wood frame structures exhibiting the characteristics of the earlier Federal or Colonial period. Included among these were the Presbyterian Church and the home of Archibald Clark, both of which stood directly across the street from Lot 43. Pratt's selection of the avant-garde Greek Revival Style demonstrates an awareness of the artistic and architectural trends of the day and a desire to bring them to St. Marys on a grand scale. His familiarity with the new style may have been attributed to: a personal interest in remaining informed on the subject of the arts, contact with relatives or friends from the northeast where the style was more prolific, or may have come from the dissemination of information that would be expected in a busy port town. This is not to say that the movement had not reached Georgia by this time, in fact it had, and it is possible that through his travels, Pratt may have been witness to it. A number of important examples of the style had already been constructed in the state. These included, among others, the Chatham County Courthouse in Savannah (1830-1833), the Chapel at the University of Georgia in Athens (1832-1833), the Medical College at Augusta (1834-1836) and the Governor's Mansion at Milledgeville (1837-1839).

The influencing factors resulting in the proliferation of the Greek Revival movement across the country in the early to mid-nineteenth century were numerous. Politically and culturally, America was severing ties with England after years of conflict and expressing what has been described as "youthful democratic ideals." Geographic and economic expansion was being fueled by the discovery of seemingly limitless natural resources in the country's interior. The American people were engaged in a spirit of confidence and nationalism and embraced the cause of the Greeks who were at the time embroiled in their own struggle for independence. Finally, discoveries in the field of archaeology in the eighteenth century and documentation of classical ruins were becoming more widely published and began to influence artistic and architectural expression across the western world. Specifically, the images featured in James Stuart and Nicholas Revett's the *Antiquities of Athens* published in 1762 would later become "part of the 19<sup>th</sup> century's architectural vocabulary and icons of the Greek Revival Style."<sup>41</sup>

In the southeast, Robert Mills and William Jay are credited with first introducing the Greek Revival movement to the region. Although their work in Charleston and Savannah is described as "restrained" and not representative of the more fully developed expression of the style, it was the first to depart from the conservatism of the colonial

<sup>&</sup>lt;sup>41</sup> Lane, Mills. Architecture of the Old South, Georgia. Beehive Press. 1990. p. 132.

period. Despite their presence however, the Greek Revival Style failed to flourish along the Georgia coast, even later during its height of popularity. With the exception of a few isolated examples, by the late 1830s, it is said that architecturally the coastal regions of the state remained essentially as they had been at the turn of the century.<sup>42</sup> A "shift in population, wealth and power from the coast to the cotton belt" resulted in the style developing most rapidly in the newer towns of the central and northern portions of the state. In some cases these towns were even given Greek inspired names such as Athens, Sparta and Ionia, further demonstrating the widespread sentimentality the Americans held for the Greeks.

By the late 1830s, the characteristic features of the style were appearing in every corner of the nation, from Maine to Florida. As is the case with Orange Hall, it was the amateur architect and builder that were most often responsible for execution of the Greek Revival residence. Formally trained architects of the period were almost exclusively interested in design commissions for public buildings. For the most part, architects did not exist in the outlying areas of the country, like St. Marys. Further, "it was neither deemed necessary or customary to employ professional advice for domestic work."<sup>43</sup> The simple, bold geometric forms of the Greek Revival Style also made design and implementation within the grasp of the novice builder. Finally, publication of pattern books by Asher Benjamin, Owen Biddle and Minard Lafever provided guides for these builders to accurately replicate appropriate forms and details.

In addition to Isaac Slayton, other architect/builders known to have been present and working along the lower Georgia coast in the 1830s include Willis Ball and James Hamilton Couper. James Hamilton Couper was from Hopeton, near Darien and is credited with Savannah's Christ Church (1838) as well as "many of the great houses in the neighborhood."<sup>44</sup>

Ball is best known for his work at Roswell, Georgia but is thought to have started his career with Roswell King and the King family near Darien. Roswell King was himself a skilled carpenter who had been employed earlier by Thomas Spalding, a planter architect, in the construction of Spalding's South End House.<sup>45</sup> King eventually moved his family to northwest Georgia in the late 1830s where he constructed a mill on Vickery Creek and established the town of Roswell. Willis Ball proceeded to Roswell with the Kings and is said to have been responsible for a majority of the early construction there.

<sup>&</sup>lt;sup>42</sup> Hamlin, Greek Revival Architecture in America, p. 208.

<sup>&</sup>lt;sup>43</sup> Major, Howard. The Domestic Architecture of the Early American Republic, The Greek Revival. J.B. Lippincott Company. 1926. p. 41.

<sup>&</sup>lt;sup>44</sup> Hamlin, Greek Revival Architecture in America, p. 209.

<sup>&</sup>lt;sup>45</sup> Lane, Architecture of the Old South, Georgia, p. 164.

An interesting connection between the King family and Horace Pratt, is that while in Darien, King's daughter married Pratt's brother Nathaniel who later also traveled with the group to Roswell to serve as minister of the First Presbyterian Church. In addition to the Presbyterian Church, the Kings, with Ball, constructed several large Greek Revival temple form houses in Roswell. These include Bulloch Hall (1840) and Barrington Hall (1842) among others.

Nathaniel Pratt arrived in Roswell in May of 1840 where he and his wife lived in a "frame house" for the next four years. In the days before he was to begin construction of a new home, the seasoned timber caught fire and burned and therefore the decision was made to build the new house of brick. The building, known as Great Oaks was eventually completed in 1844.<sup>46</sup> The architectural similarities between Orange Hall and Ball's temple form houses at Roswell, as well as the personal connections between the parties involved have been called "tantalizing." Although there is no documentary evidence linking the events that transpired in Darien, Roswell and St. Marys in the late 1830s, it is obvious that Pratt and his brother together with the King family had a common affinity for the Greek Revival Style and the temple form residence.

## Post Construction

As construction neared completion on Lot 43, the site would have become a spectacle, attracting the attention of local citizens and visitors alike. The scale and style of the new residence would have been familiar only to those few who had been to Savannah, Milledgeville, Macon or Augusta or had traveled further north to the urban centers along the eastern seaboard. It is also suggested that Pratt's new home likely drew some negative "comment" within St. Marys as a garish display of wealth, inappropriate for a minister, the monumentality of the residence overshadowing the adjacent house of worship.

A number of sources state that prior to the completion of Orange Hall and possibly as early as 1836, Pratt received an invitation to accept the position of Chair of the English Literature Department at the University of Alabama at Tuscaloosa. After more than one attempt to entice Pratt, the University realized that neither salary nor prestige could attract him to accept the position. The institution subsequently appealed to his sense of duty citing "heresies and errors," which were distracting the Presbyterian Church in the south at the time. The solicitation emphasized

<sup>&</sup>lt;sup>46</sup> King Family Papers. On file at the Georgia State Archives.

the impact Pratt could have in remedying this situation by relocating to Alabama. Pratt eventually accepted the position, leaving St. Marys shortly after the completion of his new home.

When considering the events of the late 1830s, the question often arises, *why would Pratt construct such a residence and then almost immediately upon its completion leave St. Marys*? A communication read to the congregation of the First Presbyterian Church of St. Marys upon Pratt's death later in 1840 sheds some light on this question and the events that transpired.

The communication states that after consideration of the requests to join the University faculty and relocate to Alabama, Pratt eventually gave "a qualified promise" to accept the position, if someone with more experience for the duties of Chair could not be obtained. It was only then, after "considerable time elapsed" and thinking he would not be required to accept, that Pratt began the process of constructing his new residence. The communication further confirms Pratt's intentions to stay in St. Marys stating he "commenced building here on a scale which is well known to all plainly indicate[ing] he designed this town as the permanent home of himself and family."<sup>47</sup> Pratt's future in St. Marys was determined however when the University subsequently demanded that he honor the promise he had given earlier. As a man of his word, Pratt agreed, doing "violence to his own and the feelings of his family" to leave St. Marys, and was installed in his position at the University in early 1839. It is unknown how much time if any Pratt and his family were able to spend in their newly constructed home or if the project was entirely completed by the time they left St. Marys. It is possible that Pratt may have ceased all building when he realized he would have to honor his commitment to the University, leaving the house in an unfinished state. It is possible that the pending relocation may have been Pratt's motivation for selling and moving his "study" and also provides an explanation as to why it was necessary for Slayton to file an encumbrance against the property.

Pratt left St. Marys and was installed in his position at the University of Alabama at Tuscaloosa in 1839. Although he only spent a short time there, his impact was felt immediately. In addition to his responsibilities to the University, Pratt also supplied at the First Presbyterian Church of Tuscaloosa. The family moved into a building on campus which formerly served as a prepatory school. The structure, which remains standing today, is raised off of the ground with a columned portico supported by wide spread Doric columns the entirety of which sits on brick piers. It is unknown if Pratt initiated any alterations to the building or was responsible for its Greek Revival detailing. After occupation by General Gorgas, the building was known for a time as the Pratt-Gorgas House, however, connection to the Pratt family was eventually dropped from the name as time passed.

<sup>&</sup>lt;sup>47</sup> Records of the First Presbyterian Church of St. Marys.

In the summer of 1840, during travel from Alabama to Georgia, Pratt fell ill. He was able to proceed to the home of his brother Nathaniel, in Roswell, where he spent his final days. Horace Southworth Pratt died on August 3rd, 1840 at the age of 43 and was buried in the Presbyterian cemetery in Roswell. Pratt's marker reads;

Horace Southworth Pratt For 19 years A Minister of Jesus Christ

Erected by his wife and children

## The Early 1840s

The Inventory and Appraisement of Pratt's estate provides some insight into his worth at the time of his death. A number of notes and mortgages held by Pratt for various individuals are listed, as well as his real estate holdings in Camden County which included a 719 acre tract (not viewed by the appraiser) and one lot and improvement in the Town of St. Marys appraised at \$10,000. One source states that "bond was set at \$80,000." In addition to the above, the following items are also listed, Stock in the Bank of St. Marys, one small iron safe, one ladder, one jug of varnish, dividend from Bank of St. Marys and "rent for house in St. Marys due by Gen. D. L. Clinch.<sup>48</sup> Knowing that Pratt did not sell his newly constructed home when he left St. Marys, this last entry provides evidence that he rented the house to General D. L. Clinch, thus making Clinch the second, or possibly the first occupant of Orange Hall.

Clinch, who had a distinguished military career, serving in the War of 1812 and winning a decisive battle over the Seminole Indians of Florida at the battle of Ouithlacoochee, retired from military service in 1836 and settled in Camden County. Retirement was not a time of leisure for Clinch as he had the responsibility of settling the large estate of his friend and father-in-law John Houstoun McIntosh as well as managing his own property. Within Camden County alone, the McIntosh estate included several plantations, their improvements and hundreds of slaves. Clinch, a widower, resided at Refuge Plantation, which had been given to him by McIntosh earlier in 1830. In 1836, Clinch married Elizabeth Bayard Houstoun at Marianna Plantation. Horace Pratt conducted the ceremony. Their

<sup>&</sup>lt;sup>48</sup> Camden County Inventory Appraisals of Estates 1832-1867. On file at Bryan Lang Library, Woodbine, Georgia.

union lasted only a few years as Elizabeth died in 1838 after an unknown but "most painful illness."<sup>49</sup> Although a majority of Clinch's time was likely spent at his rural plantation Refuge, its proximity to St. Marys (27 miles by horseback or carriage) allowed him to remain active in community affairs. Clinch was one of the largest contributors to the Presbyterian Church and was instrumental in raising funds for a new academy in the town. Clinch's biography, "<u>An Aristocrat in Uniform</u>," states that friends in the village always kept rooms available for Clinch and his children, however evidence provided by Pratt's estate accounts undeniably confirm that Clinch was in fact renting a house from Pratt and later from his estate from approximately 1840 to 1842.

Accounts against Pratt's estate continued to accumulate into the early 1840s. In 1842, "15 days carpenters work on house and fence" are listed. The following year, Isaac Slayton is listed among those drawing from the estate. Forty dollars worth of orange trees were also purchased with estate proceeds during this same year, however it is unknown if these were for Orange Hall. The general carpentry work by Slayton may represent work to the house and property that remained unfinished since its initial construction or simply expenditures for routine maintenance.

### The Early Landscape

Given the circumstances of Pratt's removal to Alabama in the late 1830s, it is unknown if he had sufficient time or the inclination to fully install the finishing touches on his building project. Decoration of the interior and landscaping of the property are work items that generally occur in the final stages of construction and therefore may have been susceptible to omission. There is no evidence this was the case.

If in fact the project was fully completed prior to Pratt's departure, in terms of the landscape, it is likely that the grounds would have been ornamented and organized in the tradition of the day. Based on other examples from the period, the landscape would have likely included a decorative garden with ornamental plants, an orchard or "grove," a service yard, and a kitchen garden. Given its urban setting, Orange Hall would not have had the extensive "landscape of work" usually associated with rural plantation houses, such as multiple outbuildings, slave quarters, and field crops. It is unknown if Pratt's rural acreage functioned as a working plantation, however it is likely. The Pratt family would have required a kitchen garden to support their everyday needs in their St. Marys home, while more substantial food stuffs would have been transported down the river from the plantation. The approximately two acre lot surrounding Orange Hall would have provided ample room for both decorative and utilitarian landscapes.

<sup>&</sup>lt;sup>49</sup> Patrick, Rembert Wallace. Aristocrat in Uniform, General Duncan L. Clinch. University of Florida Press, Gainesville. 1963. p. 164.

In the early 1840s, the city of St. Marys was a bustling center of commerce with nearly 1,000 inhabitants. One of the chief industries in the city from its inception was shipbuilding and claims were made that, up until that time, more vessels had been built in St. Marys than any other port in Georgia."<sup>50</sup> Sailing vessels carried cotton, rice and produce from the river plantations north of St. Marys where the goods were transferred for transportation to Savannah and other ports.<sup>51</sup> Streets were dirt, cattle roamed freely and one of the town's primary sources for fresh water was located in the center of Osborne Street immediately in front of Orange Hall.

The first descriptions of Orange Hall and its property date from this period, through the remembrances of James Silva. His text fails to provide descriptive information about the building, instead focusing on its occupants and the grounds.

Orange Hall was one of the show places of the town. It was a fine large mansion of wood and colonial style of architecture and was owned by the Rev. Horace Pratt, Pastor of the Presbyterian Church, who married into a wealthy northern family. I remember a little wooden enclosure in the church yard in which monuments stood to the memory of some members of this family.

I have no recollection of any of the Pratt family, but have been told I was christened by Mr. Pratt. I remember when this house was occupied by Mr. Davis, a schoolteacher and his wife who gave music lessons and kept boarders. The house was always filled during the winter by northern tourists who appreciated the quiet beauty and mild climate of St. Marys.

It is unclear during what time period the Davis' lived in the house as no documentation remains of their occupancy. It is possible that they too rented the house after General Clinch and prior to its sale by Pratt's heirs in 1846.

Silva describes the landscape of the period as follows:

The grounds of the mansion were very extensive and covered half of the block between Wheeler and Osborne Streets. In front of the house was a beautiful flower garden. There was a hedge of sour orange trees within the fences all around the lot, and back of the house there was a circular avenue of the same kind of trees crossed in the center by two walks extending north and south and east and west.

The flower garden that Silva mentions at Orange Hall was most likely a symmetrical flower garden that extended along the front of the house in balanced halves on both sides of the front walk. Flower beds were likely bordered by close cropped hedges or brick borders. A common element among all antebellum designed landscapes was an

<sup>&</sup>lt;sup>50</sup> Savannah Georgian, 1837—BLL.

<sup>&</sup>lt;sup>51</sup> James S. Silva Collection, Early Reminiscence of Camden County, Georgia by and Old St. Marys Boy in his 82<sup>nd</sup> Year, 1914-1915, Page 20—BLL.

emphasis on formality, symmetry and balanced appearance. These designs were derived from European models that emphasized geometric elements and structure. Gardens were often designed with circles and rectangles as their basic form.<sup>52</sup> Following this design template, gardens in the antebellum south ranged from small parterres in urban locations to expansive avenues and gardens in rural areas.<sup>53</sup>

Orange Hall would not have featured a broad expanse of trimmed lawn during the nineteenth century as exists today. Lawns were difficult to grow in the antebellum south due to the difficulty of irrigation, scorching sun, and the few choices offered in grass seed. Lawns were usually relegated to areas immediately around the house and garden, or underneath the shade of an orchard.<sup>54</sup> Lawns that could withstand the sunny, dry climate of the southern states were not introduced until the 1880s.<sup>55</sup>

One of the most vivid images of Orange Hall comes from the description of sour orange trees outlining the boundary of the property. As mentioned above, Pratt's estate account lists money owed by Pratt for the purchase of orange trees. It is possible that the orange trees selected to delineate the landscape were an inspiration for the name of the property, or vice versa. It should be mentioned that reference to private residences as "Hall" was not a common practice until around the turn of the 20<sup>th</sup> century. Therefore it is likely that Orange Hall was not known as such until about this time. The earliest primary source document referring to the property as Orange Hall is the Inventory and Appraisement of future owner Silas Fordham's estate, prepared in February of 1900. Therefore it may be Fordham that deserves credit for the naming of the property.

Orange trees were a common antebellum choice for forming landscaped avenues and decorative hedges, especially popular trees were the Osage orange and the sweet orange.<sup>56</sup> The sour orange trees, with their long, broad leaves colored dark green on top and light green on the bottom, would have been an attractive ornamental buffer against the dusty city streets. Sour oranges grow up to thirty (30) feet in height, have aromatic leaves and fragrant flowers, and produce orange-like bitter fruit that are used, among other things, for the making of orange marmalade. Orange trees were very commonly planted in orchards as well as used strategically as ornamentals.

The picket fence at Orange Hall is a historic landscape feature that has consistently bounded the property from its earliest period, although the fence has been replaced many times over the years. Photographs from the late

<sup>&</sup>lt;sup>52</sup> Garden History of Georgia, 11.

<sup>&</sup>lt;sup>53</sup> Cothran, 48.

<sup>&</sup>lt;sup>54</sup> Cothran, Pages 10, 47, 74.

<sup>&</sup>lt;sup>55</sup> Garden History of Georgia, 9.

<sup>&</sup>lt;sup>56</sup> Cothran, 60.

nineteenth or early twentieth century show a poorly maintained fence with pickets missing or broken. These earliest photographs depicting the fence also show that its pales were cut horizontally at the top, rather than having pointed pickets (See Figures I-10 and I-11). Later photographs of the property are rather uniform in showing a pointed picket fence with a front entrance gate marked by paired wooden box columns. The height of the fence, as well as the front gate design, has also changed slightly over time. Antebellum picket fences were typically three to four feet high and were used for decorative and utilitarian purposes. Citizens of St. Marys likely constructed the fences as much for decoration and privacy as for a functional barrier against the cattle, ducks and geese that wandered the streets.

Other common ornamental trees of the antebellum landscape included southern magnolia, cedar, and live oak; all trees that are currently found at Orange Hall. These majestic specimen trees provided perennial interest, fragrance, and shade for the property. The oldest trees on the property today are Southern Magnolia and Eastern Red Cedar; estimated age of the plants range from 100 to 150 years old. Other trees planted in the coastal areas of Georgia during the antebellum era included olives and sour oranges.<sup>57</sup> A nearby St. Simons resident, John Couper, introduced imported olives trees from France into the area in 1825.58

Not only was the sour orange tree used as an ornamental hedge at Orange Hall, but it was also used as a border for radiating walks at the rear of the house. According to Silva, two paths crossed in the rear of the property and both were lined with orange trees.<sup>59</sup> Again, this suggestion of symmetry is typical of the antebellum era and the crosspaths would have functioned well in organizing the activities at the rear of the house. The walk extending along the east-west axis would have been a pedestrian path accessing the property from Wheeler Street. The north-south walk would have extended from Convers Street, continuing south across the yard to the southern edge of the property or, perhaps, to a small garden or service area. These symmetrical paths would likely have been laid in sand or shell material.<sup>60</sup>

<sup>&</sup>lt;sup>57</sup> Letter to the editor of the Southern Agriculturist, Margaret Davis Cate Collection, R/1, Bryan Lang Library.

<sup>&</sup>lt;sup>58</sup> Garden History of Georgia, 41.

<sup>&</sup>lt;sup>59</sup> According to James Cothran in his book Gardens and Historic Plants of the Antebellum South, there was a colonial era garden in Savannah that had a similar design to Orange Hall. The Trustees Garden, established by Gen. James Oglethorpe in 1733, was "laid out with cross-walks with orange trees. In the squares between the walks, were vast quantities of mulberry trees, this being a nursery for all the province...The orange trees, according to Moore's account, were planted along the crosswalks that divided the garden into various squares. Thus, they not only served an experimental purpose, but when in bloom produced a delightful fragrance for those who might stroll the walks" This garden, however, was abandoned by 1743 and the land turned over to settlers. (137) Another interesting fact is that Oglethorpe owned a property called Orange Hall that was located at Frederica on St. Simons Island, Georgia (Garden History of GA, 9). <sup>60</sup> Cothran, 26.

## James Mongin Smith

Orange Hall was sold by public auction to James Mongin Smith in December of 1846 for the sum of \$2,500, making him the second owner of the property. James Mongin Smith was a wealthy planter originally from Beaufort District, South Carolina. The property was purchased "before the Court house in the town Jeffersonton" and named as the seller in the transaction is John Bessant, administrator of Horace Pratt's estate. Although Smith owned the property for 10 years, little is known about his occupation of the residence or any improvements or alterations he may have made to the site, the building or its finishes.

Smith, like Horace and Nathaniel Pratt, was a graduate of Yale where he completed his studies in 1819. After graduation he returned to South Carolina where he was a planter. According to notes found in the Smith Family vertical files at the Bryan-Lang Library, an 1835 affidavit made by Smith states that it was his intention to "settle and cultivate a plantation on the Great Satilla River opposite the town of Jefferson in Camden County."<sup>61</sup> The following year, he along with his two brothers-in-law, William and Charles Cole, moved to Camden County and became successful rice planters. Smith is said to have acquired many slaves and several thousand acres.<sup>62</sup> The 1837 Camden County Tax Digest details Smith's holdings as a 1<sup>st</sup> quality tide swamp, a 2<sup>nd</sup> quality hammock, and pine lands all on the Great Satilla River. Also listed are 52 Negroes from this same location, 1 Negro in Chatham County and one pleasure carriage.<sup>63</sup>

The Federal Census of 1850 shows Smith living in St. Marys with his third wife, Laura, and five children. The Tax Digest entries for the following years seem to indicate Smith was beginning to divest of his Camden County holdings. In 1852, Smith's holdings totaled 1,200 acres of land, however, this number drops to just over 900 acres in 1853, and is reduced again in 1854.<sup>64</sup>

Although Smith may have been considering leaving Camden County prior to the yellow fever outbreak of 1854, several sources state that at least one of his motivations for relocating to the piedmont area was to escape the "malarial fevers" of the lower coast. The outbreak of 1854 resulted in the death of 20 citizens of St. Marys.

<sup>61</sup> Williford, Wiliam Bailey. Williford and Allied Families. 1961. Smith Vertical File, Bryan Lang Library, Woodbine, Georgia.

62 Ibid.

<sup>&</sup>lt;sup>63</sup> Camden County Tax Digest 1837. On file at Bryan Lang Library, Woodbine, Georgia.

<sup>&</sup>lt;sup>64</sup> Camden County Tax Digests for 1852-1854. On file at Bryan Lang Library, Woodbine, Georgia.

In 1856, Smith sold the Orange Hall property and moved to Marietta, Georgia where he constructed what is described as a one-story "replica" of his St. Marys residence (Figure I-3). Although Smith's Marietta house was much reduced in terms of scale and deviated from the original in plan, having two wings extending perpendicularly from the main body of the structure, the style and architectural detailing of the building generally match that found on Orange Hall. It is purported that Smith's Marietta house survived until the turn of the century when it burned.

After 10 years of ownership, Smith sold Orange Hall to Francis M. Adams for \$4,000. This sale price represents a more than 60% increase over the purchase price of the property. According to Pratt's estate appraisal, Smith originally obtained the property for a much reduced price. It is likely that the increase is attributed to this rather than substantial improvements made by Smith. Smith resided in Marietta until he died at the age of 60, in November 1859.

### Augustus Mitchell

Miscellaneous notes found in the vertical files at the Bryan Lang Library suggest that the Mitchell family may have occupied the house in 1854, as Vernon Dearborn Mitchell asserts in the documents that he was born at the residence on March 31, of this same year. Although the Mitchell family's ownership claims are not reflected in the assembled chain of title, it is possible that they rented the property from James M. Smith between 1854 and 1856 when he sold the property.

Vernon Dearborn Mitchell's father was Dr. Augustus Stanislav Mitchell, a surgeon with the 4<sup>th</sup> Georgia Calvary during the Civil War. Dr. Mitchell was from Portland, Maine and attended Yale Medical School in the late 1830s. He died in St. Marys in 1878 at the age of age 67; his wife Anna Curtis died in St. Marys on August 22, 1864.



Figure I-3. View of James Mongin Smith's "replica" of Orange Hall constructed in Marietta, Georgia some time after 1854.

#### Francis Mayrant Adams

Francis Mayrant Adams (Figure I-4) served as Mayor of the City of St. Marys and Principal of the St. Marys Academy in the 1850s. Adams was from South Carolina and like the previous two owners was also a graduate of Yale. He was born in 1821, the son of Rev. Dr. Jasper Adams, a Professor of Mathematics and Natural Philosophy at Brown University and who later went on to become Chaplain and Professor at West Point.<sup>65</sup> After his graduation and the death of his father ca. 1841, Francis Adams returned to Pendleton, South Carolina where he was a teacher. He also studied law, was admitted to the bar and may have practiced in Sumterville, South Carolina during this period.

Adams came to St. Marys in 1849 after being elected as principal of the St. Marys Academy. In addition to his duties at the Academy and also as Mayor of St. Marys, Adams is also said to have been a rice planter and closely involved in the establishment of the Episcopal Church. In 1853, Adams married Isabel McDonald and in 1855 they had a daughter Francis, who was affectionately known as "Fannie." Fannie was stricken with health problems and was described as a "helpless invalid," although the 1870 Federal Census reveals that she attended school during that year. Adams himself was also described as being in "feeble health" and it is for this reason that he was unable to actively participate in the Civil War. Despite these issues, Adams was able to play an important role in the Civil War history of St. Marys and Camden County. An ardent advocate of secession, Adams and Nathaniel J. Patterson were elected to represent "Old Camden" at the Secession Convention held at the Statehouse in Milledgeville in January of 1861. When the vote was recorded both Adams and Patterson had voted in favor of the Ordinance of Secession.<sup>66</sup>

Although it is expected that Adams fled St. Marys and possibly Camden County during the War, as did many, his whereabouts during those years is unknown. Although Adams returned to St. Marys after the War, he sold Orange Hall to Elizabeth S. Ryals approximately one year after the conflict ended. Adams' reasons for selling the property are unknown. In 1869, Adams and his family were living on Lot 42 immediately west of the Orange Hall Property.<sup>67</sup> The property formerly contained the Episcopal Church, which was destroyed by federal troops during the Civil War. Adams remained in St. Marys until his death in 1884. Adams' daughter later donated the parcel on Lot 42 back to the Episcopal Church in 1902.

<sup>&</sup>lt;sup>65</sup> Obituary Record of the Graduates of Yale College, Deceased during the Academic Year Ending in June 1884. On file at Yale University Library, New Haven, Connecticut.

<sup>&</sup>lt;sup>66</sup> Vocelle, History of Camden County, p. 93.

<sup>&</sup>lt;sup>67</sup> Reddick, Camden's Challenge, A History of Camden County, p 264.



Figure I-4. Francis Mayrant Adams.

### The Civil War

At the outset of the Civil War, the population of Camden County was 5,482 with 1,721 of those being white. A series of meetings held at Jeffersonton and St. Marys as a precursor to the Secession Convention established that those present were in favor of secession. Georgia formally ceded from the Union in 1861 and almost immediately military companies were formed. The St. Marys Volunteers were the first company organized in Camden County. A vast majority of the able bodied men of the town left to take part in the conflict, and many of the remaining citizens fled to points inland, leaving St. Marys essentially abandoned.

By March of 1862, Federal forces had seized Fernandina Beach, directly across the river from St. Marys, a position they occupied until the end of the war. Although Florida was of little strategic importance and possessed the smallest population among the Confederate States, its cattle ranges provided much-needed beef for the Southern armies. Realizing that they would be unable to defend Florida's vast coastline, Confederate commanders opted to withdraw their troops "to more important theaters."

It was from their position at Fernandina Beach that Federal troops regularly raided the nearby Georgia coast, harassing its citizens and foraging for needed supplies. On several occasions the town of St. Marys was occupied by Union troops. As in conflicts past, much of the contact with the enemy came from the water, in the form of bombardments by naval vessels. The Official Records of the Union and Confederate navies describes one of these events, when on November 9, 1862, the *U.S.S. Mohawk* came under fire from the town and subsequently opened its battery upon the place. Several buildings were set on fire and the Confederate forces were driven from the town.

Although it is without doubt that Orange Hall must have suffered some damage during the war, it is curious as to why or how the building was essentially spared from more substantial destruction. The Episcopal Church immediately west of Orange Hall was burned during the conflict and the adjacent Presbyterian Church is said to also have been set ablaze, but was miraculously saved by a sudden rainstorm that doused the flames. Federal forces were likely unaware of the political views of Orange Hall's owner at the time and the important role he had played as a delegate to the Secession Convention in Milledgeville. Several sources state that Orange Hall was occupied by federal forces in the later stages of the War, or possibly after the conflict ended, under the charge of a "Sargent Denham." Although no further information could be obtained about this occupation, it has been suggested that, given the relatively low rank of Denham, he may have been placed in the residence to protect it from other Union soldiers.

An 1862 map of the St. Marys River and Fernandina Harbor, (Figure I-5), shows the town of St. Marys and the Orange Hall property at the time. This map provides the earliest view of the property and its general layout. Orange Hall is clearly distinguishable in its present location. Three outbuildings are shown clustered along Conyers Street to the northwest of Orange Hall. The function of these outbuildings can not be discerned from the map, however a description of the property from a few years later makes mention of a stable, servants' quarters and kitchen in back of the house. The relative size of the outbuildings shown on the map, when compared to the main house, suggest they were substantial structures.

The clustering of buildings in a "service yard" at the rear of the house is a typical spatial organization found in most working antebellum landscapes. As James Cothran explains in his book on antebellum Southern gardens, "a typical house and garden plan of the antebellum period reflected a highly structured arrangement that created an overall sense of organization and formality" and would include a division, sometimes with fences or hedges, between landscapes of work and landscapes of leisure.<sup>68</sup> This service yard would have been where meals were prepared, deliveries made, horses kept, clothes washed and repairs on machinery completed. A kitchen garden would have been located on the Orange Hall property in order to provide basic fruits, vegetables and herbs for the preparation of meals and medicinal products. It is unknown what size garden was maintained at Orange Hall, but it is likely that it was located on the south side of the rear yard for several practical reasons. For one, a garden in this location would have had close proximity, and perhaps even an axial relationship, to the kitchen in the rear yard. Two, this area of the property provides a logical placement for a vegetable garden between the formalized front flower garden and the rear orange grove described in other early descriptions.

#### Elizabeth S. Ryals

Elizabeth and Joseph Ryals of St. Marys purchased Orange Hall for \$2,000 in May of 1866. Elizabeth Ryals was the daughter of a local St. Marys lawyer, Robert Ripley.<sup>69</sup> The purchase price of the house, which was half of that paid by Adams ten years earlier, may be reflective of its condition following the Civil War. A description of the property attributed to both Vernon D. Mitchell, mentioned above, and a member of the Ryals family provides important information about the post-bellum appearance of the property. Based on the information within, it is likely that the description can be attributed to one of the Ryals children, and therefore it is provided here;

<sup>68</sup> Cothran, p. 48.

<sup>&</sup>lt;sup>69</sup> Bailey, Orange Hall, St. Marys Georgia, p.2.



Figure I-5. View of St. Marys in 1862 This is the earliest known view of the property. Note the location of outbuildings.

Orange Hall was about four acres; the house was quite by itself. Fenced front and back. Paths led to gates, both front and back, and were lined with trees, tall ones were olive and short ones cactus. Orange grove was in the rear. Paths led to circles in back of the house and there were stables in the rear and servants quarters and the kitchen. Some servants slept in the basement of the house. The right basement had a big water tank for the baths. Left basement had wine cellar and housekeepers quarters in back of it....The house had a pump in it. Father bought the house from a man by the name of Adams and sold it to Fordham & Shephard of New York, who bought land there and on Cumberland Island (real estate dealers). Family went North summers and the house was shut up, only keeping enough help to keep things in order. Went back and forth by sailing vessel.<sup>70</sup>

The Ryals' description of the orange grove to the rear of the house, as well as the olive trees and cactus lining the front and rear entrance paths, fits well with other early photographic evidence. The orange grove was most likely located at the rear of the Orange Hall property on that portion that has since been subdivided from the original parcel. It is likely that a path from Wheeler Street would have extended through the grove toward the house, providing an aromatic and pleasant escape from the coastal heat. The preservation or "re-creation" of native groves of trees was a very popular landscape element in the antebellum South. Care would have been taken to cultivate a grove that was shady but not thickly planted. It was also important not to plant trees in regular courses; rather, the trees would have been casually grouped or placed at random intervals to approximate the look of a naturally occurring grove of trees.<sup>71</sup>

The Ryals only held the property for three years, selling it to Silas Fordham of New York in 1869.

### Silas Fordham

At the time Silas Fordham bought the Orange Hall property he was employed as Supervisor of the Town of Barton, Tioga County, New York. Prior to this, he had been "engaged in the general merchandise business" in Factoryville, which later became East Waverly, New York. Fordham also owned a farm near Sayre, Pennsylvania, just across the New York state line, which is described in his obituary as "one of the most valuable properties in this section."<sup>72</sup>

It appears that real estate speculation and a desire to spend the winter months in a warmer climate may have been Fordham's motivations for coming to St. Marys. In addition to the purchase of Orange Hall, Fordham also owned a

<sup>&</sup>lt;sup>70</sup> Notes by Elisabeth Forsaith (Riley) Whitman of Brunswick, Maine.

<sup>&</sup>lt;sup>71</sup> Cothran, p. 64.

<sup>&</sup>lt;sup>72</sup> http://www.rootsweb.com/~nytioga/record30.htm

3,000 acre parcel of "wild land" near St. Marys named the "Borell Tract," as well as 3,400 acres on Cumberland Island known as the "High Point Tract." Although it is unknown how Fordham utilized these properties, his obituary refers to his property near St. Marys as a "large Orange grove." It is unknown how Fordham distributed his time between the Pennsylvania, New York and Georgia properties. The Ryals description above suggests he primarily used Orange Hall as a winter retreat.

The earliest photographic image of Orange Hall dates from a few years after Fordham's purchase of the property (Figure I-6). The building itself shows little change from its current appearance. The entire structure is painted white with dark shutters and appears to be in relatively good condition.

The dominant organizational features of the front yard--photographed in the middle of the day--are two circular planting beds, one on either side of the front walk. The planting beds are clearly defined with what appears to be a single course of brick, slightly raised above the ground level, outlining the bed and serving as an edge restraint. The brick circles are further reinforced with a band of sand encircling the brick. Unpaved sandy paths extend around the perimeter of each bed, as well as in almost a semi-circle from one bed to another and around the south side of the yard. The bed in the foreground of the photo appears thinly planted and may actually be the remnants of an abandoned perennial garden. The yard exhibits a scraggly lawn with a variety of young, small trees concentrated around the foundation of the house and on the perimeter of the lawn space, including cedar, banana and possibly orange. The small trees appear to be volunteers, or to have been planted without any formal design. A larger established multi-stem plant resembling oleander is in the immediate foreground of the photograph.

The streets of St. Marys at this time were made of dirt and sand interspersed with patchy grass. Early photographs of the town illustrate herds of cows grazing and geese wandering the largely quiet streets. Of course, most of the town's activity was focused on the port at the St. Marys River where lumber mills and cotton warehouses stayed busy and sloops and steamers docked.

Boardwalks, or plank walks, were constructed in 1876 from the St. Marys River to the City Courthouse.<sup>73</sup> There is no doubt that these pedestrian routes would have been frequently dusty or muddy, and therefore the addition of

<sup>&</sup>lt;sup>73</sup> Camden County Tribune, July 3, 1969.



Figure I-6. Earliest known photograph of Orange Hall. The image is dated 1872.

boards would have been viewed by local citizens as a vast improvement. Despite the dust, mud and wandering cattle, the streets of St. Marys were not without charm, as recorded in Lippincott's Magazine in 1880:

The streets of St. Marys are her glory: they are one hundred feet wide, carpeted with a green award smooth as a shaven lawn, lined with live-oaks and china trees. In April the latter are in full bloom, their lilac blossoms hanging in dense panicles, the green leaves flecking them just enough to afford contrast, and the somber Spanish moss descending gracefully from every branch and limb. Great gaudy butterflies are continually hovering over them and fluttering uneasily from flower to flower, and gleaming hummingbirds, our own Northern summer visitors, are flashing from tree to tree, now poised a moment in the air, now sipping honey from the tiny cups...in August the town had changed but little. The streets were as green as in early spring; the flowers were fewer, but the air was heavy with the fragrance of crape-myrtles and orange.<sup>74</sup>

With long, sun-filled days and mild weather, the vegetation of St. Marys and Orange Hall would have provided color throughout much of the year. Plant species identified in the earliest photographs of Orange Hall include live oak, yucca plants, crape myrtle, oleander and Southern magnolia (Figure I-7). The picket fence buffered the property from the sand road, which had no sidewalk or curb. Later images of the Orange Hall property (See Appendix D) show untended ground cover, long grasses, yucca and live oak, and a clearly intact front walk with concrete border. Although it is difficult to discern details in these photographs it appears that the front walk is made of grass, or perhaps is laid with brick with grass growing through.

The scene illustrated in the 1872 photograph of Orange Hall (Figure I-6) largely represents how the property would have looked when it was visited three years later by Nathaniel Bishop. Bishop, who was a writer and explorer, trekked across South America at the early age of 17. In 1874-75 he completed a canoe trip from Quebec, Canada, to Florida's Cedar Keys on the Gulf Coast, stopping at St. Marys. Bishop documented his journey in a book, *The Voyage of Paper Canoe*. In the book, Bishop briefly mentions the hospitality extended to him by Silas Fordham in "his beautiful winter home, Orange Hall" during an evening reception in the town. The book provides no more information about the property but establishes that the house was a center of social activity during Fordham's occupation.

In 1895, Fordham, who was a widower and had previously also lost a son at a young age, married Lydia E. Lovejoy of Owego, New York, and it is said, subsequently spent much of his time there. Four years later, in January of 1899, Silas Fordham died at age 79. According to notes transcribed from estate documents, Fordham's properties in New York and Pennsylvania were "heavily mortgaged" at the time, and therefore insolvent, leaving only the value of the Georgia properties to provide support for his widow.

<sup>&</sup>lt;sup>74</sup> Dungeness, General Green's Sea-Island Plantation. Lippincott's Magazine, #26, August 1880.



Figure I-7. Nineteenth-century photograph of Orange Hall and landscape features.

At the time of his death, Fordham had owned Orange Hall for 30 years, longer than any of the previous owners. The inventory and appraisement of furnishings from Orange Hall suggest that the house was completely furnished and fitted out with all the household items one would expect in an occupied residence. The total appraised value of Fordham's Georgia holdings, including his rural properties, was approximately \$10,310 when he died. Orange Hall and its contents accounted for \$2,310 of this total. Fordham's widow held onto the property for another twelve years until it was sold to J. L. Sweat of Ware County, Georgia.

#### Joel Lee Sweat

J. L. Sweat purchased Orange Hall for \$2,500 in 1911. Interestingly, this is the same amount paid for the property by James Mongin Smith, 65 years earlier. Sweat was an accomplished lawyer, Judge, Representative and State Senator from Ware County. He was born September 21, 1847, the son of Samuel Sweat and Maria Hitch. Both his parents died while he was still a young boy. While living with his grandmother in 1862 at the age of 14, he ran away from home and enlisted in the Confederate army. A portion of his service was with "Wheelers Cavalry" and he remained active until the surrender at Appomattox in 1865. After the war he served as Justice of the Peace and Clerk of the Superior Court in the Homerville District. He was admitted to the bar in 1869, beginning a long and successful legal career. In the 1870s he served under Governor James M. Smith in the Executive Department and then became Clerk of the House of Representatives. He was later a delegate to the National Democratic Convention in 1884 and again in 1888. In 1892, Sweat was elected Judge of the Superior Court of the Brunswick Circuit.

Earlier in his career Sweat had served as attorney for the Waycross Lumber Company and is said to deserve credit for conceiving the idea for the Waycross Airline Railroad (WAL), which was established by charter the same year. The railroad was planned to extend southwest from Waycross to the port at St. Marys, but would not be realized until 1908. Railroad man and Director of the proposed line, Lemuel Johnson moved from Waycross to St. Marys in 1908 and Sweat followed three years later.

Sweat may have become familiar with Orange Hall while acting as attorney for Silas Fordham's widow. This association is recorded in notes transcribed from Silas Fordham's estate documents. During the first few years after Sweat's purchase of the property, it is likely he did not spend much time there since he served as State Senator for the 1913-1914 term. It is unknown if Sweat's interest in Orange Hall stemmed from a desire to live in St. Marys or

if he was speculating that the railroad would bring an economic boost to the town and he would realize a substantial return for this prime piece of real estate.

No further information about Sweat's occupation of Orange Hall could be located. J. L. Sweat was elected Representative from Ware County in 1919 and sold Orange Hall the same year.

#### James Howard Becker

James Howard Becker purchased Orange Hall from J. L. Sweat for \$6,500 in early May of 1919. Becker (Figure I-8) mortgaged the property; the terms of the agreement included a \$500 down payment and a 6% annual interest rate. Becker's motivations for purchasing Orange Hall may be revealed by a second deed recorded on December 24 of the same year when he transferred ownership of the property to his wife Metta. The timing of the transaction suggests that the property may have been presented by Becker to his wife as a Christmas gift.

Born during the Civil War, James Howard Becker was one of four children of Harmon V. Becker and Lovina Johnson. Harmon Becker moved with his family from Red Creek, New York, to Elmore, Ohio, in 1869. Initially establishing a saw mill, he began to manufacture bicycles in 1892. This manufacturing enterprise was expanded when he purchased an empty organ factory and engaged his two sons in the business. By 1898 the factory was producing 1,500 bicycles per year. It was about this time that the Beckers began planning to diversify into the manufacturing of automobiles. Two years later, in February of 1900, the first automobile was produced by the Elmore Manufacturing Company. The Federal Census from this same year shows James Howard Becker living with his wife Metta Angell Becker in Clyde Village, in Sandusky County, Ohio. Becker was thirty-seven at the time and his occupation is listed as "Manufg. Automobiles."<sup>75</sup> Becker and his brother marketed their new automobile around the country, returning from an auto show in 1904 with 300 orders for Elmore Cars.<sup>76</sup> The company realized tremendous success over the next five years. In 1909, Harmon V. Becker sold his interest in the company to his two sons, and in November of the same year the Elmore Automobile states that Becker's younger brother Burton continued on with the firm as a General Manager. After the sale, James H. Becker, who was said to have been involved primarily with the financial side of the business, devoted his time to various other matters in which he was interested

<sup>&</sup>lt;sup>75</sup> United States Federal Census, 1900.

<sup>&</sup>lt;sup>76</sup> Steinemann, Virginia Fuller, "The Elmore Automobile." The Sandusky County Historical Society, Freemont, Ohio. Leaflet No. 7, March, 1976. p. 2.



Figure I-8. James Howard Becker.

and took "a well earned rest."<sup>77</sup> The Elmore car continued to be produced over the next two years, however much restructuring took place under GM and in 1912 the last Elmore automobile was driven off the end of the production line.

Becker would have been 58 at the time of his purchase of Orange Hall and therefore it is likely the property was purchased as a winter home to be used by he and his wife during their retirement. Other sources suggest Becker also desired to invest in St. Marys and that some plans were made by him for the development of a country club on the North River as well as other unnamed industrial endeavors.

A number of improvements to Orange Hall occurred under Becker's ownership. Although the source of the information is unknown, the condensed history of Orange Hall, written by Eloise Bailey, describes the property and some of the changes made to the building.

Crystal chandeliers were installed, a large furnace added, and a dumb waiter built between the basement kitchen and dining areas above. The house was painted white with green shutters and the grounds were depicted as terraced and velvety with flowering trees, oaks, magnolias, oleanders, and wild olives. Well-kept rose gardens with pergolas and trellised vines created a place of beauty.<sup>78</sup>

Images of the property purportedly from the Becker occupation show the home decorated with fine furnishings, art, floor coverings and draperies.<sup>79</sup> One of the most interesting images is of the rear of the property showing trellised vines, pergolas, a central path and what appears to be plowed earth for gardens or row crops on either side of the path. The photo shows no evidence of terracing as is suggested in the above description. The central linear pathway and possible cross path may relate to the earlier described landscape configuration.

Early twentieth century images of the front yard show a lawn with the errant yucca plants removed and a prominent oleander shrub firmly established near the front walk. Also notable in these photographs is the lack of hedges along the front walk and the presence of the sago palm and Eastern Red Cedar adjacent to the house (Figure I-9 and I-10).

According to Bailey's history of the property, the Beckers fell out of favor with St. Marys due to "local political disputes" and sold the property in late 1925. The property was sold complete with all its furnishings and appurtenances for the sum of \$15,000. The description of the property from the deed suggests that the exterior

<sup>&</sup>lt;sup>77</sup> The Clyde Enterprise, November 25, 1909.

 <sup>&</sup>lt;sup>78</sup> Bailey, Orange Hall, St. Marys, Georgia, 1983, p. 2.
<sup>79</sup> Few details can be observed in these images as they are poor quality copies. The source and location of the original photographs is unknown.

kitchen remained present at this time, making mention of both the "household and kitchen furniture." Other items mentioned as being included in the sale are the "cutlery, crockery, glassware, musical instruments, tapestry, rug, carpets and all personal property of every kind and description, within any of the said buildings or on the grounds."<sup>80</sup>

## The Fryhofers

Orange Hall was sold by the Beckers to George Fryhofer of Palm Beach, Florida. Little is known about George Fryhofer. A single mention of a George Fryhofer auctioning real estate in a 1978 Boca Raton Historical Society publication places him in southern Florida prior to 1920. In early 1926, Fryhofer transferred ownership of Orange Hall and all its contents to Ruth Green, also of West Palm Beach. Although they were not married at the time of the transaction, Fryhofer and Green were later wed.

It is said, the Fryhofers spent little time in St. Marys. Evidence suggests they may have been negatively impacted by the economic downturn of the late 1920s. In 1931, the county seized the property for failure to pay taxes. The outstanding balance owed by Fryhofer was a mere \$252.66. In addition, the following month a lien was placed on the property by W. R. Smith in the amount of \$660 for caretaking and maintenance duties conducted at Orange Hall. Mrs. Fryhofer, who was listed as residing in Washington, D.C., at the time, was able to reconcile the debts owed and regain possession of Orange Hall the following year.

In 1933, Ruth Green Fryhofer, at this time living in Burke County, Georgia, sold Orange Hall and its contents to Mrs. Effie G. Townsend for the sum of \$10.00. Mrs. Fryhofer requested that the dining room rug, one sofa and chair to match, one occasional chair in the living room and a writing desk in the first floor be excluded from the transaction. It is unknown if Fryhofer had a personal connection to these items or wished to retain ownership of the pieces for other reasons. The connection between the Fryhofers and Townsends is unknown.

<sup>&</sup>lt;sup>80</sup> Camden County Deed Book G, p. 348.



Figure I-9. Early Twentieth-Century View of Orange Hall.



*Figure I-10. Early Twentieth-Century View of Orange Hall. The image may represent the property's decline during the Great Depression or earlier prior to the Becker's occupation.* 

### Townsend - Kelly

A newspaper article written in the 1970s, when a grandson of the Townsends visited Orange Hall, provides much of the information available about this family's occupation of the property. The article reveals that Townsend Drew Kessler would spend summers at Orange Hall with his grandparents after his family moved from the area in 1936. Kessler's grandparents were originally motivated to purchase Orange Hall after the house the family was living in burned. It was almost immediately following the Townsends' purchase of the property that Orange Hall was documented by the HABS recording team. The drawings and photographs produced as part of this effort document how the property appeared during the first years of the Townsend occupation (See Appendix C). As is the case throughout much of its history, the exterior of Orange Hall is shown to have changed little from its original design. What appears to be the original shutters remained present on the building at that time. Other items of note documented in the photographs include the deterioration of the masonry around the base of the building, the installation of electrical utilities, the wood enclosure at the current electrical room below the rear porch and the original window configuration on the basement rear elevation. The drawings also provide important information about the finishes and use of several spaces. These include the bedroom on the first floor and the "Present Kitchen" and "Study" on the basement level. Upon completion of the HABS project, Mrs. Townsend was presented with a certificate of appreciation, which still hangs in the first floor hallway.

During World War II, Mrs. Townsend, who was a widow and had fallen on hard times, converted the first and second floors into four apartments and limited her occupation to the basement level. It is likely that the closets flanking the fireplaces, documented in later, ca. 1960 drawings, were added at this time. Kessler's reminiscences of Orange Hall describe the house as never being warm, and that the furnace didn't work and therefore the many fireplaces were used to knock off the chill. Wood was retrieved from a shed behind the house that later burned. The shed described in the article may be the small structure that is visible behind the house in the HABS photographs from the period.

Kessler also describes the plumbing pipes, routed on the exterior of the building, which would freeze on occasion. He also mentions the high sulphur content of the water and a large barrel that was placed in the yard to catch rainwater for washing hair. The landscape features are described as follows;

The Orange Hall lot used to extend to Wheeler Street and had a much scampered kumquat tree which still thrives. Lettuce and radishes were raised in the garden plot to the south of the house. He would carry them across the bamboo grown lot to the store to sell. The place always had a picket fence but the earlier one was
higher. The side entrance to the yard, now firmed with pine bark, used to be covered by a cattle guard to keep out wandering city beef.<sup>81</sup>

The HABS photos show a well-maintained front lawn with a large sago palm, oleander shrub and mature hedges on the border of the front walk, an evergreen shrub on one side of the front walk near the gate and a cedar tree at the southeast corner of the house (Figures I-11 and I-12). The HABS photograph of the west facade does not provide any indication as to what existed behind the photographer's lens—only the immediate back of the house and a few sparse foundation plants are in the photo.

In 1949, Effie Townsend transferred ownership of Orange Hall to her daughter, Faye Kelly, for the sum of \$1.00. During Kelly's ownership, the original lot was severed and two new parcels created at the west end of the property. This resulted in the historic parcel being shortened by approximately 140 feet. Shortly after the lot was sold, a single family residence was constructed on the northernmost lot and remains present today. The southern lot has never been developed and currently belongs to the First Baptist Church. In 1951, Kelly sold Orange Hall and its remaining property to the St. Marys Kraft Corporation.

#### St. Marys Kraft Corporation

St. Marys Kraft Corporation purchased Orange Hall to accommodate workers' housing. Floor plans of the house prepared in 1960 show how the residence was configured to accommodate multiple tenants. A site plan included as part of the drawing package reveals the presence of two small garages behind the house; one measuring 10' x 22' and the second slightly larger at 12' x 22'. It appears the purpose of the plans may have been to record the condition of Orange Hall in anticipation of its sale by the corporation, and do not represent contract documents illustrating a proposed scope of work. It is likely that the modifications to the building documented by the plans were completed during both the previous ownership by Townsend and by St. Marys Kraft.

The original central hall configuration of the residence had lent itself well for division into individual apartments. Floor Plans reveal that the house was able to accommodate six apartments; two on each floor, including the basement. Although the plans do not indicate room functions, it is likely that the rooms at the front of the house were used for living space, the backrooms for sleeping and the former dressing rooms were used as restrooms

<sup>&</sup>lt;sup>81</sup> Camden County Tribune, Dec. 9, 1976.



Figure I-11. Front Elevation of Orange Hall in 1934. HABS Photograph.



Figure I-12. Rear Elevation of Orange Hall in 1934. HABS Photograph. HISTORIC STRUCTURE REPORT

(plumbing fixtures are shown in these spaces). It is unknown how many tenants actually resided in the house as this would depend on how the apartments were furnished in terms of beds. It is also unknown what accommodations were available for preparing meals in this configuration.

Fortunately, the modifications to the building made by Townsend and the paper company required little of the historic fabric to be removed or altered. The most notable physical change made to the building during this time was the addition of small rooms infilling a portion of the open rear porch adjacent to the north dressing rooms on the first and second floors. An egress stair was added on the back porch, adjacent to the dressing rooms on the south side of the structure. Also, several former window openings on the rear elevation were changed to door openings at each level to provide egress from the interior spaces. Another change of note was the addition of closets throughout the building. The closets were consistently located adjacent to the central fireplace. Finally, a small restroom was added under the main stair. It is possible, however, that the restroom may have been added during the previous Townsend era as Ms. Townsend primarily occupied the basement level of the structure.

The St. Marys Kraft Corporation held the property for approximately ten years.

#### Twentieth Century Study and Recognition

During the mid-twentieth century there was a revival of interest in Southern architecture and decoration that was reflected in the journals and publications of the period. Following the HABS documentation of Orange Hall in the late 1930s, the building was photographed by F. S. Lincoln for a work entitled *Ante Bellum Architecture of the South*, which included only a few examples from Georgia. Many of the photographs from this effort were shown publicly for the first time in New York City, and then later several images of Charleston were reproduced for the 1939 issue of *House & Garden*.<sup>82</sup>

In 1947 Orange Hall was given mention in the October issue of *The Coastal Georgian*. Irene Bush Hackett described the interior of the residence:

...spacious rooms of Orange Hall at St. Marys, with its deeply recessed doors and windows adorned with corner medallions bearing magnolia-like flowers, exquisitely carved. The winding stair with its delicate

<sup>&</sup>lt;sup>82</sup> Lincoln, F.S. Antebellum Architecture of the South, Catalog of Photographs. New York. 1939.

spindles and handrail and hand carved frieze is breath catching. Then you go down into the lower floor where the ancient kitchen, banquet hall and storage rooms are now occupied by the owner, Mrs. C. S. Townsend. There is the original rose–red brick floor, the large fireplace and ovens. Great keys hang above the huge mantel. You read the certificate which hangs in the front hall, signed by Harold Ickes, Secy. of the Interior, which tells that Orange Hall, built in 1820, has been selected by the advisory committee of the Historical American Building Survey as possessing exceptional historic or architectural interest, and as being worthy of the most careful preservation for the benefit of future generations.... And that to this end a record of its present condition and appearance has been made and deposited for permanent reference in the Library of Congress.<sup>83</sup>

In 1951, Wilbur Zelinski, an architectural historian and a member of the Department of Geography at the University of Wisconsin, conducted a survey of Georgia identifying extant examples of Greek Revival residences. Zelinski's work was partially funded by the University of Georgia and its purpose was to identify and document the characteristics of the Greek Revival building as it appeared in the state prior to the Civil War and to further understand how the movement was reflected in the "culture, history and geography of the region." His work describes the variations and adaptations of the style and how they were distributed throughout the state. Of interest are his findings that show a vast majority of the columned mansions were constructed along the lower piedmont where prosperity and new development were at their zenith in the mid-nineteenth century. What is most striking about this is that it emphasizes the rarity of extant examples of the style within the coastal area. He writes;

The coastal area with their great wealth and large plantations present us with an interesting problem, for there the Greek Revival movement was extremely weak. A single good mansion is to be found at St. Marys, a remarkable one of aberrant design on Sapelo Island, but nothing that is genuinely Greek Revival in Savannah - the richest and most culturally advanced city in the state - and probably none at all in the countryside. A parallel situation developed in South Carolina where the Greek Revival movement was relatively weak and special in Charleston and other coastal towns but strongly developed in upstate areas. The reason for this anomalous condition would seem to be the fact that in Savannah, Charleston and other points along the coast, a handsome, highly sophisticated architecture of unique character had been established for many years and almost completely satisfied the architectural aspirations of the mansion-builders of the area.<sup>84</sup>

Zelinski's article includes a map of the state showing the relative quantities and locations of Greek Revival houses encountered during his travels (Figure I-13). Orange Hall stands out as the lone surviving example in the lower coastal region of the state.

<sup>&</sup>lt;sup>83</sup> Hackett, Irene Bush. The Coastal Georgian. October, 1947. Taken from type-written notes found within the Orange Hall file at the Georgia Department of Natural Resource, Historic Preservation Division.

<sup>&</sup>lt;sup>84</sup> Zelinski, Wilbur. The Greek Revival House in Georgia. Journal of the Society of Architectural Historians, XII, 2. On file at the Georgia Department of Natural Resources, Historic Preservation Division.



Figure I-13. Antebellum Greek Revival Dwellings Extant in 1951. Taken from Wilbur Zelinski's article entitled The Greek Revival House in Georgia.

In 1952 Orange Hall was documented in Medora Field Perkerson's *White Columns in Georgia*, one of the first publications solely dedicated to the subject of Georgia architecture. In her book she provides a brief description of the residence:

St. Mary's own prize Greek Revival house is Orange Hall, built about 1830 by Horace Pratt, Presbyterian Minister. Its four fluted columns are duplicated in miniature in the balustrade. Orange Hall has especially fine cornices, and carved woodwork, black marble mantels and inside folding blinds for the big recessed windows. It is three stories high and a banquet hall extends all the way across the front of the ground floor.<sup>85</sup>

Three years later, in 1955, Orange Hall was described by Margaret Davis Cate in her *Early Days of Coastal Georgia*, as:

a perfect example of the Greek Revival type of architecture. Every detail correct – the doors, the windows, the fluted columns with their Doric capitals... Such a house, with its spacious rooms, calls to mind the day when social life was centered in the home, when living itself was an art, and the home told of the occupants, of their way of life and of the joy of such living. Its style was reserved and in the good taste and simple elegance which has been cherished by cultivated people throughout the ages.<sup>86</sup>

Finally, later in 1986, a photograph of Orange Hall was included in Mills Lane's study of Georgia architecture in *Architecture of the Old South, Georgia*. It is interesting to note that Lane provides an accurate 1838 construction date for Orange Hall in this work.

#### City of St. Marys

Ownership of Orange Hall was transferred to the City of St. Marys in October 1961. According to the deed, the property was sold for \$1.00 and "other good and valuable considerations." In addition, St. Marys Kraft Corporation made the following stipulations part of the transfer of ownership agreement:

- 1. That the improvement located on said described property, same being a colonial type building commonly known as Orange Hall, shall be named the "Gilman Civic Center."
- 2. That said premises shall be used exclusively as a civic center.
- 3. Second party shall provide a music and literary library and a full time librarian for the operation of such facilities.

<sup>&</sup>lt;sup>85</sup> Perkerson, Medora Field. White Columns in Georgia. 1952. Taken from type written notes found within the Orange Hall file at the Georgia Department of Natural Resources, Historic Preservation Division.

<sup>&</sup>lt;sup>86</sup> Cate, Margaret Davis. Early Days of Coastal Georgia. 1955. Taken from type written notes found within the Orange Hall file at the Georgia Department of Natural Resources, Historic Preservation Division.

4. Second party agrees to maintain said building in the same state of repair as when received under this instrument.

The building served the city though the 1960s and early 1970s as the St. Marys Public Library. Bookcases are described as being located on the first floor as the other floors were at the time in a "state of complete disrepair." Mrs. Lucille Trapnell served as librarian for much of this time. With limited funds, the city continued to utilize the building for civic purposes. The Chamber of Commerce was eventually moved into the basement of the structure where it stayed for some time. The falling plaster and slow deterioration of this now city-owned building began to attract the attention of local citizens and a movement towards its preservation ensued.

#### 1970s Preservation

During the 1970s there was a resurgence of interest in Orange Hall and its value as a historic site. This began with nomination of the property to the National Register of Historic Places. In preparation of the nomination, an extensive amount of research was conducted by Eloise Bailey and other volunteers. This effort was the first to assemble and organize the history of the property.

In 1975, a concerted effort to preserve and restore portions of Orange Hall was initiated by the City of St. Marys, the local Chamber of Commerce and the Gilman Paper Company. In addition to these, several other organizations contributed to the preservation effort, including the local Kiwanis Club, The Camden County Historical Society, the local garden club and several local individuals, including Alton Murray, who had 1,200 commemorative coins struck as part of an early fundraising campaign. The Savannah architectural firm of Leon Jay Meyer was engaged by the city to prepare documents for the restoration and repair of the building. Initial preservation activities were focused on the basement level, the space to be occupied by the Chamber of Commerce. Due to insufficient funding, however, little progress was made implementing the broader work program.

Despite qualifying for a substantial grant through the "Title X" program in 1975, the city was unable to fulfill the program requirements and as a result did not immediately receive funding. The Title X program required the use of unemployed laborers, which the grant coordinators were unsuccessful in organizing. As a result, several extensions to the original grant period had to be requested.

In response to this dilemma, a former planner from the Kings Bay Submarine Base that had been involved in the preservation efforts suggested the use of unemployed high school students for completion of the work. Two faculty members, Bob Hemminger and Carlos Jones, stepped forward and agreed to supervise the students in this effort. Work began during the summer of 1978 (Figure I-14).

The four students that took part in the project were not without applicable skills, each having achieved commendation in various disciplines, including cabinet making, plumbing and electrical work. From a public relations point of view, the program was extremely successful. The organizers of the student workforce were recognized by the National Trust for Historic Preservation for their innovative approach to fulfilling the grant requirements. Guided by the documents created by Meyer, the group performed repair and restoration activities during the summers of 1978 through 1980. The following provides a condensed listing of the work items completed for each of the three years. For a full description of the activities conducted as part of the program, a daily log was created.

#### June-July 1978

- Photographic inventory of the interior and exterior of the building was completed to document the as found condition. Approximately 250 photographs were taken.<sup>87</sup>
- Plaster rubble was removed from the second floor.
- Paint was removed from the walls of the central hall on the second floor.
- The existing exterior stairway at the rear porch was removed.
- The flooring of the rear porch was removed at the first and second floor levels.
- Partitions and fixtures were removed from the first and second floor bathrooms.
- A partition was removed from the central hall on the first floor.
- The rear porch ceiling was removed at the first floor level.
- Paneling and lath were removed from the "northwest room" on the first floor.
- Electrical fixtures and wiring were removed from the first and second floors.
- Plumbing fixtures were removed from southwest room on the first floor.
- Flooring was replaced in the northwest and southwest rooms using salvaged flooring from the porch.
- Plaster was removed from the northwest room on the main floor.
- Porch flooring and ceilings on the first and second floors were replaced.
- Salvaged lumber was transported to Camden County High School where it was planed for reuse.

<sup>&</sup>lt;sup>87</sup> The whereabouts of these photographs could not be determined during the course of this study.



Figure I-14. Title X Program team members, School Counselor Bob Hemminger, Vocational Teacher Carlos Jones and student Richard Bryson in second floor bedroom after removal of wall and ceiling plaster.

- Plaster was removed from the walls and ceilings throughout the second floor.
- Paint and plaster samples were taken from each room.
- Ceiling lath was removed in the northeast room on the second floor.
- Sample pieces of original moldings were delivered to Riverview Millwork in Jacksonville.
- Paint was removed from woodwork and walls in the northeast room on the first floor.
- The floors of the southwest and northwest rooms on the second floor were repaired using salvaged lumber.
- The windows in the northeast room on the first floor were removed and scraped free of paint.
- A sample window was delivered to Riverview Millwork for replication.
- Paint was removed from the walls, woodwork, doors, shutters and ceilings of the northeast room on the first floor.
- Window, shutter and door hardware was removed and cleaned of paint and tarnish.
- Paint was applied to the walls, ceiling, windows and woodwork of the northeast room on the first floor.
- Paint was applied to the rear porch flooring on the first and second floors.
- A leak in the main roof was repaired.
- Six broken window panes were replaced.
- New trim was installed at the rear porch on the first floor.

#### May-July 1979

- Measured Orange Hall property and prepared scale drawing for use during archaeological survey to be conducted by University of Georgia.
- Removal of rubble at rear porch.
- Scraping and restoring windows and sills of southwest room on the first floor.
- Removed, scraped, restored and repainted windows of north room on first floor.
- Scraped, primed and painted west "peak."
- Removed and restored windows of northwest room on first floor.
- Repaired and painted southwest corner of roof.
- Paint and repair windows of north room on the first floor.
- Scraped, glazed and repainted windows of southwest room on the first floor.
- Reconstructed window casement at northwest room on the first floor.
- Scraped and painted porch trim and windows of southwest room on the first floor.
- Painted, scraped, primed and caulked southwest corner of building.
- Sills repaired at southwest room on the first floor.
- Windows replaced in north room of the first floor.

- Replaced window weight ropes and repaired pulleys in the north, northwest, porch and southwest rooms on the first floor.
- Scraped, primed and reglazed windows of the southwest room on the first floor.
- Windows and trim removed at south room on the first floor.
- Window weights repaired in the porch, south and southwest rooms on the first floor.
- Removed and replaced sill at south room on the first floor due to termite damage.
- Rear stair rail and balusters primed and painted.
- Shutters from south side of building removed, scraped, painted and reinstalled.
- Window sill and exterior siding removed to expose termite damage at south room on the first floor.
- Scraped, glazed and primed windows in south room on the first floor.
- Scraped, caulked and primed southwest side of building.
- Repaired and replaced siding and trim at southwest corner of building.
- Severe, active termite damage located at southwest corner of building structural timber destroyed.
- Damaged timber replaced with new cypress member.
- Termite damage found to encompass approximately half the width of the south side of the building.
- Window trim scraped, filled, sanded and painted at southeast room on the first floor.
- New electrical panels and mast installed.
- New wiring run for circuits A-16 and A-19.
- Removed and replaced masonry on west exterior wall.
- Installed new wiring in north rooms on the first floor.
- Installed spotlight under porch.
- Scraped, glazed and primed windows in southwest room on second floor.
- Sewer line run from restrooms on first floor to main line on Osborne Street.
- Stand pipe for first floor restrooms installed.
- Water line run from meter to Utility Room.
- Masonry around utility entrances rebricked.
- Electrical circuits run on first and second floor.
- Scraped, sanded and primed porch windows on second floor.
- New outlets and light switches installed on first and second floors.
- Brick walls of utility room laid up.
- Plaster work conducted on first floor.
- Repaired and reconstructed floor under west porch.
- Door and trim installed on utility room.
- Security lights installed.

#### June-July 1980

- Plaster removed from walls and ceilings of rooms on first floor.
- Woodwork scraped in hall on first floor.
- Support members of east porch replaced.
- Paint removed from walls in southeast room on the main floor.
- New decking and flooring installed on east porch.
- Woodwork scraped in all rooms on the first floor.
- Doors on the first floor stripped and scraped.
- Hardware samples taken to H & M Foundry in Savannah for reproduction.
- Writing found over mantel in south room on the first floor.
- Carleton Roberts of the Tribune photographed the writing.
- Writing was found in the original plaster of the south room on the first floor over the picture rail "I vow I am the makers son and profit."
- Brown and finish coats applied to walls and ceilings of first floor rooms.
- Due to bonding problems, plaster removed from north room on first floor metal lath installed.
- East porch flooring was primed and painted.
- Molding and trim applied to east porch components.
- New column bases cut from Cyprus were installed at east porch.
- East steps reconstructed.
- A 4' x 4' opening in the first floor hallway was repaired. The opening was made to accommodate a floor register for a coal furnace installed to heat Orange Hall.
- Paint Analysis conducted by Philip Wisely of the University of Florida.

#### Kings Bay Naval Submarine Base

Orange Hall has benefited on several occasions from the military presence at Kings Bay Naval Submarine Base. The military installation, located northwest of St. Marys, since its inception has provided the city with an influx of new residents and a positive economic impact. On at least two occasions, military personnel have played an active role in the preservation of the structure.

The Army began to acquire land in the area of Kings Bay in 1954 for the construction of a military ocean terminal designed to facilitate the transport of ammunition in case of a national emergency. Construction of the installation

was completed by 1958, however, given there was no immediate operational need, the terminal was placed on inactive ready status.

In the 1970s, as a result of the closure of its submarine base in Rota, Spain, the Navy undertook a survey of the East Coast for potential relocation sites. Kings Bay was among five sites shortlisted and was finally selected after a rigorous review and evaluation against numerous criteria. The base was officially established in July 1978, and personnel were immediately deployed to begin preparations for the transfer of the submarine fleet.

In the 1980s, Kings Bay was selected as the home of the new Trident submarine, touching off a large building project that lasted throughout the decade. In the late 1980s the first Trident submarines arrived at Kings Bay. Submarines continued to be assigned to the installation until 1997 when the base realized its full complement of 10 Trident vessels.

The end of the Cold War and the subsequent reorganization of the country's military forces impacted Kings Bay. The decision was made to decommission the oldest of the Ohio-class submarines by 2005.

Orange Hall was first impacted by the military presence in the area when, in 1982, Naval Reserve Commander John K. Mott completed a restoration plan for the property as part of his annual two-week active duty session. The study included a review of the history of the property, documentation of preservation activities that had occurred to date, an assessment of existing conditions and recommendations for restoration. Commander Mott's civilian background lent itself well to the task as he was a practicing preservation architect from Fort Smith, Arkansas. The report developed was a thorough and insightful examination of the property, its use and recommendations for its future. It appears that very few of the recommendations made by Mott were implemented. This is likely due to the limited funding available.

In July of 1983, a 16 member Navy Reservist construction battalion known as the "Seabeas" took part in repair and reconstruction activities at Orange Hall. The group, made up of civilian carpenters, plumbers and electricians, traditionally spent their annual summer active duty session working on various community improvement projects. At Orange Hall several projects were undertaken.

The existing concrete walkway leading from the gate on Osborne Street to the front staircase was replaced. During demolition, a previous brick walkway was discovered under the concrete. The walkway was rebuilt using new brick laid in a herringbone pattern. This was based on an assumption that this pattern would have been used "during the

period the house was constructed." The historic bricks were salvaged and it was suggested by the Seabeas that these be sold to raise funds for further renovation efforts. It is unknown if this was actually done.

In addition to the walkway work, the front and rear staircases were moved 10" away from the building to make the top tread wider, alleviating a hazardous condition. The stairs were also shored up and wood siding was installed on the front staircase for "added beauty." New decking was installed on a portion of the front porch and the staircase railings and balusters were removed, sanded and caulked where they had deteriorated.

Finally, the electrical system was inspected to ensure the safety of its components. The existing outlets were replaced and a drawing was made of the building's circuit locations. Also as a part of this effort, the Kitchen area in the basement (B10) was cleaned out and new lighting installed.

#### The Recent Landscape

During the modern era, the landscape surrounding Orange Hall has been refurbished again. Photographs of the property show infrastructure improvements such as the installation of the curbing and sidewalks.<sup>88</sup> Also of note is the presence of mature evergreen shrubs on either side of the entrance gate inside the fence. The pre-1960 landscaping, except for the mature trees and the sago palms, appears to have been largely removed and replaced with new foundation plantings and a low hedge of boxwoods on either side of the front walk. During the 1970s, the bricks of the front walk were removed and replaced with new bricks as mentioned above. Recently, a fountain has been added to the front yard and the fence replaced with new pickets. Many additions to the rear yard have been made, such as the construction of a public restroom facility, new concrete walks and drives, new brick paths and newly planted ornamental trees.

#### The Orange Hall Foundation

Over the last several decades various groups of citizens have banded together to assist the City of St. Marys with the preservation, restoration and maintenance of Orange Hall. In some cases these groups have been extensions of already established historical societies or civic organizations. The focus of their efforts has been varied, some

<sup>&</sup>lt;sup>88</sup> 1950s newspaper article, Bryan Lang Library.

concentrating on the repair of the structure, or the collection of historical data and documents while others worked towards the installation of furnishings, decorative items and artifacts. There has also been a consistent volunteer effort dedicated to the interpretation of the building and providing tours to the visiting public.

In 2001, the City of St. Marys and a group of dedicated citizens banded together to form the Orange Hall Foundation, a non-profit, 501 C-3 corporation, established to assist the city with the promotion, management, maintenance and restoration of the Orange Hall property. The Foundation's mission statement is:

To protect Orange Hall, to advocate for her preservation and restoration, to generate community enthusiasm for her unique value, and to develop her into a first-class Historic House Museum consistent with her origins and her placement on the National Register of Historic Places.

The Foundation's organizational structure consists of 11 members of a Board of Directors who are appointed by the Mayor and Council of the City of St. Marys. Officers of the Foundation include a President, Vice President, Secretary and Treasurer. Although the Foundation is not a membership organization, opportunities for participation are provided through several committees. Over the past several years, the Foundation has demonstrated a successful track record of increasing awareness of the significance of Orange Hall as a historic site and community resource.

Figure I-15. A graphic timeline has been provided on the following page summarizing the history of ownership of Lot 43 and Orange Hall from 1788 to the present. The figure provides the owner's name, period of ownership and duration of ownership.



Figure I-15. Timeline showing ownership of Lot 43 from 1788 to present.

### PART II

#### EXISTING CONDITIONS AND INTERIM RECOMMENDATIONS

The assessment of existing conditions at Orange Hall was conducted by a multi-disciplinary team of professionals versed in the preservation of historic structures. The scope of the assessment was comprehensive, including review of the architecture, building structure, building systems, finishes, landscape and associated archaeology. The field work conducted by the various disciplines was coordinated and focused to assess the condition of the various components of the site and address the primary research questions established prior to the site visit.

This section of the HSR will describe the various elements of Orange Hall, its landscape and the archaeological investigation conducted as part of this effort. The text will also provide background and context related information, where appropriate, to orient the reader. The condition of the building and site components will also be discussed. Finally, interim recommendations are provided that address the most critical issues identified and are meant to assist the Foundation with the prioritization of its efforts in the short term.

#### Architectural Description

Orange Hall is a prominent, two-story, Greek Revival temple form residence on a raised full story, masonry foundation. The brick base of the building was originally finished with stucco and scored to resemble block. Quoining at each corner of the structure has been applied to further enhance the illusion of stone construction. Remnants of this treatment remain only along the south elevation of the building. The traditional four-over-four central hall plan is contained within the main body of the structure. The central mass is extended in the rear by two small, single room appendages on both the first and second floors. The continuation of trim elements to incorporate these appendages lengthens the side elevations. The front porch, main body of the house and rear extensions are all incorporated under the single gable roof, resulting in a strict adherence to the temple form. Restorative efforts have reversed minor alterations made to the building form (primarily within the rear porch) so that the building appears today much as it did when constructed in 1838.

Orange Hall is located on a flat urban lot facing Osborne Street, St. Marys' main thoroughfare and the primary entrance to the historic district and access to the town's waterfront. The building is set back from the street on a corner lot, which is defined by a white picket fence. The wide streets and siting of the adjacent Presbyterian Church on the interior of its open lot emphasize the dramatic visual impact of Orange Hall on approach from the north. The surrounding neighborhood consists of a mix of commercial, civic, residential and religious architecture. Several buildings in the vicinity of Orange Hall have been rehabilitated or restored to their mid-nineteenth century appearance, enhancing the historic character of the neighborhood. The scale of Orange Hall and its imposing columned facade is unprecedented in St. Marys.

Typical of the Greek Revival Style, the primary façade and portico are the most architecturally adorned while the secondary elevations possess a reduced treatment. The primary elevation is five bays wide with a central entryway. It is protected by the portico and has been sheathed with flush boards to imitate a smooth stone or marble treatment. The same flush board treatment has been applied to the pediment as well as the inset areas of the rear porch. The side elevations, facing north and south, are covered with weatherboard and the structure is heavy timber. The exterior walls have been artificially made extra thick using a double-framed wall assembly. This treatment was meant to accommodate the interior shutter pockets and once again simulate the massiveness of heavy masonry construction. A horizontal band of trim that steps up in the center of the side elevations marks the transition between the masonry base and the wood clapboard walls. Wood nailers protrude through the masonry above the basement level windows, however their function is unknown. It can be speculated



Figure II-1. View of Orange Hall from Osborne Street

that the original design may have called for additional trim pieces in these locations.

The front and rear porches are accessed by central staircases. The stair and porch balusters of the front porch are octagonal shaped and tapered to imitate fluted columns. The rear porch railing and balusters are smooth, round, tapered and much less substantial. Much of the historic fabric of the front and rear porches has been altered or removed.

The pediment on the primary elevation is supported by four widely spaced Doric Order wood columns. The width of the front elevation and the spacing of the columns results in a composition that fails to successfully imitate the heavy proportions generally sought in the Greek Revival Style. Although the columns originally terminated directly into the porch floor, deterioration at the foot of the column has required the addition of a square wood base in this location.

The entablature of Orange Hall is quite plain and lacks ornamentation of any kind. It does not follow the classical development of architrave, frieze and cornice, but has been reduced by the elimination of the frieze. The usual division of these elements is not present. Instead, the cornice has been placed directly above the smooth, unadorned architrave, projecting slightly to create an overhang. The entablature terminates where the porch meets the main body of the structure and the cornice continues around the perimeter of the building. Two-story pilasters extend from the front elevation behind the outermost columns and at the corners of the structure.

The front entrance of the house is contained within a pedimented surround adorned with classical elements. The inset wood door contains two vertical panels and is flanked by sidelights and a transom. Doric pilasters frame the sidelights as well as the larger assembly. An entablature with architrave, frieze and cornice is present above the transom and is capped by a pediment adorned with acroterion. The low ceiling height of the rear porch does not allow the same treatment at the rear door. In this case the pediment has been deleted. The rear door at the second floor level has a more reduced version of the assembly more closely matching that found on the interior.

At all elevations the windows have received a similar treatment. The natural hierarchy of the elevations has set the window proportions with the tallest windows existing at the first floor level. The windows of the front elevation on the first floor are different than the others in that they have a six-over-nine pane configuration and are framed with classically inspired surrounds complete with entablature and pilasters. The remaining windows are six-over-six double hung and framed with simple casing and cornerblocks. This same general treatment is repeated on the building's interior.

The low-sloped gable roof is clad with standing seam metal. Originally equipped with an interior gutter system, this feature has since been



Figure II-2. View of Orange Hall looking Southeast.

removed. Two interior masonry chimneys penetrate the roof and are finished with stucco.

Architecturally, Orange Hall possesses many of the characteristics that are considered typical of the Greek Revival Style. An illustration taken from a journal article written by Harold Bush Brown entitled *Historic Architecture in Georgia* shows what is described as a "Typical Greek Revival house in Georgia." With a few exceptions, the image closely resembles Orange Hall in both plan and elevation (Figure II-4).

In terms of materials and arrangement, Orange Hall is also typical of other examples from the period. Brick and wood continued to be the primary building material beyond the colonial period. The use of stucco was very common after 1800 and was often scored to resemble cut stone. The heavy timber framing with thickened exterior walls observed at Orange Hall has been called unusual but may be reflective of the builder's familiarity or preference.

In order to mimic the massing of a Greek temple it was necessary to carefully plan the interior arrangement, and in some cases sacrifice room size and convenience to achieve the desired effect. The addition of appendages, as is the case with Orange Hall, or in some cases wings, was often employed to accommodate secondary functions. The placement of the Dining Hall in the basement below the front porch is another example of creative planning employed by the builder/designer.

The typical elements of the Greek Revival Style were not purely decorative but also served a practical purpose. In the warm Southern climate the large windows and raised floor levels invited cooling breezes. In addition, the engaged porches shaded the windows from the sun and accommodated outdoor living.



Figure II-3. View of Orange Hall looking Southwest.

#### HISTORIC ARCHITECTURE IN GEORGIA 135



FIGURE 1. Typical Greek revival house in Georgia



Figure II-4. Typical Greek Revival house in Georgia, taken from Harold Bush Brown's article entitled Historic Architecture in Georgia.

#### Period of Significance

The National Register Nomination for Orange Hall defines the period of significance for the property as being 1825-1849. It is believed that this period was selected based on the limited background information that was available at the time research was conducted for the nomination 30 years ago. The early date of 1825 likely corresponds to the previous thinking that John Wood was responsible for constructing the building, or at least initiating its construction, while the 1849 date is likely representative of assumptions made that James Mongin Smith was responsible for adding the Greek Revival detailing to the structure. Since the nomination was completed, numerous individuals have continued to conduct research on Orange Hall and have uncovered documents that provide a better understanding of the early history of the building, and the circumstances of its construction. The period of significance originally established for Orange Hall was also linked to the determination that the building was eligible for the National Register under Criterion C only - for its architectural design, and not under any of the other criteria.

Based on the body of research now available and the specific information collected in preparation of this HSR it is proposed that Orange Hall not only meets the Criterion C for eligibility to the National Register but is also significant under Criterion A, based on its associations with events that have shaped the broad patterns of our history. Although no single event in the building's history stands out as a defining moment, its connection to many events through its owners, visitors, tenants and occupiers link it to some of the most important historical developments in the history of St. Marys, the region and the country.

The history of Orange Hall is unusual in that it is not dominated by a single occupation, event or owner, but instead seems to parallel that of the local community. These periods are reflected in the building's ownership beginning with Horace Pratt, his found affluence and his decision to construct a residence of this style and scale in what was at the time a prospering port community. Following Pratt's departure, the building was occupied by retired military commander Duncan L. Clinch, significant and influential in local and state affairs. James Mongin Smith, a planter, represents the period of a growing agricultural economy and is followed by Francis M. Adams who was the town mayor, principal of the local academy and delegate to the secession convention prior to the Civil War. Its remarkable survival and use by occupying forces during the Civil War link it to one of the most significant events in our nation's history. The antebellum period saw the building utilized as so many in the southern coastal area, as a winter retreat by a wealthy Northern family, marking the expansion of the tourist industry in the region. This was followed by purchase of the building by a lawyer, judge and representative who was influential in establishing railroad service to the town and speculating on its success. In the twentieth century Orange Hall was witness to high points

such as lavish social affairs put on by the Beckers, as well as low points when the residence fell into disrepair and was foreclosed on during the Great Depression. The modern era saw the building renovated into apartments and purchased for housing by the largest employer in the area. Finally, coming full circle and in recognition of its architectural and historical associations, the City of St. Marys obtained the property and has now owned the property longer than any of the previous occupants.

It is for the reasons stated above that it is proposed that Orange Hall is not only significant under Criterion C, as an outstanding and rare example of Greek Revival Style architecture in the lower coastal region of the state, but is also significant under Criterion A, for its associations with events that have shaped the history of the local community. It is therefore further recommended that the period of significance for Orange Hall be modified to be more reflective of this significance. It is proposed that the period of significance for Orange Hall span from its initial construction in 1838 through to the 1960s when it was purchased by the City of St. Marys.

#### **Existing Conditions**

#### **Building Envelope**

#### Masonry Foundation Walls

The load-bearing foundation walls of Orange Hall are solid brick masonry and rise to the first floor level, approximately 10'-0" above grade. The walls are typically 13" thick, except at the north and south elevations, where they are 17" thick. The interior foundation walls running east to west, adjacent to Hall (B01) and (B02), are narrower, measuring only 8" in width.

The masonry is laid in a Common Bond pattern, with a header bond at every sixth course set within a field of stretcher bond. This bond pattern is also called a five-course American Bond. The header bond, in which the brick is laid with the smallest face of the brick oriented outward, serves to tie the stretcher withes together, strengthening the foundation wall. The Common Bond, or American Bond, is commonly found in examples of Greek Revival architecture.

The bricks and mortar joints vary in size, with each brick measuring approximately 2  ${}^{3}/_{8}$  x 3  ${}^{1}/_{2}$  x 7  ${}^{1}/_{4}$  inches and mortar joints ranging from  ${}^{1}/_{4}$  to  ${}^{3}/_{8}$  inches in thickness. The historic masonry comprising the foundation of Orange Hall was likely manufactured in molds, by hand. Up until the 1870s, when extrusion processes were developed, most bricks were fabricated by pressing clay into wood or steel molds.<sup>1</sup> Hand molded masonry is typically more porous and irregular in size than extruded masonry. The firing process also contributes to the hardness of masonry, with a higher firing temperature yielding a harder product. Early masonry, such as that found at Orange Hall, did not have the benefit of higher firing temperatures associated with gas-fired kilns, which were not widely in use until the 1880s.<sup>2</sup> The bricks are not branded, which is not unexpected since the branding of bricks did not begin until the 1860s.<sup>3</sup>

As a result of archeological work conducted at the interior of the Old Kitchen (B10), the base of the foundation walls was exposed in two locations. The north, exterior foundation wall of the Old Kitchen (B10) extends below the finished floor level by approximately six courses of brick. A shallow masonry footing is present, comprised of two sailor courses of brick, which protrude beyond the face of the wall by one brick length. The adjacent interior 8-inch wide foundation wall, which divides the



Figure II-5. North elevation of Orange Hall showing masonry foundation wall.

<sup>&</sup>lt;sup>1</sup> District of Columbia, Historic Preservation Guidelines. Internet site:

http://www.planning.dc.gov/planning/cwp/view.asp?a=1284Q=570650 <sup>2</sup> Ibid.

<sup>&</sup>lt;sup>3</sup> Up Against The Wall: An Archeological Field Guide to Bricks in Western New York. Internet site: http://lucky.phpwebhosting.com/~ah/a/DCTNRY/mat/brick/vogel

Old Kitchen (B10) and Servant's Room (B09), extends three courses below the finished floor, with no evidence of a masonry footer. Both walls were constructed on a bed of crushed shells and mortar (See Archaeology Section).

During review of the masonry foundation wall, a number of questions were raised about the construction sequencing or origins of the Old Dining Room (B07) walls. There has been some speculation that the area under the front porch would not have been originally enclosed and that construction of the Dining Room may have occurred some time after the completion of the building. The window placement below the bearing point of the columns supporting the main portico and the fact that the masonry wall of the Dining Room is not tied into the masonry of the body of the structure contribute to this speculation. In an effort to clarify this, an exploratory hole was dug adjacent to the foundation wall at the exterior side of the east foundation wall, just to the north of the main entry stair. It was thought that the remains of a masonry pier footing would be present if the Dining Room wall was not part of the original construction. No footing could be located and the depth of the foundation wall in this location matches precisely that which was found at the archaeological Test Unit #1 along the north wall. The only difference in the construction was the absence of the single header coarse above the oyster shell footing. This suggests that the enclosure of the space beneath the front porch was completed contemporaneously with the rest of the foundation and does not represent a later infill. Reinforcing this theory is the presence of loose sandy soil below the wide plank flooring of the Dining Room. Had this area been open, it would be expected that the soil in this location would be compacted.

A study of the remaining sections of masonry coursing yields information on the assembly order of the masonry walls. The prominent north, east and south exterior foundation walls are all congruous, with an integrated or toothed assembly at the corners. It appears that these walls were constructed first. This is supported by the observation of mortar joints and masonry bond patterns that are out of alignment where the interior walls tiein. In addition, where the base of the interior wall in the Old Kitchen was exposed, the bottom of the interior wall was laid at a higher elevation.

The foundation walls show no visible signs of structural failure, with only very minor cracking noted at the northeast corner. The critical issue at the foundation walls clearly involves moisture control and what appears to be a continuing problem with rising damp. Rising damp is a condition in which ground-based moisture is wicked upward by capillary action through permeable building materials, such as porous masonry. The moisture will continue to rise, sometimes evaporating, and if not able to evaporate, will rise until gravity overrides the capillary action. Visual indicators of this condition include the deposit of soluble salts that usually are either from dissolved calcium sulfate within the masonry, or stem from the water source. In cases where there is a large area of evaporation, the salt crystals will be deposited as a flour-like dusting on the surface of the masonry. In a



Figure II-6. LAS Test Unit excavated below column bearing point. Investigation revealed continuous foundation wall below grade. Coursing matched adjacent walls precisely. No evidence of masonry footing was present.

localized area of evaporation, the salt crystals will be deposited in small, flower-like formations termed efflorescence. The expanding salt crystals within porous masonry may result in spalling and decay at the surface. All of the foundation walls at Orange Hall are exhibiting these visual indicators of rising damp, either from past or current water infiltration. The most severe area of masonry decay is along the north wall. The painted finish, and in some cases the masonry faces, have "exfoliated" or spalled, with masonry dust and salt deposits remaining along the base of the walls.

At the locations where the below grade masonry has been exposed by archeological work, and where the painted coating is not present, the masonry is in relatively good condition. This would indicate that the painted coating is contributing to the progression of the masonry damage by trapping moisture. It is probable that the unpainted masonry below grade absorbs moisture, which is then wicked up into the masonry wall. The moisture is then trapped behind the painted coating, while the unpainted masonry below grade is able to "breathe" and release any moisture that is absorbed.

Typically, a drainage system is used to carry any water that may collect along a foundation away from the building and into the local storm water system. According to records provided by the City of St. Marys, Facilities Maintenance Department, a perforated drain set into gravel was installed below grade around the perimeter of the building in 1988. The drain was reportedly terminated approximately 10'-0" from the foundation and does not connect to discharge piping. Exploratory digging completed by LAS along the foundation at the front of the house found no evidence of a protective waterproof membrane applied to the masonry or a foundation drain in this location. Although the presence of a foundation drain could not be confirmed, it is clear that the system in place has not been effective in alleviating the persistent problem of rising damp. This combined with the missing gutter system and inadequate grading at the base of the building contribute to the lack of moisture control at the masonry foundation.

In several locations along the north elevation, it appears that new masonry has been installed alongside each of the basement windows, possibly to replace masonry that had deteriorated. The Electrical Room (B12) has been enclosed with a poorly crafted masonry wall installed during the 1970s repair and renovation work. The HABS photographs show this same area previously enclosed with a wood frame wall and wood cladding. In addition, new masonry has been installed at the base of the rear porch columns at the west elevation. The masonry column at the southwest corner of the house, visible from the Electrical Room, has severe masonry damage adjacent to the bearing point of the exterior walls.

The masonry foundation walls were historically treated with a stucco finish. The stucco was applied to create the illusion of a stone foundation through the use of decorative scoring as well as stucco quoins at each corner of the structure. The use of materials that mimic stone in appearance, specifically

ashlar, is common in Greek Revival structures. Although a majority of the stucco is no longer present, scored stucco and quoins are still intact at the southeast corner of the building. The original stucco finish was likely comprised of "hydrated or slaked lime, water and sand, with straw or animal hair included as a binder."<sup>4</sup> It is also possible that natural cements, first discovered in the United States in the 1820s, were used. <sup>5</sup>

Based upon a tapping, or sounding, of the remaining stucco during field investigation, it is estimated that more than half of the remaining stucco is debonded and held in place only by the thick paint coating. It is possible that the moisture issues in the masonry substrate have contributed to the deterioration of the stucco finish throughout most of the building.

#### Exterior Wall Construction

The exterior walls, at the level of the first and second floor, are of wood frame construction, clad with wood siding.<sup>6</sup> At the front elevation, the tympanum of both pediments, and also at the inset rear porch, the siding is installed in a flush configuration, or shiplap, giving the appearance of a smooth surface. The use of shiplap siding, finished with white paint, was an intentional choice often found in Greek Revival homes, as it was an inexpensive means of creating a stone-like finish. At the side elevations, and each side of the rear porch, the siding is installed in a lapped configuration.

Wood detailing at the exterior walls is simple in profile and limited in use. At each corner of the house, the siding terminates into a narrow wood pilaster. A horizontal running band of wood trim is used to transition from the stucco and masonry foundation walls to the siding clad walls of the first floor. The trim at this location is two-part, comprised of a 7" grooved face piece with a 2 ¼" thick cap. Where the front porch and rear appendages meet the main body of the building, the trim band steps up approximately 8". The reason for this is unknown, however, the imbedded wood blocking over the basement windows suggests the original design may have included a trim element over these windows<sup>7</sup> and that the step in the banding was made to accommodate this. Investigation of the relative number of paint layers on these elements may reveal if in fact a trim element was present over these windows for any period of time.

A simple wood cornice, or fascia, spans the perimeter of the house at the roofline, capping the siding at the north and south elevations, and wrapping the base of the east and west pediments.



Figure II-7. Remnants of stucco quoining at the southeast corner of Orange Hall.



Figure II-8. Image showing step in wood trim at transition between masonry foundation and wood clapboard siding.

 <sup>&</sup>lt;sup>4</sup> Preservation Brief Number 22. Internet site: http://www.cr.nps.gov/hps/tps/briefs/brief22.htm
<sup>5</sup> Ibid.

<sup>&</sup>lt;sup>6</sup> The wall framing system is discussed in detail in the Structural section of this report.

<sup>&</sup>lt;sup>7</sup> James Mongin Smith's replica of Orange Hall includes pediment elements over the windows.

The exterior of the building, excepting the shutters, is painted white. According to the Facilities Maintenance division of the City of St. Marys, the building was last painted in February 2000 and the paint remains in fair condition. The siding, cornice, pediment and wood trim have considerable paint build-up, making a thorough evaluation of the underlying wood difficult. Based on field observations, the siding and wood detailing appear to be in fair condition, overall, with no obvious signs of significant deterioration.

#### Front Portico

The imposing, temple-like, two-story front portico of Orange Hall is a prominent feature of the house. The portico is patterned after the Doric order, which is the "oldest and simplest of the three orders of classical Greek architecture" and also the most commonly used in Greek Revival Style architecture.<sup>8</sup>

The columns feature specific characteristics of the Doric order, such as a massive profile, flutes numbering twenty and a plain "saucer shaped" capitol.<sup>9</sup> The absence of a column base is also characteristic of the Doric order. Although a rectangular wood column base, measuring 2'-9" square by 2 <sup>3</sup>/<sub>4</sub>" high, is extant today, this feature was likely added during the extensive porch repair work conducted in the 1970s. The column bases are not shown in the 1933 HABS drawings or photographs.

The pediment that caps the front portico includes a simplified Doric entablature. Doric entablatures are typically comprised of "a plain architrave, a frieze of alternating triglyphs and metopes, and a plain crowning cornice."<sup>10</sup> The entablature at Orange Hall is plain, with no ornamentation, and varies from the Doric order in that the frieze is not present. This simplification, or paring down, of the Doric order is not uncommon in Greek Revival style homes.

The portico features a central flight of exterior stairs, which are constructed of wood and serve as the primary entrance to the first floor level of the house. The railing at the perimeter of the portico and stair is a simple style, with tapered and widely spaced balustrades. A pair of newel posts with ball-shaped caps terminates the stair railing. Much of this fabric dates from the 1970s. The underside of the stair, originally open, has been enclosed with wood framing and siding. The space houses a small lavatory.



Figure II-9. Image showing step in wood trim at transition between masonry foundation and wood clapboard siding.



Figure II-10. Doric order column, capital and entablature elements at Orange Hall.

<sup>&</sup>lt;sup>8</sup> Buffalo As An Architectural Museum. Internet site:

http://ah.bfn.org/a/DCTNRY/d/doric.html

<sup>&</sup>lt;sup>9</sup> Ibid. <sup>10</sup> Ibid.

The reconstruction of the front portico has been extensive over the years. According to records provided by the city, more than \$5,500 of repair work was completed at the front portico in 1994. A hole was cut at the under side of the portico (Room B07) to expose the configuration of the portico floor framing. Existing heavy timber 3x10 and 4x10 framing is present, but the entire floor of the front porch has been reframed with modern 2x10 joists and plywood decking. Wood tongue and groove decking measuring  $\frac{3}{4}$ " x  $3-\frac{3}{4}$ ", likely modern material, comprises the floor finish. The detailing of the existing railing, newel posts and wood trim at the perimeter of the porch also varies when compared to older photographs. It is likely that many of these features have been replaced or significantly modified during repair work.

Overall, the portico is in fair condition. Portions of the portico railing are loose as is the newel at the north side of the stair, constituting a potential safety issue. During the site investigation, significant deterioration was found in several of the wood balusters and other components of the portico railing after the protective paint layers were removed. The thick paint build up is likely hiding additional rotten and termite-damaged wood. In a field investigation completed by MACTEC on September 11, 2003, a borescope was used to determine that the structural wood columns concealed within the columns have been compromised by termite damage. It is not clear if this damage has been addressed since the report was issued. Lord, Aeck & Sargent observed no active termites during the field investigation. At the pediment, modern vintage, painted metal flashing has been installed along the top of the cornice. The architrave was noted to be deflecting downward between the columns.

#### Windows

Orange Hall has seven window types, varying in both configuration and ornamentation. All of the windows are wood, 6/6 or 6/9 double hung, with single paned, clear glazing, and are painted white. The window styling is typical of a Greek Revival home, particularly the 6/6 double hung sashes and rectangular shape. A careful study of the window sash sizes and trim profiles, conducted during the site visit by the HSR study team, indicates that a majority of the windows are likely original to the house. In addition, a number of windows, known to be replacements, were also identified.

At Orange Hall, the width of the windows is constant, but the height and resulting proportions vary with each level. The first floor windows are the tallest, followed by the windows at the second floor. The basement windows are the smallest, with a height to width ratio of approximately 1.5:1. The use of window scale to reflect the hierarchy of the interior rooms was a common practice in nineteenth century Greek Revival Style architecture. Traditionally, the first story was the most public and contained the most socially significant rooms. As the number of stories increases, the size of the windows decreases, with the smallest windows on the top floor.



Figure II-11. Base of column showing added base element. Originally, no base was present, with the column shaft terminating directly into the porch floor.



Figure II-12. Image showing deterioration of baluster at porch railing.

In some multi-story homes, the servants' quarters were on the top floor or attic floor, the floors with the smallest windows. Decreasing the window size and proportions on the upper floors also created an illusion of increased height. On houses where the first floor is elevated, and a basement area present, the basement level functions as a visual foundation of the house, and typically has unobtrusive windows of a small scale.

An architectural hierarchy is also apparent in the treatment of the exterior window surrounds. The typical window surround at the exterior of the house is comprised of a casing with a simple triple band profile, unadorned corner blocks and plain wood plinths. However, the windows at the main entry to the house feature a more prominent treatment that includes classic elements of the Greek Revival Style. Here, the wood cornice at each window head is styled to represent an entablature and the jamb surround a column, or pilaster. This surround style elevates the prominence of these windows and clearly demarcates the east elevation as the main entry.

There are several anomalies in the anticipated pattern of the window surround at the exterior of the house. At the basement level, two timber nailers are extant at the head of each window at the north and south elevations. The nailers measure approximately 3" in width by 6" in height and are set into the masonry foundation wall. As discussed, it is possible that an additional trim piece was once present at the head of these windows. The basement level windows also vary in that the corner blocks are plain, while the corner blocks at the upper floors have a raised double-banded profile at the perimeter. At the west elevation, the windows that are inset within the rear porches have the decorative floral motif at the corner blocks that is typically seen only at the interior. It is not clear if these variations are a result of the original design intent, or possibly due to modifications and repair work completed over the years. Further paint study of these elements could help determine their relative age.

Although the typical window is a 6/6 double hung unit, the front elevation has two deviations from this pattern. The window above the entry door (E11) has a unique configuration, with the addition of two sidelights in a 2/2 double hung configuration. The addition of the sidelights increases the overall window width in a design maneuver to balance the window visually with the main entry door below. The configuration of the windows at the first floor entry elevation (E05-E08) are also unique in that the lower sash is nine lights, with a resulting lower sash height of almost 6'-0" and a grand presentation.

Overall, the condition of the historic windows at Orange Hall varies from fair to severely deteriorated. In many areas, years of paint build-up at the windows is masking significant deterioration of the wood components. During the site investigation, each of the lower basement level windows was inspected for rot, using a pointed tool to scrape away the paint and test the soundness of the wood. The condition of the wood was found to be soft and rotten in numerous locations. The deteriorated condition of the wood is



Figure II-13. Typical six-over-nine, window located at the First Floor, East Elevation.

most evident at the north elevation and northeast corner of the house. It is to be expected that when the paint coating is removed, additional and possibly severe deterioration will be evident. Evidence of water infiltration and condensation was observed at the interior of many of the windows. Several broken windowpanes were noted during the inspection. None of the windows are operational and the majority of the interior weight cords, necessary for the operation of the windows, are either missing or damaged. All of the windows have been painted shut. Gaps at the meeting rails, due to warping of the wood, are common, and in some cases have been stuffed with paper to reduce drafts. The historic muntin bars have a delicate, thin profile, are quite weak and are broken in several locations. The build-up of glazing putty and paint is distorting the true shape of the muntins. A wood consolidating product has been applied, using poor craftsmanship, to some of the damaged wood. At the west, or rear elevation, a historic window at the northwest corner has been removed and replaced with a door that provides access to the Old Kitchen (B10). At the first floor, a replacement window was also identified (W03). It is a close replica to the historic windows but does not have the pegged assembly detailing.

The existing exterior shutters are modern, inoperable and affixed directly to the façade. On many of the windows, historic, likely original, pintle shutter hinges and shutter dogs are present. Historic photographs show a wider, operational, louvered, wood shutter that would have completely covered the window when closed.

#### Exterior Doors

Orange Hall features three historic entry doors that lead into the central Hall at the first and second floors of the house (100a, 100b, 200). Each has a similar configuration, common in Greek Revival homes, that is comprised of a single leaf paneled door, narrow sidelights flanking each side of the door, and a rectangular transom. Both the transom window and the sidelights feature four fixed lights set into a fixed sash. The surround treatment varies, with the architectural hierarchy of the surround detailing communicating the relative importance of each entry.

The entries at the first level of the Hall (100a, 100b) have elaborate interior and exterior surrounds that include casing styled to represent a pilaster, generous use of paneling and an entablature styled cornice at the head of each door. This mirrors the window surround treatment found in prominent rooms of the house. The main entry, as would be expected, has the most elaborate surround and includes acroterium at each corner of the exterior side entablature. Arched alcoves with shelving, also unique to this entry, flank each side of the door at the interior. Evidence of hinges observed at the door jambs of both entries suggests the past presence of screen doors or shutters. This is evidenced in the historic photographs.



Figure II-14. Typical six-over-six, window located on First Floor, north elevation. Note replacement shutters are non-operational and narrower than original units.



Figure II-15. Main entrance, Orange Hall.

At the second floor Hall, the entry leading to the rear porch (200) is the least prominent of the three entries and varies in that an entablature styled cornice is not present. Instead, the outer surround includes a simple three part banded trim with decorative corner blocks featuring painted wood medallions resembling a magnolia blossom. Again, the surround treatment parallels that of adjacent windows and interior doors.

It should be noted that the use of floral rosettes at the center of corner blocks and other architectural elements is a common feature of the Greek Revival Style. Asher Benjamin and Minard Lafever's pattern books document this use. The design at Orange Hall incorporates the common acanthus or parsley leafs with a center bud curiously mimicking a magnolia blossom. It should be noted that the corner block design used at Orange Hall matches exactly that found at the earlier (1820) Federal Style, Isaiah Davenport House in Savannah. It is unknown how this similar design element came to be found in both structures.

Overall, the condition of these entries is excellent, with only minor alterations to the original configuration evident. Specifically, the original hardware is not intact; the hardware at the main entry door consists of a simple pull and a deadbolt, and the doors to the rear porch have modern, brass-finished knobs and slide-bolt locks. The extant two paneled doors are not historic, particularly the main door, which does not have mortise and tenon joinery and has a relatively thin profile, measuring only 1-1/2" in thickness. At the second floor, the surround of the entry door to the rear porch has been severely altered at the transom in order to accommodate a dropped drywall ceiling; each of the corner blocks has been cut down in size and the trim at the perimeter of the transom replaced.

Doors leading to the first level of the porch (109a, 107a) have also been altered; the bottom panel of the doors has been cut down, reducing the height of both from the typical height of 7'-5  $\frac{3}{4}$ " to just over 6'-11". The exterior plinth blocks at these doors, measuring only 6" in height, also vary from the standard 8" height found at other doors. These modifications are likely the result of substantial changes made to the porch structure and flooring.

In addition to the main entry doors, two entries are extant at the basement level. In the Old Kitchen, an entry (B10) has been added in recent history into a historic window opening at the west elevation. This entry includes a modern vintage, fifteen-light, French style door with a plain plank surround measuring <sup>3</sup>/<sub>4</sub>" in thickness. A second entry door to the basement (B02b), providing access to the Hall, has a wood plank door with an unusual multipaned sliding transom. The door is set into a masonry opening measuring 2'-8 1/4" x 6'-5 1/4". Although the door and transom elements do not appear to be historically appropriate, the door opening could be original as there is no evidence of alterations to the masonry opening. It also seems unlikely that this opening was originally a window, as all of the other windows in the



Figure II-16. Rear entry door at First Floor Level.



Figure II-17. Detail view of corner block at Second Floor door casing.

house have a masonry opening measuring 5'-3" in width, which is considerably wider than the existing door opening.

#### Rear Porch

A two-story, double bay, inset porch with a central exterior stair to the first floor is featured at the rear elevation. The balcony and stair railing is comprised of thin tapered balustrades, narrowly spaced, and a pair of newel posts at each side of the stair, with simple square caps. The 3 <sup>1</sup>/<sub>2</sub>" tongue and groove flooring is painted, as is the beaded board ceiling.

The original timber framing supporting the first floor of the porch is severely compromised, as detailed in the Structural section of the report. The porch has a second level of modern vintage wood sleepers, or supplemental framing, on top of the historic timber framing. This may have been installed to compensate for the sagging timber framing, or to improve the slope and drainage of the finished floor of the porch. These modifications indicate that the rear porch, particularly the first level, was substantially rebuilt or reconfigured during the recent past, which is consistent with known information.

A review of the 1933 HABS drawings and photographs in comparison with the existing condition of the rear porch highlighted numerous changes and modifications, particularly at the railing, stair and column detailing. Although a comparison between the HABS photography and the existing condition does not shed light on the original configuration of the porch, the exercise does verify that many of the extant materials are of a modern vintage. The stair railing, which is currently comprised of spindle work, is shown in the HABS photography with balusters of a more substantial profile. Similarly the number of treads has increased from 16 to 17, and the extant treads are constructed with modern lumber. The wood railing that runs along the edge of the porch, shown in HABS photography with a lower rail and pedestals, is now installed with the spindles connecting directly to the porch decking. Finally, the columns have been reworked with new trim detailing. Again, this physical evidence is consistent with the known modifications that took place in the late 1970s and early 1980s.

The condition of the rear porch is poor when consideration is given to the extensive reconstruction in evidence, and the condition of the underlying structural framing. Additional concerns include peeling paint, some wood deterioration and the condition of the porch railing, which was found to be loose in some locations.

Figure II-18. Rear elevation showing inset porch.



Figure II-19. Detail view of rear stair and porch details.

#### Roof

The roof that is currently in place at Orange Hall is a pre-finished, standing seam, metal roof. According to the records provided by the city's Facilities

Maintenance Department, the existing roof was installed in February 1993. Investigation in the attic revealed that an older metal roofing system, the date of which could not be identified, is still in place under the modern standing seam metal roof. The older metal roofing is installed on historic <sup>3</sup>/<sub>4</sub>" thick decking, varying in width from 7 inches to 11 inches. Directly on top of the historic metal roof are modern materials including roofing felt, <sup>1</sup>/<sub>2</sub>" oriented strand board (OSB) and pre-finished metal roofing. Two masonry chimneys are extant at the roofline and have been capped with painted sheet metal.

The HABS drawings indicate that the roof was copper at that time. However, a sample taken of the underlying metal roof is clearly not copper or lead, and contains steel or iron judging by the magnetic qualities of the material. The underlying metal roof could be the remnants of a steel or iron sheet metal roof that was plated in either terne (lead-tin mixture) or tin. There is no evidence of a copper roof and it is possible that the HABS drawings are in error or describe a copper roof that was later removed in its entirety.

The history of roofing materials in use in the early half of the 19<sup>th</sup> century, when Orange Hall was constructed, supports the assumption that the original roof was sheet metal, and specifically either tin or terne plated steel (or iron). Terne and tin coated iron were a common roofing choice throughout much of the 19<sup>th</sup> century due to availability, low cost and low maintenance.<sup>11</sup> To prevent rust, a protective painted finish was applied to terne and tin coated iron roofing in a range of colors, all typically muted and dark in character.<sup>12</sup> In a Greek Revival Style house, particularly one with a low-sloped roof such as Orange Hall, the roof material is not a prominent architectural feature. It is likely that a muted paint color was selected to imitate lead roofing, most probably gray.

The configuration of the roof at Orange Hall also supports the theory that the original roof was sheet metal. The slope of the roof, measured at approximately 2 <sup>3</sup>/<sub>4</sub>" of vertical rise per foot, is by definition a low sloped roof, "commonly defined as a roof with less than a 3:12 slope." <sup>13</sup> Sheet metal roofing is appropriate for roofs with very low or no slope, while other roofing materials such as slate, clay tile and metal shingles are more appropriate for slopes over 3:12. In the 1800s, tin or terne plated steel sheets were small in size, typically measuring only 10 by 14 inches. <sup>14</sup> The



Figure II-20. North elevation of Orange Hall. Note roofing material is barely evident due to low slope.



*Figure II-21. Detail of existing standing seam metal roof.* 

<sup>&</sup>lt;sup>11</sup> Roofing For Historic Buildings, Heritage Preservation Services. Internet site: http://www.cr.nps.gov/hps/tps/roofingexhibit/metals2.htm

<sup>&</sup>lt;sup>12</sup> Slaten, Deborah, ed. 1999. Fisher III, Charles E., ed. 1999. The Roofing Handbook for Historic Buildings. Washington, DC: Historic Preservation Education Foundation.

<sup>&</sup>lt;sup>13</sup> Slaten, Deborah, ed. 1999. Fisher III, Charles E., ed. 1999. The Roofing Handbook for Historic Buildings. Washington, DC: Historic Preservation Education Foundation.

<sup>&</sup>lt;sup>14</sup> Roofing For Historic Buildings, Heritage Preservation Services. Internet site: http://www.cr.nps.gov/hps/tps/roofingexhibit/metals2.htm

roof seaming pattern at Orange Hall was likely comprised of soldered flat seams where small sheets of the metal were joined together to create larger sheets and standing seams at the vertical seams running parallel to the slope of the roof. The edges of standing seams are joined without solder and "the seams are raised above the rest of the roof surface as a rib."<sup>15</sup> Typically, standing seams are used when a roof has a slope greater than 2:12, which is the case at Orange Hall.

Orange Hall is presently lacking a gutter and downspout system. Round downspouts are visible in the 1933 HABS photographs at each corner of the house, but hanging gutters are not visible at the eaves, indicating that the gutters were built into the roof at that time. It is likely that Orange Hall originally had built-in or box gutters running east to west at the north and south eaves. Built-in gutters are typically constructed with wood and waterproofed with a sheet metal liner, often lead.<sup>16</sup> Built-in gutters "served well in styles like Greek Revival…where the aesthetic of the building façade – classic order, full scale cornices, roofline balustrades, or grandiose compositions with an exuberance of detail – became more important than its operation."<sup>17</sup> The roof framing, inspected in the attic, supports this assumption as it appears to have been modified at some point in the building's history. Newer roof framing is present at the end of each rafter along the north and south eaves.

The modern roof materials at Orange Hall are in very good condition. Screws used to attach the ridge cap are exposed to the elements and rusting. The absence of a gutter and downspout system is allowing rainwater to sheet down the north and south faces of the building. The water that is shed from the roof pools and collects along the foundation.



Figure II-22. Detail of HABS photograph showing downspout connection to interior gutter system.

<sup>&</sup>lt;sup>15</sup> Roofing For Historic Buildings, Heritage Preservation Services. Internet site: http://www.cr.nps.gov/hps/tps/roofingexhibit/metals2.htm

<sup>&</sup>lt;sup>16</sup> Slaten, Deborah, ed. 1999. Fisher III, Charles E., ed. 1999. The Roofing Handbook for Historic Buildings. Washington, DC: Historic Preservation Education Foundation.

<sup>&</sup>lt;sup>17</sup> Slaten, Deborah, ed. 1999. Fisher III, Charles E., ed. 1999. The Roofing Handbook for Historic Buildings. Washington, DC: Historic Preservation Education Foundation.

#### Structural System

The investigation of the structural system involved site observations and measurements, assessment of the gravity load carrying capacity of the observed framing, documentation of the building's structural frame, identification of structural deficiencies, and preparation of recommendations to assist in planning structural repairs.

Generally, observations were limited to areas exposed to view. However, in several instances finishes were removed in order to reveal structural members - particularly at the second floor, the front porch and the building's walls. Nonetheless, not all framing was accessible to view and some extrapolation from the available information was necessary. Any assumed information has been clearly identified.

Documentation of the building's structural system included the preparation of framing plans and the organization of photographs taken while at the site.

#### Description

Orange Hall was constructed at a time when the technology for framing homes was rapidly evolving. Timber frames were widely used for home construction until the mid-1800s as a result of strong English building traditions and plentiful wood supplies. Wood frames were traditionally assembled through the use of joinery, or shaped woodworking joints, to interlock the framing members. The use of joinery was preferred at this time because it minimized the need for hand-crafted nails, which were prohibitively expensive.

During the 1830s, technological advances led to the rapid evolution of wood framing systems and a move away from heavy timber framing. The expansion of the frontier and the growing number of early settlers resulted in a proliferation of locally run, water-powered sawmills, providing a readily available source of machine cut lumber.<sup>18</sup> This was also the case in St. Marys where the shipbuilding industry had encouraged the development of the local milling technology. Archibald Clarke, who lived immediately across Osborne Street from Lot 43, is known to have operated a mill at Spanish Creek using water power and upright saws.<sup>19</sup> Experimentation with framing systems that made use of lighter weight machine cut lumber resulted in the development of Balloon Framing, first introduced in Chicago in 1832.<sup>20</sup> Simultaneously, the development of fully machine-fabricated

<sup>&</sup>lt;sup>18</sup> History of Timbering in North Florida, A Timeline from the 1800s through 1950s. Internet site: http://www.fnai.org/ARROW/almanac/history/history\_forestry.cfm

<sup>&</sup>lt;sup>19</sup> Reddick, Marguerite. Camden's Challenge, A History of Camden County, Georgia.

Fernandina Beach Florida: Wolfe Publishing, 2004. p. 63.

<sup>&</sup>lt;sup>20</sup> Sprague, Dr. Paul E., Chicago Balloon Frame: p. 35
nails was underway. Cut nails, which were either partially or completely fabricated by machine, were in use primarily from circa 1820 until circa 1890, at which time the wire nail was created.<sup>21</sup> The technology for fabricating nail heads by machine was developed in the 1830s, with the perfection of machine-headed cut nails circa 1835.<sup>22</sup> As a result of these innovations, the use of mill sawn lumber in lieu of timbers and the rapid assembly of homes by relatively unskilled workmen using nails in lieu of joinery became widespread.<sup>23</sup>

Despite the advent of these innovations, Orange Hall was constructed primarily using the more traditional materials and methods of the time: heavy timbers and joinery. This could be due to limited availability of millsawn lumber in the St. Marys area, or simply the knowledge and preference of the builder. As mentioned previously, in the Building Envelope section of this report, the house is built upon a one-story, load-bearing, masonry foundation. However, the upper two floors and roof of the house are framed with wood, with heavy timbers used for the primary-framing members. Interestingly, Orange Hall is assembled with a combination of both joinery and mechanical fasteners. All of the heavy timbers were assembled through the use of joinery, while mechanical fasteners (nails) were used to fasten smaller framing members. Although the builder did not abandon the traditional use of heavy timbers for the frame assembly, a limited use of machine-cut nails in lieu of joinery was embraced.

Machine cut nails were observed in multiple locations in the house during the site investigation by the study team. Nail samples were taken from the interior of partition walls, from floor framing and from exposed framing in the attic. "Cut nails are recognizable by the configuration of the shaft, with two tapering sides and two parallel sides."<sup>24</sup> Two styles of cut nails were observed at Orange Hall, each of which appear to be a style that was fully fabricated by machine. The nails have the characteristic tapered shank and either a square head with eased edges or a rectangular shaped, six-sided head.

A study of the framing system at Orange Hall sheds additional light on the assembly as it relates to contemporary structures. The gable roof of the house is comprised primarily of smaller sized timber members and lumber.<sup>25</sup> The peak of the roof includes a ridge board, which measures approximately 1" by 5", and is connected to the rafters with nails. The rafters vary in size and spacing, measuring on average 2 3/4" by 6" and



Figure II-23. Image of nail taken from attic framing. Note eased head shape.



Figure II-24. Image of nail taken from second floor, floor framing. Note sixsided head.

<sup>&</sup>lt;sup>21</sup> Nails: Clues to a Building's History. Internet site:

http://www.uvm.edu/~histpres/203/nails.html

<sup>&</sup>lt;sup>22</sup> Nelson, Lee H. 1977. Nail Chronology, An Aid to Dating Older Buildings. National Park Service <sup>23</sup> Sprague, Dr. Paul E., Chicago Balloon Frame: p. 35.

<sup>&</sup>lt;sup>24</sup> Nail Chronology. Internet site: www.mtsu.edu/~histpres/services/naildating.htm

<sup>&</sup>lt;sup>25</sup> Lumber: Smallest dimension measures greater than 1" and less than 5", Timber: Smallest dimension is 5", Heavy Timber: Smallest dimension is 6".

spaced at 28" on center. Each of the rafters is supported at mid-span by a continuous purlin plate. Knee bracing is an important structural component of the roof framing and is seen at each of the posts supporting the purlin plate.

Overall, the assembly of the roof framing at Orange Hall is similar to that seen in the Evolved American Frame. The Evolved American Frame describes a framing assembly that grew out of English traditions, but became distinctly American due to variations found primarily in the roof framing.<sup>26</sup> At Orange Hall, a collar tie, which would typically support the queen posts and primary rafters in an Evolved American Frame, is not present. Instead, queen posts at each gabled end are supported with knee bracing. Additionally, the use of a ridge board at Orange Hall to join the rafters is unusual in that it was not commonly seen as a framing component until the late-nineteenth and early-twentieth century.<sup>27</sup> A more typical roof frame of this vintage would include a heavy timber ridge or direct joinery connections of timber roof rafters.



Figure II-25. Graphic illustrating the Evolved American Frame.

Heavy timber framing assembled with joinery, in a post and beam configuration, supports the first and second floors at Orange Hall. Although the majority of the framing at these floors is concealed behind wall, ceiling and floor finishes, it was possible to determine the typical size

<sup>&</sup>lt;sup>26</sup> Timber Frame Joinery & Design Workbook: A Publication of the Timber Framer's Guild of North American. Revision 3.01, February 1997. Copyright 2001: The Timber Framers Guild.
<sup>27</sup> Sobon, Jack A. 2004. Historic American Timber Joinery, A Graphic Guide: A Publication of the Timber Framer's Guild of North American. Second Printing.

and configuration of key framing members through limited destructive investigation. Generally, a principal post, measuring 8" square, is present at each corner of the house. Secondary posts, also measuring 8" square, were noted at the north and south elevations between windows S13 and S12, S11 and S10, N13 and N14, and N11 and N12. It can be inferred that secondary posts of similar size are also present at the east and west elevations, generally in alignment with the Hall walls, and within the Hall walls. Knee bracing, measuring 3" by 4" is typical at each of the posts. Beams, or horizontal framing, typically measure 8" square, excepting the beams at the basement level, which measure 10" wide by 8" high.

Secondary framing members at the first and second floor, including the floor joists, exterior wall framing and interior partition framing are also of a size that would be classified as heavy timber. The floor joists typically measure 3" x 8" with spacing that varies from 19" - 24" on center. Interestingly, the floor joists run north/south at the roof and first floor framing, but run east/west at the attic and second floor. Interior partition walls and vertical infill framing at the exterior is comprised of studs measuring approximately 3  $\frac{3}{4}"$  x 3," with an average spacing of 16" on center.

The framing at Orange Hall has several noteworthy anomalies from a standard post and beam, heavy timber assembly as outlined below:

- The exterior walls have been assembled with a thickness that matches that of the masonry foundation walls at the basement level. This feature is purely aesthetic, and has been provided to give the impression of a more substantial construction method such as masonry or stone and also to accommodate the interior shutter assembly. The study team removed finishes at the southwest corner of Bedroom 202, between windows S11 and S10, in order to observe the framing assembly of the thickened exterior walls. A sketch of the framing is provided below.
- The attic framing above the front porch includes a false lintel.
- The Hall walls at the first floor are not in alignment with the Hall walls of the basement. The approximate Hall width at the basement is 12'-10", while the Hall width at the first level is 11'-6", an offset of approximately 8" at each side of the Hall. The thickness of the first floor walls is approximately 7 ½".
- The heavy timber purlin plates, which support the roof framing at mid-span, are not in alignment with the walls of the second floor hallway.
- The front porch framing includes 3x10 beams, which bear upon corbelled masonry at the basement foundation walls.

Figures II-33 through II-37 illustrate the framing of the building.



Figure II-26. Field sketch documenting the existing wall framing at Orange Hall.

#### Structural Deficiencies

Structural deficiencies were determined by visual observation of structural distress and also by computation of the load carrying capacity of observed framing. Calculations were based upon an allowable bending stress of 1,500 psi and an allowable shear stress of 90 psi. Determination of the actual wood design properties of existing members is beyond the scope of this investigation and therefore it is believed that these figures represent reasonable assumptions. Each of the deficiencies described below is noted on the accompanying Figures (II-33 - II-37)

#### Foundation

- F1. It appears that the massive masonry fireplaces have settled more than the rest of the structure based upon low points observed in the adjacent floor framing (particularly on the second floor).
- F2. In some places masonry foundation walls have deteriorated and spalled due to water infiltration.
- F3. In many locations the basement floor-on-grade consists of wooden flooring attached to wooden framing, which is in direct contact with the ground. Surprisingly, significant rot or termite damage was not noted in this framing. However, this is unsound construction.

#### Superstructure

- S1. First floor structural members have been cut and are inadequately supported at added stair to basement. See Figure II-27. Adjacent to the basement stair in the Hall, numerous floor joists and columns have clearly been modified.
- S2. Structural joist has been completely removed for a portion of its length at first floor rear porch. See Figure II-28. One of the floor joists has a 4'-0" section cut away, and has been repaired by scabbing on a thin board. This repair is inadequate. At least six floor joists in the same location are bearing upon a beam, which is unsupported at one end.
- S3. The 10x8 girder at the first floor rear porch is not connected to the perimeter girder. See Figure II-29. The end of this heavy timber beam, which runs east to west under the rear porch, has no apparent bearing point.
- S4. Sagging ceiling noted beneath front porch.
- S5. Splitting of first floor hallway 3x8 joists at notched ends noted. Added reinforcement plates have not adequately



Figure II-27. First Floor Structural Members Severed at Stair.



Figure II-28. Structural Members that have been Cut at Rear Porch.

addressed the problem. This condition appears to be related to the wall offset noted in item S12 below. See Figure II-30.

- S6. The tops of the 3x8 joists beneath rooms 111 and 112 have been notched to accommodate 2x4 sleepers. See Figure II-31.
- S7. The first floor rear porch decking has been elevated above joists to ensure levelness and slope down to exterior.
- S8. Low point of second floor framing noted at fireplace. This is probably the result of fireplace settlement.
- S9. Second floor stair support girder is notched on outside face although not receiving perpendicular framing.
- S10. Deflection was noted at second floor stair opening. The second floor landing, in the Hall adjacent to the stair, is out of level by as much as 3", sloping towards the stair.
- S11. The second floor porch slopes down to exterior.
- S12. Inside face of wall above first floor is offset approximately 8" from inside face of masonry wall below (toward center of hallway).
- S13. Deflection of lintel above main columns was noted. See Figure II-32.
- S14. Deflection of 7"x7" roof support girders was noted.

**Deficiencies Determined by Calculations** 

- C1. The shear capacity of the notched ends of floor joists beneath rooms 103 and104 is inadequate although no signs of failure were noted.
- C2. The floor structure is generally not adequate to sustain assembly occupancies (the gathering of large groups of people in one space).
- C3. The 3x4 spreader members in the attic are inadequate structurally to spread load to the supporting attic floor joists.
- C4. The flatwise 3x4 joists, which span the front porch, have a computed deflection of approximately 2" under imposed loading.

The above calculations were based upon the assumed allowable stresses indicated above and on a floor live load of 40 PSF for residential loading.



Figure II-29. Rear Porch Structure. Note 10" x 8" Girder is not connected to perimeter beam.



Figure II-30. Splitting of Ceiling Joists in Basement Level Hallway.



Figure II-31. Notching of Ceiling Joists to Accommodate Sleepers.

This loading is not adequate for assembly occupancies such as the gathering of large groups of people in one space.

#### Wood Destroying Organisms

The previously completed MACTEC reports identified several concealed locations where wood destroying organisms (WDOs) have damaged the structure of Orange Hall. It is unclear to what extent, if any, repairs have been made to those areas discovered to be affected by WDOs. For this reason they have been included here as deficiencies.

- M1. Deteriorated wooden stringer at the base of the lower level stair flight.
- M2. Termite damage within the front porch columns
- M3. Termite damage at the lower level lavatory.

The City of St. Marys advised the site investigation team that the only WDO treatment that has been completed to date is the installation of termite bait traps at the perimeter of the building. This work was completed by the city in October 2003. It is not clear, however, if other parties have carried out the additional WDO treatment and prevention recommendations provided in the MACTEC report.



*Figure II-32. Deflection of Lintel above Porch Columns.* 



Figure II-33. Basement Level framing plan showing general location of structural deficiencies identified above.



Figure II-34. First Floor Level framing plan showing general location of structural deficiencies identified above.



Figure II-35. Second Floor Level framing plan showing general location of structural deficiencies identified above.



Figure II-36. Attic Level framing plan showing general location of structural deficiencies identified above.



Figure II-37. Roof Level framing plan showing general location of structural deficiencies identified above.

#### **Building Interior**

#### **Basement** Level

#### Hall (B01)

The central hallway at the basement level has been divided into two spaces by a thin, plywood dividing wall that runs north/south near the bottom of the stair from the first floor. The central hallway is shown on the 1930s HABS drawings to be a single open space spanning the building from the rear entry door (B02b) to the double doors at the Dining Room (B01), a configuration common to the Greek Revival Style. The basement level central hallway was divided prior to 1960. It is likely the existing dividing wall was installed to enclose the furnace that was added at this level just south of the stair. Although there is mention of a "large furnace" being installed in the basement during the Becker occupation of the house, the equipment is not recorded as part of the HABS documentation. A furnace and the dividing wall are shown on the later 1960s St. Marys Kraft era drawings of the structure.

A painted plaster finish remains on the masonry sidewalls and end wall adjacent to the Dining Room. This finish is in relatively good condition, however some minor cracking and deterioration was noted. The existing flooring in this space consists of 3" pine, tongue and groove boards added sometime after the 1930s. The HABS documentation notes "wide board flooring" as being present in this space at the time the property was recorded. Physical evidence observed suggests that the floor level may have been lowered in the central hallway, as a number of the door jambs and trim elements have been lengthened to meet the existing floor elevation. In addition, removal of the flooring revealed the supporting structure as 3 x 4 spanning north/south across the hallway and in direct contact with loose, sandy soil. An alternate theory regarding the extension of the trim elements would be that the bottom of these features rotted and was subsequently repaired, however this is unlikely due to the similarity of the splices. If in fact the floor level has been lowered, it is likely this occurred when the concrete floor was added in the west half of the central hallway some time prior to the mid 1930s.

The ceiling in this space is 4" - 5" beaded board running north to south across the hallway. Two vents have been added in the ceiling to accommodate air movement through the interstitial space.

The surface finishes and physical configuration of the basement level hallway are for the most part products of twentieth century alterations to the building. Originally, this space would have been open with a wide plank wood floor, simple base, door trim and plaster walls and ceiling.



Figure II-38. View of Hall B01 looking toward stair to first floor.

#### Hall (B02)

Hall B02 is the designation given to the western portion of what was once the central hallway. This space is not accessible to the visiting public and is currently used for storage. Several shelving units are present within the space.

A concrete floor slab has been installed in this space and is currently covered with carpet. The concrete slab may have been put in place when the furnace that was present during the 1960s was installed. Currently, the walls are brick and have been painted white. As discussed above, it is most likely that the walls and ceiling of this space would have been plastered. This finish treatment is recorded on the HABS documentation, however it states that the plaster is applied to wood lath over wood stud walls. This appears to be an inaccuracy in the HABS documentation as the existing masonry walls are original features of the building and unless these walls were furred out, the plaster would have been applied directly to the masonry. There is no wood base present.

There is no finished ceiling in this space. The structural members supporting the first floor are exposed. There is no evidence that these structural members were ever finished, which suggests that they were historically covered and not exposed to view. Currently it appears that the structural floor members of the first floor are covered in a dark grime or soot, likely from the adjacent fireplace and modern cooking area. Remnants of furring strips remain present at the east end of the space. Although the HABS documentation records plaster ceilings throughout the basement area, a close examination of the underside of the structural members in this area did not reveal any nail holes for the attachment of a lath substrate. Instead, the nailing pattern appears to correspond more closely to the application of furring strips. It may be that the plaster ceiling was not applied directly to the underside of the structure but was instead furred down. Although one would expect that it would be favorable to maximize the ceiling height at the basement level, the furring down of the finished ceiling would have encouraged air flow throughout the interstitial space. Some small sections of this wood furring system remain in place at the eastern end of the space.

#### Stair (B03)

Stair B03 provides access from the basement level to the first floor above. Observed physical evidence suggests that this stair was modified from its original configuration or is an added feature. The basis of this theory rests in the abrupt severing of the structural members that support the first floor central hallway and subtle anomalies in the door trim elements.

The major structural elements that span across this space have been cut off and left without adequate support. Also, trim and finish materials are



Figure II-39. View of Hall B02 looking east.



Figure II-40. View of Stair B03.

awkwardly terminated at the stair, suggesting its current configuration was not an integral part of the initial design.

This stair provides the only means of access from the basement level to the first floor on the interior of the house. Floor plans from other Greek Revival structures of the period are found with and without this interior stair feature. Given the presence of the large Dining Hall on the basement level, it is not likely that house occupants would have been expected to use the exterior stairs to access this space.

Stair B03 is present on the HABS drawings. The short riser at the basement floor level further supports the theory that the floor level in the hallway has been modified. Further destructive investigation and paint analysis would be necessary to understand how the stair has been modified over time and the construction sequencing of its elements.

#### Closet (B04)

Closet B04 is located below the stair from the first floor to the basement level. This space is currently used for storage. Remnants of an early whitewash finish are present on the underside of the stringers. The adjacent masonry wall has been painted white, however no evidence of a previous plaster finish could be located. The floor of the closet consists of loose sand; no flooring is present in the closet.



Figure II-41. View of Closet B04.

#### Kitchen (B05)

The existing finishes and equipment located in Kitchen B05 are the product of a renovation project conducted ca. 1985. The installation of commercial grade equipment in this space was to accommodate the preparation of food for special events and weddings held in the building and on the property. This type of use has been part of the building program for a number of years. Documentation suggests that this space has been used as a kitchen since at least the 1930s. The space may have been converted to a kitchen during the Townsend era as documentation suggests that Mrs. Townsend only occupied the basement level of the house.

The original function of this space is unknown. Common functions that occurred at the basement level of early nineteenth century residences included warming kitchens, (B10), household work rooms, storage areas and servants' rooms.

The floor of Kitchen B05 is square 5" x 5" quarry tiles over a concrete slab. The tiles were found to be in poor condition with loose and cracked tiles observed in many locations. The walls of the space are exposed brick that have been covered with a clear sealer type finish. The presence of this sealer was noted as a deficiency. Sealers applied to masonry can often accelerate or exacerbate material deterioration by trapping moisture within the wall.



Figure II-42. View of Kitchen B05.

The ceiling of the kitchen is modern bead board and the kitchen exhaust hood is covered with cedar shingles.

No early trim elements remain in this space. The existing fireplace mantel does not appear to be historic.

A number of other issues of concern were noted during the assessment of this space. These generally stem from the room's function, equipment and non-compliance with building code regulations, and less so from problems of material deterioration.

Historic buildings are non-renewable resources and therefore the greatest precautions are taken to minimize their exposure to hazards. Fire is one such hazard that can not only result in a devastating loss of historic fabric but can also bring harm or death to a building's occupants. For this very reason, cooking activities have historically been conducted away from the primary residence in separate structures. This configuration reduced exposure of the main house to fire and also removed from the living space those activities that attracted insects and other pests. These design concepts remain valid today.

The Building Systems component of the assessment will specifically address systems deficiencies and code violations identified within this space.

#### Study (B06)

The area designated as Study B06 is currently used as a gathering space for meetings and other functions. It is generally open to the visiting public for viewing, however contains no exhibits, artifacts or interpretive information. A number of modern table and chair sets and an antique sideboard are currently installed in this space.

The floor of the Study is carpet over a concrete slab. No baseboards remain present in this space. The walls of the space are exposed masonry with a whitewash finish. Extensive repointing of the walls has been conducted using what appears to be a Portland Cement based mortar. These relatively hard mortars are seldom appropriate for historic masonry repair. In addition, the workmanship of the repointing is of a poor quality.

Currently there is no finished ceiling in this space. The wood structure of the first floor is exposed and has been whitewashed, with the exception of a narrow area along the west wall. The lack of whitewash in this area suggests that the structure above was not exposed in the past.

It is likely that this space originally had plaster walls and ceiling. The original function of this space is unknown, however, as mentioned above, basement spaces were commonly used for utilitarian purposes such as



Figure II-43. View of Study B06.

storage and occasionally as servants' quarters. Mention is made of a wine cellar being present in the space during the late nineteenth or early twentieth century.

#### Old Dining Hall (B07)

The space designated during the HABS recordation of Orange Hall as the Old Dining Hall is a long, narrow room located below the front porch. The presence of similarly configured spaces in other Greek Revival residences of the period, such as the Old Governor's Mansion in Milledgeville and the Napier House in Macon, reinforce that this space was originally intended for dining or banquet purposes. In addition, built-in cabinets located on the end walls of the room, only one of which survives, are features that also corroborate the space's original function. Although an exhibit case and a number of acquired antique furnishings are currently present in this space, its primary use appears to be for storage. The room is generally not accessible to the visiting public.

The existing flooring present in the Old Dining Hall is wide  $(8 - 10^{\circ})$  heart pine boards. The boards span east to west over  $3^{\circ} \times 4^{\circ}$  floor joists set in direct contact with the loose sandy soil below. The boards appear to have been refinished, as sanding marks and a high sheen finish are present.

The walls of the room are documented on the HABS drawings to be plaster over masonry. The plaster finish coat has since been removed, leaving exposed masonry walls. The masonry was noted to be in fair condition, with some minor evidence of spalling and deteriorated mortar observed.

The existing ceiling in this space is wood beadboard that was likely installed during the extensive repair of the porch decking and structure that occurred in the 1980s. Although the HABS documentation records a "wood ceiling" in this space, the sequencing of repair events and the character of the wood and fasteners suggest that it has been recently installed.

Along the west wall of this space are two framed openings that have been infilled with cabinets that are open to both the Dining Hall and the corresponding adjacent space. These openings are interesting in that they are identical in construction and dimension to the typical window openings at this level. It is these characteristics that have led some to believe that the space under the porch was at one time open and that these openings would have originally held windows. Evidence observed during the investigation, such as the sandy soil beneath the floor boards as well as the below grade masonry coursing of the exterior wall, which matches precisely the sidewalls of the structure, does not support the theory that this space was added, however it still remains a possibility.

Currently the cabinets contain shelving, however an open passage between these spaces would have provided a practical way to service the Dining Room from the adjacent utilitarian spaces. These openings could have



Figure II-44. View of Old Dining Hall looking south.

facilitated the passing of food and drink into the space and may have also been utilized for clearing the hall of soiled dinnerware. The presence of these passageways would also have allowed service of the Dining Room to occur with minimal commingling of servants and guests. The latch hardware present on the end cabinets as well as the passageways described above is signed and therefore can be dated. The name cast into the latch is "E. Doen."

Edward Doen was an accomplished brass founder who formed Doen, Corbin & Co. with Philip and Frank Corbin in the summer of 1849. This venture, however, was short-lived as Doen sold his interest in the company to Phillip's father-in-law in September of the same year. Doen reappears in the literature after the Civil War, and the associated iron shortage, with a line of cabinet hardware called "Doen's patent cupboard latches" found in the 1865 Russell & Erwin Mfg. Co. catalog. (He had not strayed very far as both companies were founded in New Britain, Conn.) The latches were gravity bar catches without springs and featured knobs of iron or porcelain. Among them is the acorn motif catch body of the cabinet latches found at Orange Hall. It is unlikely that this item could have made it to Orange Hall any earlier than 1864 when W.H. Cole & Sons Company of Baltimore became agents for R&E and probably not until after the end of the Civil War and its associated shortages of raw materials and barriers to distribution.

The rim lock hardware present on the double doors to the Dining Hall also dates to the 1860s. The hardware is embossed with the following:

Given the presence of these datable hardware components, if the Dining Room was not an original feature of the house it is likely to have been added sometime after 1863 and prior to 1872 when the dated photograph shows it being present.

#### Bath (B08)

The bathroom located below the main entry stair is a modern intervention that was installed prior to 1960. It may have been added when Mrs. Townsend accommodated boarders on the upper floors and limited her occupation of the house to the basement level. Prior to the installation of the bathroom the area beneath the front stairs was open. The finishes and features of this space date to the 1980s or later.

#### Servant's Room (B09)

The Servant's Room (B09), as designated by the HABS documentation, is currently an interpreted space and physically open to the adjacent "Old Kitchen" (B10). In addition to interpretation, this space is also used for meetings on occasion. A large modern table is present in the space. When documented in the 1930s, a thin wood wall provided separation between the Servant's Room and Old Kitchen. The HABS drawings state that the walls



Figure II-45. Hardware from cabinet in Old Dining Room, signed "E. Doen."

and ceilings were whitewashed at the time, which is also their current finish. The floor is currently covered with brick laid in a herringbone pattern like the adjacent kitchen space. Brick or dirt flooring would have been a practical covering as it would reduce the risk of fire. The brick of the Servant's Room however is of a different color and has been mortared rather than loose laid. A number of bricks appear to have a white wash or plaster adhered to them suggesting they may have been salvaged from another location. The transition between the two brick types is perceptible at the point below where the separating wall is documented in the HABS drawings. Although the findings of the archaeological investigation seem to indicate the brick flooring of the Old Kitchen may be original, it is less likely that the present flooring in the Servant's Room represents original construction.

Early descriptions of the house and specifically the basement area refer to servants sleeping in these rooms. Also, mention is made of a large water tank in this space that is said to have been used "for the baths." No physical evidence of this could be located.

The Servant's Room is currently in relatively good condition. Evidence of rising damp along the north wall of the space is less severe than in the Old Kitchen but remains present. Also, the windows along the north wall of the Servant's Room are in severely deteriorated condition. There is no finished ceiling in this space. It appears the original ceiling joists, which would have spanned the entire space at one time, may have failed

Trim elements are consistent with those found in other basement spaces and no base remains present. A modern ceiling fan provides light and air circulation. The structural members supporting the first floor are visible and have been white washed. As is the case throughout much of the basement, modern electrical fixtures, switches and receptacles remain visible on walls and ceilings.

#### Old Kitchen (B10)

Based on similar buildings from the period, the "Old Kitchen," as designated by the HABS drawings, was originally designed to function as a banquet or warming kitchen. This space would have primarily been utilized to keep food warm during large gatherings or social events that would take place in the Dining Hall (day-to-day preparation of meals would have taken place in a separate kitchen structure). Similar Greek Revival residences designed and constructed contemporaneously with Orange Hall have similar spaces reserved for this same use. An example would be the ca. 1838 Old Governor's Mansion in Milledgeville. Given the early history of Orange Hall and the lack of documentation describing its interior functions and use, it is unknown how much this space, or the Dining Hall (B07), would have been utilized for their intended purposes.



Figure II-46. View of Servants' Room B09.



Figure II-47. View of Old Kitchen (B10).

As mentioned above, the Old Kitchen is currently open to the adjacent Servants' Room. The existing open arrangement does not represent a common architectural configuration. It would be expected that a more substantial wall would have provided the original separation, however no evidence of masonry toothing exists on the adjacent walls. If a masonry wall was originally present in this location, evidence of the base of the wall and footing should remain below the existing brick floor. Exploratory excavation in this area would likely confirm or deny if a masonry separating wall was part of the original configuration.

The existing flooring in this space is loose laid brick set in a soft sandy soil and laid in a herringbone pattern. The floor is uneven, with several areas of settlement noted. Based on their wear, the rose colored bricks appear to be soft fired, exhibiting extensive pitting and rounded edges. A transition in brick type occurs between the Old Kitchen and the Servants' Room south of the fireplace. The results of the archaeological investigation lead to the conclusion that the existing brick floor is most likely original, given that all of the recovered artifacts date to no later than the early nineteenth century. No artifacts post dating construction of the house were found beneath the floor (See Archaeology).

The walls of the space are brick painted white. The north wall of the Old Kitchen is exhibiting severe deterioration due to rising damp. As discussed above, this condition is manifested on the interior of the masonry walls in the form of paint failure, paint bubbling and deterioration of the host masonry. The remaining walls in the space are in relatively good condition. The door (B10) in the west wall of the Old Kitchen was added by the City of St. Marys when the basement level was utilized by the Chamber of Commerce. This modern era opening would have originally held a window. Also, it appears the large stone threshold currently at this door may have been moved from its historic location below the door to the central hallway (B02b).

There is no finished ceiling in this space. The structural members supporting the first floor are visible and have been white washed. It appears that some alteration of the first floor structure has occurred. Two 6" x 8" wood beams running east/west have been added underneath the 3" x 8" floor joists, which span from the north wall to the intermediate supporting wall. Circular saw marks on the two lower beams suggest that they were added after the mid-nineteenth century. Similar reinforcing beams have also been added in the Servants' Room. It is likely this additional support was required after the floor joists, which have a relatively long span, began to sag or fail.

#### Electrical Room (B12)

The existing Electrical Room at the southwest corner of the basement was enclosed some time prior to the 1930s, as this configuration is shown in the

HABS era photographs.<sup>28</sup> This room currently contains electrical distribution panels, the hot water tank and other systems equipment. It is also currently being used for storage. Use of this room for storage purposes is contradictory to code regulations and is a safety hazard.

#### First Floor

Given the similarity of size, configuration and architectural finishes of the spaces on the first and second floors and the consistency of their architectural finishes, the existing conditions will be discussed by architectural element. Due to the limited changes that have taken place over time and modern era restorative efforts, the existing plan of the first floor represents its original condition.

#### Flooring

The flooring located throughout the primary rooms of the first floor is tongue and groove, wood (heart pine) boards with a natural finish. The boards vary in width from approximately 4 1/2" to 5 1/2" and span perpendicular to the structural framing below. The boards are set directly upon the floor joists with no subfloor present. Although described as "wide board flooring" on the HABS documentation, the relatively narrow width of the floor boards on the first and second floor raises some question as to their age. The boards on the first and second floors are much narrower than those found below in the Dining Hall.

The flooring in the current Office (109) and Vestibule (105) consists of narrower 3 <sup>1</sup>/<sub>2</sub>" tongue and groove wood boards with a natural finish. The boards in Vestibule 105 are of relatively short lengths. These finishes were likely installed during the restoration work conducted in the late 1970s. The daily log from this effort mentions "flooring was replaced in the northwest and southwest rooms using salvaged flooring from porch."<sup>29</sup>

A review of the perimeter of the rooms was conducted to identify the presence or absence of nail or tack holes that would provide insight into the use of floor coverings in these spaces. The Lounge and Parlor flooring possessed some evidence of perimeter nailing, however it was intermittent, indicating that the spaces did not have a long history of applied floor coverings. The other rooms only possessed very minor evidence of perimeter nailing.

The flooring of the first floor is in relatively good condition. Only isolated areas of water damage, patching and some separation and splitting at the tongue and groove joints were noted.



Figure II-48. View of First Floor Central Hallway.

<sup>&</sup>lt;sup>28</sup> Although the HABS photographs document this condition, the basement floor plan produced at the same time fails to show this area as enclosed.

<sup>&</sup>lt;sup>9</sup> Handwritten Daily Log from Title X Program. On file at Orange Hall.

#### Walls and Ceilings

The wall and ceiling finish throughout the first floor is predominately plaster over hand-split lathe, however some areas of drywall are present where ductwork has been installed and new partitions added. Analysis of the plaster finish revealed that a skim coat has been universally applied over the original wall surface throughout much of the first floor. This was likely applied to cover earlier cracked and deteriorated wall surfaces. Documentation reveals that much of this work was conducted during the Title X program of the late 1970s and early 1980s, when student labor was utilized for restoration activities.

The plaster cornice and center ceiling medallions in the first floor spaces are currently in poor condition. This detailing was reworked during the restoration efforts mentioned above. The original profiles of the cornices and medallions have been scarred and muted due to these efforts.

Drywall is present throughout the vestibule and restroom areas.

The wall plaster is presently in good condition, with only minor cracking and deterioration noted. A single area of severe water damage is present in the Office space above Window N09. A large ceiling crack is also present in this same space.



Figure II-49. Interior View of First Floor Lounge.

#### Wood Trim

A vast majority of the wood trim elements present in the primary rooms of the first floor appear to be original to the house and are in good condition. Some stripping and scraping of these elements has taken place in the past, much of this occurring under the Title X program. Although this is the case, enough paint evidence remains to provide information about the original finishes of these elements (See Architectural Finishes section below). The interior shutters, shutter pockets and associated hardware also appear to have been reworked. In a very few cases the shutters have been reinstalled incorrectly. Paint build-up on these units, loose joinery and poor workmanship during reinstallation is causing many of the shutters to bind and not operate smoothly.

The baseboard is intact throughout much of the first floor. Only minor areas of replacement have occurred.

A wood picture rail has been added in the primary rooms of the first floor. Picture rails generally did not come into fashion until the late nineteenth and early twentieth centuries. A portion of the existing picture rail was removed and found to be fastened by wire nails, further reinforcing that it is in fact a later addition to the house.



Figure II-50. First Floor Door Casing.

All wood trim of the Vestibule and Restroom area is of modern vintage. Also, the window sash and trim of window W03 is of modern replacement material, installed when this former entry door was converted back to a window opening after the mid 1970s.

#### Second Floor

The plan of the second floor has been modified by the removal of the separating walls between the bedrooms. Physical evidence and architectural precedent suggests that these spaces would not have been co-joined, but would have originally been separated by a wall. It would not have been customary to have physically adjoining bedrooms. In addition, the HABS documentation does show a separation wall between these spaces. The HABS drawings also suggest an opening to be present in the separating wall closest to the exterior wall. During the physical investigation, wall finishes were removed to verify the presence of this opening, however, examination of the wall studs and framing in this area determined that an opening was not present. It is possible that the wall that has since been removed originally contained a framed opening and doorway access between the bedrooms.



Figure II-51. Second Floor Bedroom.

#### Flooring

The flooring of the second floor is identical to that of the first floor in terms of species, dimension and condition. However, the flooring of the second floor has been painted throughout and is oriented north/south based on the orientation of the structural framing. The purpose of the painted finish is unclear. The HABS floor plans state the flooring had a natural finish at the time of recordation. This would likely have been the original condition.

On the second floor, a majority of the floor boards span the entire length of the room. Some separation of the tongue and groove joinery was noted. In some areas wood filler has been used to fill the gaps. Also, some areas of patching are present.

The flooring of the Dressing Room appendages is slightly narrower than that found in the adjacent rooms and was likely salvaged from the porch restoration work conducted during the Title X program.

#### Walls and Ceilings

The walls and ceilings throughout the second floor are covered with <sup>1</sup>/<sub>2</sub>" drywall. The original plaster in these spaces was removed during work conducted as part of the Title X program (See Figure I-14 in the Historic Background and Context section of the HSR). Documentation states that the original plaster finish of the second floor was much deteriorated at the time the program was initiated and was therefore removed. The north wall

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of the central hallway at the stair still retains its original plaster coats, however these have been covered with a skim coat of new plaster. An exposure window left along the south wall of Bedroom 201 reveals the original plaster keys of the opposite side of the wall.

Evidence suggests that the ceiling has been lowered throughout much of the second floor. The HABS documentation shows the ceiling height at 10'-6". Currently the ceiling is at 9'-8." This condition is most noticeable where the ceiling interfaces with the top of the window and door trim.

#### Wood Trim

The wood trim of the second floor is generally intact and in good condition. As occurred on the first floor, a number of the trim elements have been stripped of their original finishes. Also, in order to accommodate the installation of drywall, a number of window casings were removed and then later reinstalled over the new finish. The casing associated with Door 200 has been modified to accommodate the lowered ceiling. Some areas of base have also been replaced due to the removal of walls.

Like the first floor, the interior shutters and shutter elements appear to have been reworked. The accumulation of paint, and in some areas poorly executed reinstallation, have resulted in the shutters binding and poor operation.

#### Interior Doors

The historic interior doors at the first and second floors of Orange Hall are all of a similar style, and are likely original to the house. The wood doors all have two recessed panels and are assembled with mortise and tenon joinery. The door and surround detailing follows an anticipated architectural order, with more elaborate treatments found in the formal and public spaces.

The interior doors at the first floor, in the main body of the house, measure  $2'-11 \frac{1}{2''} \times 7'-5 \frac{3}{4''}$ , are 1-5/8" thick and feature two surround styles. The door surrounds at the Parlor, Lounge, and Hall, which would have been used for entertaining guests, are the most elaborate with a wood entablature or cornice at the door head, a tall grooved plinth block and a five-part banded trim at the jamb. The remaining doors at the first floor have a surround comprised of a simple, five-part banded profile, unadorned plinth blocks and decorative corner blocks that include a painted terra cotta medallion resembling a magnolia blossom.

At the second floor, the interior doors are smaller, measuring  $2'-9 \frac{1}{2}''$  by 6'-11  $\frac{1}{4}''$ , and have a thinner profile measuring 1  $\frac{3}{8}''$  thick. Each door has the typical magnolia blossom style surround seen at the first floor. However, there is a minor style distinction in the trim detailing. At the second floor,



Figure II-52. Typical Interior Door at First Floor.

there is a single band at the perimeter of the corner block, while at the first floor there is a double band. Additionally, the banded surround trim has five parts at the first floor and only three parts at the second floor. These variations illustrate a subtle style transition between the more public first floor, or Parlor Floor, and the private bedrooms at the second floor, or Chamber Floor.

Several interior doors at the first floor were found to have anomalies as outlined below:

- Modern vintage, plain, hollow core doors with a diamond shaped medallion in the corner block are present at the entry to Bath (106) and Bath (107).
- The closet located in Dressing Room 109 is a modern addition to the room. The door is a two panel wood door, with a style similar to the historic doors in the house. However, the panel-trim, door thickness and door size vary.
- The entry to the modern restrooms (Door 105) is currently a cased opening. The door is shown on the HABS drawings but is not extant.
- At each of the doors to the rear porch (Door 109a and Door 107a), the lower panel of the door has been cut down by approximately 6", reducing its height from the standard at the first floor, which is 7'-5 ¾", to approximately 6'-11". In addition, the plinth measures only 6" in height, in lieu of the typical 8" height. It is likely these doors were modified during the extensive restorative efforts conducted on the rear porch as part of the Title X program.
- The door leading to the basement stair (Door 100c) matches the other doors in style, but has subtle deviations in measurement and molding profiles. The molding at the recessed panels has a rounded ogee profile in lieu of the standard profile. The surround measures only 4 –3/8" in width (standard is 7"), and the corner blocks are 6" square (standard at first floor is 8" square). The edges of the corner medallion have been cut down to fit it into the smaller corner block. The plinth block is plain, while the other plinths at the first floor have a decorative groove. The anomalies present in this door further suggest that the stair has been modified or was added some time after initial construction of the house was completed.

Overall, the historic and likely original interior doors at the first and second level are intact and in fair condition. General conditions observed include split panels, damage to the jambs at the strike, loose joinery, sagging or loose hinges and missing or inoperable hardware.

At the basement, the door and surround styles are irregular and it is likely that many of the doors at this level are historic, but not original. In some



Figure II-53. Typical Interior Door with Reduced Casing and Magnolia-Like Carving in Cornerblocks.

cases, the door has been changed; in others, an opening added. There are two basic styles extant today: paneled doors, and a more primitive, wide plank style door. All of the doors in the basement have a plain, unadorned wood surround. The HABS section drawings show that all of the doors at that time were two-panel wood doors. However, many discrepancies have been found in the HABS drawings, so the presence of two-paneled doors cannot be confirmed without further study. Due to the wide variation in door detailing, opening sizes and surround styles, a brief narrative description of each of the extant basement doors, organized by room, is provided below:

• Hall (East) – Paneled Doors:

Each of the three doors that leads into east side of the Hall is a similarly styled four-paneled door. The doors leading into the Study and the Servants' Room have unique screened transoms.

• Door to Servants' Room (B09):

This is a wood, four-paneled door, with upper panels measuring approximately 3'-0" in height and smaller lower panels measuring 1'-5" in height. Mortise and tenon assembly with a door thickness of 1-1/2". Unique screened transom at door head. Opening size is 2'-6  $\frac{3}{4}$ " x 2'-6  $\frac{3}{4}$ ". Surround is comprised of 0'-7  $\frac{3}{4}$ " base trim with beaded edge and profiled edge trim measuring 1  $\frac{3}{4}$ " x 7/8".

- Door to Study (B06): Similar to Door B09 above. Wood panels have been replaced with glass.
- Door to Dining Room (B01):

Wood four-panel door, similar in style to adjacent doors B09 and B06. Door has a two-leaf configuration with slightly larger proportions and variation on surround styling. Each door opening measures 2'-9  $\frac{3}{4}$ " x 6'-6". Simple beaded casing, identical to that used at B09 and B06 without the supplemental trim piece, is present: 0'-6  $\frac{1}{8}$ " wide, beaded edge trim piece between doors, and 0'-4  $\frac{1}{2}$ " wide, beaded edge casing at door surround.

• Hall (West) - Plank Doors:

At the west side of the Hall, the doors are a primitive, wide plank style, of varied construction, dimension and materials.

• Door to Kitchen (B02c):

Wood plank style door with opening size 3'-1 <sup>1</sup>/<sub>4</sub>" x 6'-7 <sup>3</sup>/<sub>4</sub>". Planks measure 0'-5 <sup>1</sup>/<sub>2</sub>" wide by <sup>3</sup>/<sub>4</sub>" thick. Casing is present at kitchen side of door only and comprised of 5 3/8" wide by <sup>3</sup>/<sub>4</sub>" thick boards. Door width is significantly wider than other doors at the basement level. It appears that timber support framing has been removed at the side and head of the door as indicated by voids in the masonry at each side of the door head. The masonry at the head of the door is unsupported.



Figure II-54. Door to Study (B06).

#### • Door to Old Kitchen (B02a):

Wood plank style door with opening size 2'-8" x 6'-5  $\frac{1}{4}$ ". Planks are salvaged materials with beveled edges measuring approximately 0'-10  $\frac{1}{4}$ " wide by 1" thick. Casing at Old Kitchen side of door is typical at basement (similar to B09). Casing is not present at the Hall side of the door. Timber framing exposed at header (supporting masonry) suggests that this opening is original.

• Door to Closet (B04):

Wood plank style door comprised of salvaged beaded board measuring 5 1/8" wide by 7/8" thick. Opening measures 2'-6  $\frac{1}{2}$ " x 6'-5- $\frac{3}{4}$ ". Casing is comprised of beaded edged boards on Hall side of door only. Door and casing are installed flush with adjacent wall.

• Door to Bathroom (B08):

Modern vintage plank style door with random width planks measuring  $\frac{3}{4}$ " thick. Door opening size is 2'-4  $\frac{1}{2}$ " x 6'-6". Simple casing on Dining Room side of door is comprised of plain boards measuring 4  $\frac{1}{4}$ " wide by 1 1/8" thick. Bath side casing is similar in style, with boards measuring 5-1/2" wide by  $\frac{3}{4}$ " thick. Door opening is likely new, as the bathroom at the underside of the stair is not original to the house.

 Door to Present Kitchen (B05): Modern vintage, French style door, 3 lights by 5 lights. Opening measures 2'-8 <sup>1</sup>/<sub>2</sub>" x 6'-6".

The basement doors are in fair condition. The wood panels in the door leading to the Study have been replaced with glass. The plank-style doors have either no latch hardware or simple slide bolts, which do not provide adequate control of areas that are off-limits to public access.

#### Hardware

A preliminary review of existing hardware components was conducted as part of the physical investigation. The hardware was observed and photographed in place. No hardware elements were removed or disassembled as part of this review. Consultation with an historic hardware consultant was sought to establish general dating information on existing hardware components. Also, the following information is provided as background describing the state of the hardware industry during the period of construction.

• In 1838, 95% of the hardware used in the US was imported. Therefore the presence of US patent numbers on hardware components that are higher than #800 will mean that they are almost certainly not original.

- During this period, domestic hardware production was either conducted at the local blacksmith or from a manufacturer centered in Connecticut. A small amount of the 5% was from New York City or Philadelphia.
- Documented domestic manufacturers from the period of construction are:

Curtiss, Isbell & Co., Meridien, CT Charles Parker Co., Meridien, CT Stanley, Woodruff Co., New Britain, CT North & Stanley Co., New Britain, CT Blake Brothers Co., New Haven, CT Pierpont-Hotchkiss Co., New Haven, CT Lewis, McKee & Co., Terryville, CT Goodwin, McKee & Williams Co., Terryville, CT Star Lock Works, Philadelphia, PA

- Doorknob types in use in the mid-1830s were made of ivory, stone, wood, glass, plain brass and wrought iron.
- Pottery knobs in other than a variegated brown are patented after 1841.
- The slow shift to mortised fastenings was just beginning in the mid-1820s. Leonard Foster patented a mechanism in February of 1831 of reduced dimension so that thinner doors could be mortised. Other names and dates of American mortise patent holders from the construction period include:

June 19, 1835, JG Hotchkiss February 5, 1836, P&EW Blake March 12, 1836, A Conant September 8, 1837, T Whitehouse, pat#377 September 28, 1837, CS Gay September 28, 1837, DN Ropes June 14, 1838, T Whitehouse, pat#783

A majority of installations did not favor mortise locks until the late 1880s

#### Examples from Orange Hall.

The following information provides a preliminary overview of the provenance of various hardware examples from Orange Hall. A limited sampling of typical shutter, window and door hardware components was selected for review.

#### Shutter Hardware

- II-55. The interior shutter hinge and interior shutter latch are simple enough and broad enough that they could be original.
- II-56. **The exterior shutter pintel is of a design that could be original,** however the relatively good condition of the elements raises some question as to their age.
- II-57. The interior shutter pull may be original if the substrate is wood, brass, brown pottery or pressed glass.
- II-58. **The shutter dog probably post-dates construction**. The vast majority of examples from this period were attached to the building by driving the sharpened end of the shaft directly into the siding or trim.
- II-59. This shutter hinge most likely post-dates construction.

#### Window Hardware

- II-60. This sash lock may date to the period of construction.
- II-61. Victorian era sash lock with porcelain knob **Post dates** period of construction.
- II-62. Casement fastener post-dates construction.
- II-63. Modern sash lock.
- II-64. Adjustable sash lift lock Date unknown.





II-56

II-55







II-57







11-0





II-61



II-62



II-63



II-64

#### Door Hardware

- II-65. Highly polished combined rose and escutcheon with matching knob, all appear to be stamped. The stamp occurs offset between the spindle and keyhole does not appear to match the mortise lock. Therefore it is unlikely to be in context **Post-dates period of construction.**
- II-66. Possible maker and patent information observed on face above latch. Elongated face is somewhat unusual – Very small possibility mortise lock dates to period of construction.
- II-67. Closely spaced latch and bolt typical of interior sets, more information needed in order to determine age, such as spring type, hub position, screw types – Very small possibility that mortise lock dates to original construction; knob and escutcheon likely post date construction.
- II-68. Five knuckle butt hinge Post dates period of construction.
- II-69. Upright rim knob lock with porcelain knob Reversibility post-dates period of construction.
- II-70. Black pottery knob over drop escutcheon on a raised base. Escutcheon looks like R & E No. 31 or 32 from the 1881 catalog, but available earlier than this date. This is a standard item, shape of covered bit key opening can help with identification of pattern – Knob and escutcheon likely post date construction.
- II-71. Upright rim knob lock, janus face, japanned case and steel knob, accepts standard bit key, a lower quality lock that only accepts two fasteners, thumb lever at top of case activates knob stop, produced after 1882 – spin-off of Corbin Cabinet Lock Co. – Post dates period of construction.
- II-72. Five knuckle, ball tip, loose pin butt, no distinguishing features other than it is unlikely to have been the hinge originally installed in this location, widely available from the 1870s through the present – Postdates period of construction.
- II-73. Upright rim knob lock, janus (reversible) face, japanned case and strike with porcelain knob, unusual in that it appears to accept a push key rather than a standard bit key that rotates to move tumblers, knob stop lever projects from end of case opposite latch **Reversibility post dates period of construction.**



II-65







II-67

II-68





II-69





II-71



- II-74. Upright rim knob lock, janus face with steel knob, accepts standard bit key, a lower quality that only accepts two fasteners, thumbslide at top of case probably activates the knob stop, typical of "hardware store" stock available through present – **Reversibility post dates period of construction.**
- II-75. Rails and stiles of door are appropriate thickness for a door the same period as the Doen cupboard latch, the unbushed, loose joint butt is unremarkable and was widely available from the 1840s through the end of the nineteenth century, unadorned loose joints in this application were increasingly replaced by three and five knuckle hinges as time went on It is possible that this hinge dates to the period of construction.

#### Fireplace Mantels

During the investigation of interior architectural elements the existing fireplace mantels and fireboxes were reviewed.

In the basement, the fireplace located in the Old Kitchen has a large firebox and would have been used in the preparation and warming of food for the residents of the house. The fireplace configuration also includes a beehive oven that would have been used for the preparation of bread. The box below the oven would have been used as a firebox to heat the oven above or to place hot embers and ash to keep the oven warm. Components associated with the fireplace that are no longer present may have included a crane, pothooks and possibly a lugpole. Mention of a large crane is made in the historic documentation. As mentioned previously the Orange Hall property held an exterior kitchen structure as well as the interior kitchen.

In the adjacent Servants' Room the fireplace is generally of the same dimension but would have been used primarily for heating. Physical evidence suggests that some masonry repair and reconstruction has taken place at these fireplaces. The addition of a steel lintel spanning the firebox suggests that the masonry arch failed at some time in the past and the lintel was added for additional support. The lintel has been added at both the Kitchen and Servants' Room fireboxes. Various treatments have been applied to the interior of the fireboxes. Originally this masonry would have been unfinished. The mantels in these rooms appear to be of relatively recent age.

The masonry of the fireplaces in the Study and Present Kitchen also appear to have been reworked. Iron lintels have been added to support the fireboxes. The fireplace in the study currently has a full mantel. The design of the mantel possesses reduced Greek Revival detailing from those found on the floors above, which is expected. The HABS documentation records a similar mantel in the present kitchen space, which has since been





II-73





II-75



Figure II-76. View of fireplace located in Servants' Room in basement.

removed. The presence of mantels of this design in these spaces suggests they housed a less utilitarian function than the adjacent Old Kitchen and Servants' Room. The relative age of the remaining mantel is unknown. Further paint analysis could provide insight into origins.

Four fireplace mantels are located on the first floor. The two fireplaces located in the more public Parlor and Lounge spaces are black marble, while those in the Bedroom and Dining Room are wood. The HABS documentation indicates the mantels in the western most rooms to be marble, however this appears to be an error. The detailing of the mantels is consistent with the Greek Revival Style. There is some indication, however, that the black marble mantels were added during the Becker era. Given the marble mantels do not completely span the chimney projection, as do the other examples, may suggest they were not part of the original design. Without further research or destructive investigation, it is floor have been parged or coated with a black tar treatment. The mantels are in relatively good condition, however, in the marble mantels, some cracking and missing elements were noted. The condition of the hearths is also good.

The mantels on the second floor match those found in the Bedroom and Dining Room on the first floor. The HABS documentation confirms this consistency of design was present during the recordation in the 1930s; however the material is noted as marble at the time. Due to the extensive removal of plaster at this level, the mantels have been removed in the past and reinstalled. During this reinstallation, in some cases the original board attached to the wall flanking each side of the mantel was not reinstalled. Also, the baseboard has been extended around the fireplace flue to terminate at the mantel plinth blocks. These changes are the result of the shift in the wall plane due to the removal of plaster and the installation of much thinner 1/2" drywall. Originally, these mantels would have been finished out similar to those on the first floor.

Consistently, a number of pieces of historic documentation record a crude inscription that was present on the "mantel boards" of the second floor bedrooms "over the front parlors." Evidence of these inscriptions could not be located, suggesting that either an earlier mantel has been removed or the inscription was located above the actual mantels in the plaster. The documentation records that in the "right chamber" the words "Happy is the house that shelters a friend" were present. This verse is from a Ralph W. Emerson essay called "Friendship," written in 1841. Its presence on the mantel, therefore, could only occur after this date. The second verse was said to be found in the left chamber, reading, "O turn thy rudder thitherward awhile – Here may the storm-beat vessel safely ryde, This is the port of rest from troublous toyle, The World's sweet Inn form pain and wearisome turmoil." This verse comes from a poem entitled *The Faerie Queen*, written in the late 1500s by Edmund Spenser.



*Figure II-77. Marble fireplace mantel located in Parlor.* 



Figure II-78. Wood fireplace mantel located in first floor Dining Room.



*Figure II-79. Wood fireplace mantel located in second floor bedroom.* 

As these popular works were published in various sources throughout the nineteenth and twentieth centuries, they could have been inscribed at any time. The fact that the inscriptions were crude and carved into the mantel boards suggests they were not placed there by an owner of the property, but instead by someone renting or visiting.

#### Architectural Finishes

The purpose of the architectural finishes investigation was two-fold, first to identify the type and coloration of original finishes that were applied to wood and plaster features of the house and second to establish the relative age of various architectural elements through the comparison of paint layers. The scope of the survey was developed to provide an overview of decorative treatments applied to the exterior and in each of the historically significant interior spaces. The survey was accomplished by first reviewing relevant historic documentation followed by a program of physical investigation and cursory sampling of key wood and plaster features.

Generally, this type of survey level investigation precedes a more comprehensive program of sampling and analysis. The initial survey is conducted to determine whether enough evidence survives to merit continuation. Thirty-two samples were taken and inspected at the site and in the lab with a stereomicroscope to analyze and evaluate surviving paint and finishes evidence.

#### Exterior Finishes

It was determined through examination of samples collected from the front and rear porches that all of the siding and trim of the house was originally painted white with lead-based oil paint. Samples were taken under the front and rear porches where it was anticipated that evidence would be in better condition due to protection from weathering. Although access to the main cornices could not be gained, it is believed that they would have been treated in the same manner as the door and window trim (See Samples Ext. 1-8 in Appendix F).

The brick foundation wall under the rear porch exhibits multiple layers of early whitewash. Documentation and surviving physical evidence shows that the other foundation walls were stuccoed and embellished with decorative quoining and scoring. It may be that this treatment was reserved for the primary elevations only and that the rear foundation wall received this lesser treatment. (No physical sample was retained for lab analysis from this location; conclusions are based on observations made in the field only).

The doors have been stripped of old paints but enough evidence survives to indicate that they were grained to imitate wood (See Sample Ext.-9). Graining is an imitative painting practice, which gained popularity in the Federal period and continued to be fashionable throughout the nineteenth century. The type of wood imitated, and character of the graining, may be ascertained by further analysis of a door that has not been stripped of its original paint.



Figure II-80. A cross section photomicrograph illustrating the paint layer evidence taken from the flush board siding on the second floor under the rear porch (See Also Appendix F).

No original shutters survive, and therefore sampling of finishes could not be conducted. It was common practice throughout the nineteenth century to paint louvered blinds dark green. The surviving shutter hardware would not provide evidence of the shutter color. If painted at all, these elements always matched the feature to which they were attached.

In the process of examining the paint layer structure of the rear porch elements, evidence on the main body of the house was compared with that on the projecting Dressing Room appendages. The paint layer information revealed that all elements, i.e. siding and trim, etc., appear to be contemporary (See Sample Ext. -5). This suggests that the rear appendages were built at the same time as the main house and not added at a later date.

#### Interior Finishes

On the interior, the investigation concentrated on cursory sampling of all of the first and second floor rooms. Evidence at the basement level rooms revealed variations of age and condition of features and therefore, the paint history of these elements could not be adequately studied within the scope of this investigation. Further sampling and examination would be necessary to effectively address questions of relative age or alterations of basement level features.

On the first and second floor rooms, the evidence disclosed that all of the wood trim, with the exception of the doors themselves, was painted white originally with lead-in-oil paint (See Samples 100-1, 100-2, 104-1 105-1 111-1, 206-1).

Evidence at the wood mantelpieces suggests they were painted white originally and then later, in the mid-nineteenth century, were painted black and possibly marbleized (See Samples 104-3, 201-1 and 202-1). Further analysis of the mantels would be necessary to confirm if a marbleized treatment was applied to these features.

Paint evidence revealed that the interior doors were originally grained. The surviving evidence suggests that the first floor doors were grained differently than those on the second floor. Most of the doors have been stripped, but a few have not. Those doors that have not been stripped retain evidence that can be very carefully exposed to reveal the color and character of the original graining and therefore could serve as models for reproduction.

The examination and lab analyses of the sample evidence collected indicates that, with a few obvious (modern) exceptions, all of the trim appears to be contemporary to the original construction period of the house. The condition of the paints on the trim is average-to-poor because of previous paint removal and preparation treatments.



Figure II-81. A cross section photomicrograph showing evidence of graining taken from Door 104a (See Also Appendix F).

The conditions relating to the plaster walls, cornices and ceilings vary significantly between the first and second floor. On the first floor, all of the plaster has been skim coated with dry wall plaster. The cornices have been scraped and very destructively gouged. All of the second floor plaster has been removed and replaced with drywall. The evidence on the first-floor walls, and on several salvaged samples of second-floor wall plaster, exhibits a distinct accumulation of dirt that is in association with a barely discernable sizing. Sizing is a glue-like material that was originally manufactured from animal hooves, hides and bones. It was used to coat a wall surface prior to painting or wallpaper installation to even out porosity and provide a better level of adhesion. The lack of early paint layers and the glue size suggests that all of the rooms' walls on both floors were papered originally and throughout most of the nineteenth century. Further convincing evidence of this exists at several locations where early twentieth century wood picture molding was removed. The ephemeral nature of wallpaper is such that sometimes no actual fragments or fiber evidence can be located during an investigation; however, associated evidence can strongly suggest its usage.

The architectural finishes evidence on the plaster cornices and on the ceilings is poor. Surviving evidence suggests that both were painted with white calcimine paints in the nineteenth century. Calcimine paints are water-based; glue-bound paints have a soft matte finish and are water-soluble and, therefore, removable, just like wallpaper.

The condition of the paints on the newer skim coat of plaster is relatively sound; however, there are locations where the paints and plaster are failing. Some areas are failing on the cornices because of the early calcimine paints that still survive under the new paints. It is likely that these areas will continue to peel because there is an inherent weakness in the bonding strength between plaster and calcimine. As time passes, the weight of new oil paints exacerbates this weak bond.

In the early nineteenth century, flooring was generally left uncoated, usually being covered with a variety of floor coverings such as carpet, straw matting or painted floor cloths. The wood flooring was seldom clear-coated and almost never painted.

#### Conclusions

The findings from the preliminary lab analyses of the thirty-two samples is presented in the laboratory data sheets (Appendix F). The data presents the location of the samples and the paint/finishes layer structure observed for each. This data augments initial impressions presented in an earlier paint study conducted in 1980 by Phillip Wisley.

Overall, the survey discloses that there is sufficient evidence remaining on the wood elements of the house to fully understand the colors and types of finishes that were used originally. However, the evidence that survives on the plaster is only circumstantial, due to the removable nature of the coatings that were used. If wallpapers were used, as the evidence indicates, and no remnants survive, then it will be impossible to accurately restore an original appearance to the walls in the same way as the colors and grained finishes can be restored to the wood trim. In the event no physical or documentary evidence is found that can shed light on the appearance of the original wall treatments, a program of restoration that includes the interpretation of the interior spaces and their original wall finishes will be largely based on conjecture. However, further research into what styles, colors and patterns of wall coverings are appropriate to the first half of the nineteenth century could provide a basis for imitating the historic scene.
#### **Building Systems**

#### Mechanical System

The existing Heating, Ventilating and Air Conditioning (HVAC) systems installed in Orange Hall consist of two DX split systems with the fan coil units located in the attic and the condensing units located outside on grade. These units serve the first and second floors. According to records, Sam Pickren Air Conditioning and Heating Company replaced the two fan coil units in the attic in May of 1999.<sup>30</sup> Also according to available documentation, both condensing units were replaced in May of 1994.<sup>31</sup> In 2004 one of these condensing units was replaced.

Air from the two fan coil units is ducted from the attic to the first and second floors, generally through the large cavities in the exterior walls. This ductwork in the attic, and within the walls, appears to date from the initial installation of air conditioning in the early 1980s. This installation was completed by Sam Pickren Air Conditioning and Heating Company, according to a design prepared by Rosser, White, Hobbs, Davidson, McClellan, Kelly, Inc. of Savannah. The ductwork in the attic was modified when the new fan coil units were installed in 1999 to connect the new units to the existing ductwork. Air is routed through furred spaces on the interior walls of the second floor dressing rooms and on the first floor into the top of the closet in the office and exposed over the two restrooms on the first floor. Air is supplied to each room through wall grilles installed high in the exterior walls or in the furred walls in the second floor dressing rooms and in the wall over the closet in the office.

Supply grilles are located on the first floor, adjacent to the front and rear doors in the central entry hall. They are also located in the second floor hall in the front wall and alongside the door to the porch. The first floor restrooms have a supply duct routed exposed from the furred space in the second floor dressing room over both restrooms and the hall in between. Neither restroom has any visible supply grilles or exhaust. In the study report prepared by Commander John K. Mott in 1982 he noted the ductwork for the restroom supply had been installed, but individual drops with registers had not. He also noted that exhaust fans had not been installed to the restroom. This installation has not changed since his report.



*Figure II-82. Four ton fan coil unit in attic.* 



Figure II-83. Outdoor condensing units.



Figure II-84. Typical supply grille mounted high within the room.

<sup>&</sup>lt;sup>30</sup> Purchase order No. 9014, dated 4/26/1999 for \$7,500 issued by the City of St. Marys to Sam Pickren Air Conditioning and Heating Company. Records on file at Orange Hall.

<sup>&</sup>lt;sup>31</sup> Sam Pickren Air Conditioning and Heating Company replaced the condensing units on 5/23/94. Turner Brothers Heating, Air & Refrigeration replaced one of these units in June of 2004. Records on file at Orange Hall.

Return air is ducted from low returns located in each major room through a system of ducts also routed through the large wall cavities in the exterior walls. The dressing rooms and the office return air is through transfer grilles in openings through interior walls. A return grille is also located along side the door to the porch in the second floor hall. Thermostats for both units are located on opposite sides of the second floor door to the porch on the second floor.

In the basement there is one air conditioning window unit, located in the northeast window of the Old Kitchen (B10). It is a Whirlpool cooling and heating unit. The HVAC system designed in 1980 called for basement cooling, however it was never installed. There are several ceiling fans located in the basement.

The commercial kitchen (B05) in the basement has a hood located over the electric range. It is galvanized, paintgrip steel, unpainted, about 7 feet wide by 4 feet deep. This hood was included in the original equipment quote prepared by E. H. Thompson Company in 1985. It was subsequently installed without an exhaust duct or exhaust fan. This is confirmed by correspondence from Mr. Scott Adams, Supervisor of Building Maintenance for St. Marys to then Mayor Hernandez, with a list of materials required to "bring it up to the recommended standards required by John Smith, Health Inspector." The omission of the exhaust duct and fan was one of the items noted. The fan's capacity is listed as a 2,890 CFM. Currently, the International Mechanical Code requires that a Type I hood be installed over food heat-processing appliances that produce grease vapors or smoke. It appears that the hood may meet this requirement, however the exhaust duct and exhaust fan are not in compliance with applicable codes. Also, the duct material, cleanouts, joints and fans must meet requirements for grease-laden air. Fan discharges are required to be at least 10 feet above grade. The exhaust hood currently has wood shingles installed on its outside surface. This is in violation of the requirement that the hood be 18" from combustible materials. In addition, the hood does not have a fire suppression system installed to extinguish any cooking fires. If the hood is to be used, the exhaust duct and exhaust fan must be replaced with the proper type, installed to meet code requirements, and a fire suppression system installed in the hood. These deficiencies described above provide ample reason to continue the policy of restricting use of this equipment.

#### Wall Cavity Analysis

A wall cavity analysis was included as part of the assessment of existing building systems. The purpose of the analysis was two-fold; first, to determine whether conditions currently exist for wall condensation and secondly, to predict if condensation would occur if a new HVAC system was installed that provided both temperature and humidity control. Such a system would be necessary to create an interior environment conducive to



Figure II-85. Exposed duct, first floor restroom.



*Figure II-86. Air conditioning window unit in basement.* 



Figure II-87. Exhaust hood located in commercial kitchen.

the preservation of historic artifacts. The current system provides temperature control only at the first and second floors.

During the site visit, the exterior wall construction was reviewed and verified by removal of finishes. The observed assembly consisted of <sup>3</sup>/<sub>4</sub>" wood lap siding, a large air space with structural members of various sizes in that space and then interior walls consisting of either drywall or plaster on lath. The drywall finish was used as a basis for the calculations to provide a conservative or "worst case" scenario.

The exterior wall assembly has not changed since the house was originally constructed in 1838. Throughout the second floor and in various locations on the first floor, the original plaster finish of the exterior walls has been removed and replaced with drywall. This occurred during the Program X restoration efforts and later during installation of the air conditioning system.

#### **Observations**

Removal of interior finishes at strategic locations allowed the wall cavity to be observed. Items of note within the wall included gaps in the lap siding where the top board overlaps the next lower board. These gaps, while they do not allow rain to enter, do allow insects, and most importantly, moisture to enter the wall cavity from outside. Because of these gaps, the air within the wall cavity has the same moisture level as the outside air. The top of the wall cavity is also open to the attic. In certain places, the wall cavity is also open to the basement where the exterior walls sit on the masonry basement walls.

Finally, the window assembly was also reviewed for potential impact to the interior environment.

#### Calculations

The wall permeability calculations were prepared using weather data for Jacksonville, Florida. For inside conditions these are 69°F and 30% Relative Humidity (RH) for winter and 75°F and 50% RH for summer. Also, an automatic reset of temperatures between these levels was used for the period between seasons. Copies of the calculation results are included in Appendix G.

The first calculation is for the existing condition of construction, with a non-continuous exterior paint film and gaps between the lap siding. Results show that during summer periods of high outside moisture levels, typical in the lower coastal area, and especially for the outside summer design conditions, the wall cavity has condensation when the existing air conditioning is operating to maintain 75 degrees. The temperature in the air cavity and at the surface of the drywall is below the dew point of the air in



Figure II-88. Wall cavity construction.



Figure II-89. Interior surface of wood clapboard siding.

the cavity, causing condensation. An "X" indicates these conditions in the calculations. The calculations show this condition to exist based on existing equipment and also predicts condensation would occur if a new system was installed to control humidity within the building.

The second set of calculations assumes that the wall system is repaired to remove the gaps in the lap siding and by making the paint film continuous on the outside surface. Based on an ideal scenario, the calculations reveal that the wall cavity would not have condensation. In practice, however, it does not seem that this is possible with the lap siding currently installed. The gaps are between almost every set of boards, located between the supports, and the siding is bowed, making elimination of the gaps through refastening and paint application unlikely.

A third set of calculations was prepared using a scenario that assumes the walls would include a vapor barrier. This scenario relies on the assumption that a layer of asphalt saturated vapor barrier paper could be installed directly behind the lap siding. These calculations indicate that the problem of condensation would be eliminated within the walls. While this solution seemed the least costly, other methods could also provide the desired result. New calculations would have to be completed in order to predict the effectiveness of other design solutions.

The existing windows of the house pose a different problem. Calculations included in Appendix G show that in the winter single pane windows will condense water on the inside at a relative humidity as low as 35%. Above 35% the condition worsens with more water condensing on the inside of the glass. This condition will lead to deterioration of the windows, frames and walls below the windows. The solution to this often used at other house museums is a combination of lowering the relative humidity and temperature in the winter and adding storm windows, either inside or outside the existing glass. Although exterior storm windows are an option, interior storm windows would be the least visually intrusive. In both cases, UV protection should be included as part of the product selection.

#### Conclusions

The wall cavity analysis reveals the existing wall assembly of Orange Hall is currently subject to condensation and it is predicted it will continue to be susceptible to this condition in the event humidity control is added. Although relatively intrusive, the correction for this would be to install a vapor barrier behind the existing lap siding. Installation would require the careful removal and reinstallation of the building siding. This vapor barrier would essentially prevent moisture laden air from entering the wall assembly. The barrier would be applied to existing wall members and would need to continue over the top of the wall at the attic level so as to close the top of the wall cavity.

Second, the existing windows will require interior or exterior storm windows. Condensation does not currently pose a problem since the interior humidity is not controlled in the winter. In the event new systems are installed and winter humidity control is introduced as a measure to improve occupant comfort and ensure the conservation of artifacts, humidity levels of 30% or higher will be required, resulting in condensation on the inside of the windows. The most practicable solution would be the installation of interior storm windows. These storm windows should include UV protection and vents in the existing windows to prevent moisture from being trapped between the windows.

#### Electrical System

The incoming electrical service runs overhead across the back of the property to a pole at the southwest corner of the lot. The service for the building is provided by a bank of transformers mounted on this same pole. The service terminates at the building with a weatherhead mounted on the side of the structure.

The main service is 400 amperes, 240 volts, three-phase, delta connection with 240/120 single-phase power obtained by center tap of one phase. The service disconnect is a 400 amp, 3-pole non-fused switch. Main breakers in their respective panels protect the two panels. There is one three-phase panel for HVAC loads protected by a 200 amp 3-pole main breaker. There is one single-phase panel for general loads (lighting, receptacles, etc.) protected by a 225 amp, 2-pole main breaker. The three main panels were installed within the last two years by S E Electric. The service disconnect and the general load panel are manufactured by Cutler Hammer. Square D manufactured the HVAC panel.

According to the St Marys Facilities Maintenance Department and background documentation, Orange Hall was rewired in the early 1980s. The existing wiring is a mixture of rigid metal (RGC), electrical metallic tubing (EMT), flexible metal conduit (BX), non-metallic flexible conduit (ENT) and non-metallic sheathed cable (NM, Romex).

#### **Deficiencies**

The following deficiencies were identified during the review and assessment of the existing electrical system.

- It was observed during the site assessment that the Electrical Room (B12) was being used for storage of various items. A number of the items stored in this space were within the three-foot clearance zone required by the National Electrical Code.
- The circuit breakers in the general load panel were not identified either at the breaker or on a circuit directory. Identification is



Figure II-90. Weatherhead on side of building.



Figure II-91. Main electrical panels.

required by the code. There were several holes in the HVAC panel with no breakers or filler plates, which allow access to live wiring. The HVAC panel also has a "high" leg on which a connection between this phase and a neutral could produce a voltage greater than 120 volts. This phase is correctly marked with orange tape. An experienced electrician should recognize these markings.

- An electric water heater in also located in the Electrical Room. The water heater has been located to allow the three-foot code clearance in front of the panels and no water pipes were observed passing over any panels.
- A large waste pipe was observed running over the general load panel. This is a code violation and the pipe should be relocated.
- A large amount of the wiring has been run under the first floor, rear porch. This wiring is run in conduit and has been painted white to blend with the underside of the porch. The wiring was extended to ceiling lights and fans in the basement ceiling and up to the first and second floors in the wall cavities.
- A majority of the basement ceiling is of exposed construction. The commercial kitchen area and portions of the central hall have a plank ceiling. The wiring in the basement is concealed where there is a plank ceiling. In areas where the wiring is exposed it was generally installed in a neat and orderly fashion, however some areas of poor workmanship were observed.
- On the first and second floor, most of the wiring is concealed above the drywall ceiling, channeled in the plaster ceiling or run in the wall cavities. This wiring needs to be checked for continuity, open circuits, reversed polarity and ground paths. Many of the outlets were tested during the system investigation and some were found to have no voltage reading.
- As part of the field investigation, existing documentation was reviewed and interviews held with the property manager and other city staff. From this it was learned that several electrical problems had been documented. These included the disconnection of a chandelier due to arcing, damage to the fountain due to an overload and the widespread use of extension cords in the building due to a shortage of electrical outlets.
- As mentioned above, use of the commercial kitchen equipment has been restricted due to code violations. It was also learned that on several occasions outdoor outlets have been overloaded during special events.
- The landscape lighting appeared to consist of a few PAR flood lamps highlighting the building façade. This lighting did not create an impressing effect at night. Exterior lighting should be considered as part of a comprehensive restoration plan.



Figure II-92. Storage debris near electrical panel.



*Figure II-93. Exposed wiring in basement.* 



Figure II-94. Image showing three types of wiring.

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- The fire alarm devices are tied to the security panel in the basement. The fire alarm, smoke detection and security systems appear to be insufficient for the needs of the building.
- The security system should include protection of the building through entry detection, motion detection and video surveillance. All protective systems should be connected to a monitoring service and the police by a telephone line.

#### **Plumbing System**

There are currently three restrooms in Orange Hall. Two are located on the first floor, in the southern-most rear appendage, the third is located in the basement under the front steps. There is also plumbing associated with the commercial kitchen installation in room B05.

The water supply for the house enters in the Electrical Room (B12) with a shut off valve located in the riser. Water is routed to the restroom on the first floor above, to the basement restroom and to the kitchen. The building waste line from the first floor toilets is routed overhead in the Electrical Room and drops down under the floor to exit the house to the rear. A vent is routed up through the exterior wall chase and then through the roof.

There is a 40 gallon electric domestic water heater manufactured in 10/2003 installed in the Electrical Room.

The restroom in the basement, located under the front stairs, does not appear in the photos or drawings prepared in 1936 as part of the Historic American Buildings Survey. The restroom is documented in the drawings completed in May of 1960. It is likely that this restroom was installed as part of the conversion from a single-family residence to apartments. The fixtures in this space are not historic and are likely replacements installed when the City replaced the sewer line.

The water supply to this restroom runs exposed across the basement ceiling from the incoming cold water riser in the Electrical Room. It changes sizes and materials several times as it runs through the basement. The waste lines from the water closet and sink exit the building next to the front steps and a clean out is located adjacent to the front steps. All the waste lines are PVC. According to Mr. Ernesto Herring with the City of St. Marys, the waste line from this restroom was not working correctly and after several attempts to clear the line, the pipe was excavated. It was discovered at this time that the line was connected to a septic tank located in the front yard. The City repiped the restroom, routed the line to the public sewer system and abandoned the septic tank.



Figure II-95. Exterior power outlets.



*Figure II-96. Vent line routing in Electrical Room.* 



*Figure II-97. Water heater in Electrical Room.* 

The first floor restrooms located in the rear appendage were installed by a Navy Reserve Batallion during a two-week active duty period in July 1983 under RNMCB Operations Order 03-83. The two restrooms are similar, with one water closet and one pedestal lavatory in each room.

In these restrooms, the water closets are recent, while the pedestal lavatories appear to have been salvaged from the previous installation.

The 1936 HABS floor plans indicate a restroom in the first floor dressing room now used as an office. The photos taken during that survey show a plumbing vent running up the outside wall on the back corner of the house. This installation has since been removed.

The kitchen in the basement was installed in several increments. The Navy Reserve Construction Battalion Fourteen installed the kitchen plumbing during a two week active duty period in July 1983 under RNMCB Operations Order 03-83. The kitchen equipment was installed based on a quote from E. H Thompson Company dated 8/01/1985. The cold water, hot water and waste piping from the kitchen equipment runs under the floor in the kitchen and exits the house above grade under the back porch. They then drop immediately below grade. The cold and hot water pipes are routed underground to the Electrical Room where they rise and connect to the cold and hot water main lines. The waste line continues underground to connect in the rear yard with the sewer line from the first floor toilets.

The City has installed a well, pump, pressure tank and underground lines for lawn sprinklers. The well and pump are located to the rear of the property. The control system for the irrigation system is located in the Electrical Room.

#### **Deficiencies**

The waste lines from the kitchen and the sanitary lines for the first floor restrooms are PVC and appear to be in good condition. A full size vent for the first floor restrooms is routed through the roof as required by code. Both the line from the first floor restrooms and the line from the kitchen are required by code to have a cleanout located where they exit the building. Cleanouts could not be located for any of these lines.

The sanitary line from the basement restroom under the front steps was replaced by the City within the last two years and appears to be in good condition. A cleanout is located just outside the wall of the building in the flowerbed.

The kitchen waste lines have several problems. The Navy Reserve Construction Battalion roughed the waste lines in before the equipment was installed. When the equipment was installed, the vent line was not extended through the roof as required by code. The vent, located under the threecompartment sink, terminates below the flood rim of the sink and opens into



*Figure II-98. Lavatory in first floor restroom.* 



*Figure II-99. Irrigation pump and pressure tank.* 

the room, potentially allowing sewer gases to escape into the room. There is no grease trap or interceptor installed in the waste line from the kitchen. The international Plumbing Code requires a grease trap or interceptor on all commercial kitchen lines containing grease-laden waste. There was a hub drain installed initially for an ice machine. This machine is not there and the drain is open. Without water entering this drain, the trap will dry out and gases and insects can enter the kitchen. If the drain is not going to be used, it should be capped.

The domestic water enters the building in the Electrical Room with a shut off valve and is routed to the first floor toilets, the kitchen and the basement restroom. The piping is mostly PVC with one galvanized line leading across the basement to the basement restroom. The PVC piping is not supported properly in the Electrical Room. The galvanized water line across the basement should be replaced with PVC like the other lines. The water heater is new and appears to be in good condition.

The irrigation water system was installed in the last couple of years and the pump appears to be in good condition. However, the piping on the pump has been damaged and the pressure gauge broken and now lying on the ground. It was also noted that several sprinkler heads were broken and are also lying on the ground. It was reported that the irrigation piping underground had been damaged when tents were installed on the grounds. The timer for the irrigation system is currently disconnected.

The water closet located in the inside first floor toilet room has water running continually. Since this restroom is not used and the room is not vented, the running water causes high humidity in the room. The result of this high humidity is mold, as can bee seen on the water closet seat and cover. This condition must be repaired to prevent the mold from growing throughout the room and affecting the fabric of the house. If this toilet is not to be used, the water can be cut off to both fixtures. The faucet on the lavatory in this same room is leaking, causing rust streaks on the fixture. The faucet should be repaired or the water cut off to this lavatory.



*Figure II-100. Hub drain and water connection for ice-maker.* 



*Figure II-101. Damaged irrigation water piping at pump.* 

#### Landscape

The existing condition of the Orange Hall landscape and its individual components were inventoried and evaluated during a three-day site visit. A previously completed property survey (2001) was used as a basis for the inventory and landscape information was added to the survey as it was encountered (Figure II-103). The assessment includes discussion of the site context, circulation, existing features and vegetation.

#### Property and Site Context

The Orange Hall property has frontage on Osborne and Conyers streets. Osborne Street is the main street into St. Marys and when it reaches the historic district, is divided by a central planted median that enhances the park-like feeling of the neighborhood. The lot Orange Hall occupies is level and rectangular in shape with dimensions measuring 218 feet along the east and west sides and 263 feet along the north and south sides. As indicated in the Historical Background and Context section of the report, the lot was originally 410 feet long along the north and south sides spanning from Osborne to Wheeler Street. Two smaller parcels, one containing a private residence and one undeveloped and owned by the First Baptist Church, now occupy the western portion of the original Orange Hall land lot. The lot is bounded by Convers Street to the north, Osborne Street to the east, a vacant lot and a portion of the First Baptist Church property to the south and the two smaller parcels to the west that were once included with the original property. The two smaller lots have frontage on Wheeler Street. The surrounding neighborhood is primarily residential and dotted with churches. Businesses are focused on Osborne Street and the riverfront a few blocks south of the Orange Hall property. To the north, directly across Conyers Street from Orange Hall, is the First Presbyterian Church of St. Marys. Although oriented today facing south and Orange Hall, originally the front door of the church faced Osborne Street and the tower was on the north side of the structure.

#### Views

The character of the view from the front porch of Orange Hall has changed little over the last 100 years. Although modern intrusions have been introduced, a number of historic elements remain present, preserving the consistency of the historic scene from this vantage point.

At the time of this study, the neighboring First Baptist Church, located southwest of the Orange Hall property, was in the process of constructing a modern brick annex building behind the church. A large dumpster and associated clutter from construction were visible from the Orange Hall site.



Figure II-102. General View of Property Looking Northwest.

#### WHEELER STREET



NOTE: NOTES IN PURPLE ARE APPROXIMATE IN LOCATION AND ARE APRIL 2005 ADDITIONS TO THE ORIGINAL 2001 SURVEY.



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In addition, recreational courts and play equipment are visible through the trees along the south property line.

The northwestern border of the property is made up of a portion of the neighboring property's white picket fence, a scrap plywood wall section and overgrown vegetation. Also visible is the side of a garage building on the adjacent property that is very close to the property line and portions of the house.

Midway along the western property line there are breaks in the bamboo plants where the Baptist Church buildings are highly visible from Orange Hall.

To the north, the open lot of the First Presbyterian Church of St. Marys.

#### Structures

In addition to Orange Hall, there are other constructed elements on the property.

#### **Restroom Facility**

A contemporary public restroom facility is located near the northwest corner of the property. The neo-classical style of this building helps it blend with Orange Hall and the architecture of other historic houses and churches in the surrounding area. The restroom building is also tucked in the northwest corner of the property and fairly well screened from view by the canopy of nearby trees.

#### Fencing

A majority of the property is surrounded by white picket wooden fencing. This fencing is of relatively recent construction and replaced earlier fencing present around the perimeter of the property, documented in historic photographs. Some of the fence pickets are broken and are in need of repair. The fencing is present along the entire eastern frontage on Osborne Street and northern frontage on Conyers Street and partially along the back (western) property line, where it interfaces with the adjoining residential property. This adjoining lot is almost entirely enclosed with white picket fencing similar to the fencing around Orange Hall. The neighboring fence is shorter and does not contain any of the detailing that the Orange Hall fence includes.

The design of the fence around Orange Hall consists of a picket supported by upper and lower cross members, attached to square posts driven into the ground at regularly spaced intervals. A baseboard occupies the bottom portion of the construction and serves as a mini retaining wall to hold a



*Figure II-104. View of Property Looking West.* 

slightly rolling bank of sandy earth along the front of the property on Osborne Street. In all other locations the baseboard is purely a design detail. Corner posts are more substantial and have decorative pier caps. These piers are also present at openings in the fence for pedestrian access into the site. These posts are taller than the fence height and are noticeable accent features.

The fence is interrupted by a hinged gate at the location of the front walkway to allow pedestrian access into the site from sidewalks on Osborne Street. On either side of the gate the pickets gradually rise higher to meet the pier height. There is also a similar sized opening in the fence for a concrete walkway that enters into the north side of the property on Conyers Street. In this location the pickets remain consistent in height with the rest of the fence and there is no hinged gate door. An additional opening in the fence is located between two older trees along the north side of the property near the northwest corner of the lot. This opening is more substantial to accommodate the width of a single lane for vehicular access. No piers are present at the drive opening, the fence ends on either side of the opening near the tree trunks.

#### Fountain

A contemporary circular concrete pool with a black rubber liner and a four tiered fountain centerpiece is located near the northeast corner of the property. This fountain was added in the recent past as a memorial to an individual who had generously donated her time to preserving and maintaining Orange Hall. The pump and associated power cords for the fountain are located just outside the south pool wall. A spigot on a stand pipe and a coiled up garden hose are located on the north side of the pool. All the pool-related equipment is a trip hazard and eyesore.

#### Vehicular Circulation and Parking

A short segment of recently paved concrete drive enters the site from the north off Conyers Street. The curb cut for the driveway is centered between what appears to be two of the oldest trees on the property and may have been a drive entrance location historically. The driveway is ten feet wide and appears to be designed for service vehicles needing to gain access to the rear of the house and to the restroom facility building at the rear of the lot. While conducting field work, one passenger vehicle was observed parked on the paved service drive segment at all times during hours of operation. A bus with a crew of workmen arrived each morning and parked on Conyers Street just outside the drive entrance. The workmen accessed the site by walking in on the driveway and performed basic maintenance duties. The driveway terminates into a curved walkway, so vehicles must back up in order to exit the site.



*Figure II-105. View of Property Looking Southwest.* 

There is also a curb cut of a single lane drive width near the southeast corner of the property on Osborne Street, but this is immediately terminated in grass and does not appear to have been a driveway for some time. There is a narrow meandering dirt pathway in line with this curb cut that follows the south side of the property through the shrub border, indicating a possible former perimeter drive connecting around the property from Osborne Street out to Conyers Street.

Parallel parking spaces are designated on the north side of the property on both sides of Conyers Street and on the east side of the property on both sides of Osborne Street. These parking spaces are typically vacant and it was observed that many of the visitors to Orange Hall come on foot from other destinations within the historic district.

#### **Open Space and Pedestrian Circulation**

A majority of the Orange Hall property consists of trees and open lawn areas. Most of the lot is bordered by a white picket fence or clumps of vegetation, including stands of bamboo. The arrangement of plant material on the interior of the lot, in relation to the house, and the hardscape features of the circulation system help to define a front yard, two side yards and a rear yard. Access into the house is possible from either of the two wooden staircases connected to the front and rear porches, or through one of two doors on the ground level on either side of the rear porch staircase.

Pedestrian circulation is accommodated informally by traversing the grassed areas, or more formally via several brick and concrete walkways, the most prominent of which is the walkway centered on the front entrance of the house. Accessing the walkway from the sidewalk on Osborne Street requires entering through the swinging gate and immediately ascending three concrete steps. The concrete appears to be of a more recent period of construction, most likely replacing some type of steps that would have been there before, as they are needed in order to transition the slight change in elevation from the street level to the front lawn level. The walkway is approximately six feet wide and paved with new red brick pavers set in a herringbone pattern. The walk is bordered by an approximate eight inch wide concrete header curb that is approximately eight inches higher than the walkway and flares out on both sides at the bottom of the porch to match the width of the porch steps. The concrete header curbing has settled, is cracked in places and appears to be from an earlier period of development. Also present at the bottom of the steps is a narrow granite slab that is level with the sidewalk and runs parallel with the porch. The granite slab at the base of the stairs may serve as a foundation for the porch steps as well as an edge restraint for an earlier brick walkway. It is understood that at some point in the recent past, historic bricks that once made up the front walkway were auctioned off as part of a fundraising effort.



Figure II-106. View of Property Looking Southeast.

At the rear of the house there is another, newer brick walkway on axis with the porch steps. This walk is five feet wide and extends out from the bottom of the porch steps for approximately twenty feet before it is interrupted by a three foot wide brick circular path, echoed on the inside by a low shrub hedge. The narrower width of the circular path seems awkward and confining. The hedge prevents access into the center of the circle, which contains more brick paving (some of which is historic) and a small sundial on a pedestal. The node created by the circle generates two more walks extending out in both directions ninety degrees to the first walk. The first walk continues on axis with the porch steps on the other side of the circle for another thirty feet before ending in the lawn. The perpendicular walk segment to the south extends approximately twenty-five feet and also ends in lawn space. The walk segment that heads north ties into a concrete walkway of the same width that curves westerly to reach the restroom building. A short spur off this walk connects to the ten foot wide service drive that is accessed from Convers Street. The restroom building is surrounded by a four foot wide concrete walk. Portions of the brick walks are sinking in places and pose a potential trip hazard.

A four foot wide concrete walk originates from the northwest corner of the house and extends to the north side of the property. This walk starts out straight, but then curves and straightens again before reaching a pedestrian gateway opening in the picket fence along Convers Street. The walkway makes an obvious connection to the Presbyterian Church across the street and therefore may date back to Pratt's era, however there is no evidence this was the case. This walkway also ties into a recessed space under the rear porch north of the staircase that is paved with historic brick in a herringbone pattern with a triple running bond border. A hefty granite slab step at a doorway allows access into the ground level of the house. The same historic brick paving continues on the interior of the house. The remainder of the recessed area under the rear porch is paved with eight inch square grey stone pavers. Portions of this paved area contain similar looking pavers that appear to be made of a concrete aggregate material, replacing the missing older pavers. There is also a historic granite slab step at the doorway on this side of the house. This side of the recessed area under the porch is rather unkempt with discarded items from the house, cleaning supplies and garbage.

A six foot wide concrete circle surrounds the fountain in the northeast corner of the property. The concrete is bordered with a brick header course, outside of which is a circular planter bed edged in older brick. A portion of the south side of the bed is filled in with brick, allowing a point of entry into the concrete circle.

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#### Site Furnishings

There are a number of benches, picnic tables, rocking chairs and planter pots located on the site. Many of the benches are concrete with no backs and are arranged in various locations surrounding the house: (5) three-foot long curved and grouped around the circular fountain; (2) five-foot long straight sided and arranged in an ell configuration in the lawn near the rear porch (with a planter pot serving as an ash can between them); and (2) fivefoot long straight sided are located under trees in different locations on the east and south sides of the house. The porch spaces in the front and rear of the house support a variety of wood furniture, including wooden slat benches with backs, two different sizes of rocking chairs and a table. There are also several wooden slat benches with backs located in the recessed area below the rear porch. One picnic table is located in front of the air conditioning units near the southwest corner of the house. Two picnic tables are scattered under trees in the southwest corner of the property.

#### Signage

There are several wooden signs around the property supported by wooden stakes driven into the ground. Two signs are located in the front yard on the south side of the main walkway: one is a larger sign board that explains the history of Orange Hall; the other is a smaller marker sign that identifies the house as part of the historic district. Another smaller sign is located near the side pedestrian gate on the north side of the property that reads "entrance" and has an arrow pointing in the direction of the front of the house. An oval shaped sign that reads "open" is attached to the front gate door. Just outside the northeast corner of the fence, at the intersection of Osborne and Conyers streets, are two directional signs for nearby churches.

#### Small Site Features

- There is a wooden lattice trellis attached to the house at the northwest corner. There is also a free-standing section on the north side of the rear porch steps that extends under the porch
- (2) 6" x 24" rectangular flat stones of a reddish-brown color in the southwest lawn near the base of a large water oak tree remnants of threshold to former woodshed?
- Irregular rocks scattered in the foundation planting bed on the south side of the house
- Small two foot wide circle of bricks in the north lawn
- Remnants of older bricks at edges of shrub beds



Figure II-107. View of Property Looking Northwest.

- Railroad ties partially surrounding planter space containing a palm tree and a water oak tree in rear yard
- (3) square aggregate pavers leading to flag pole in north lawn
- square aggregate paver (broken) adjacent to south side of front walkway
- 24" diameter cast iron cauldron at base of pecan tree near southwest corner of the house
- Planter pots (pedestal) located on either side of the front door on the front porch
- (2) large terra cotta planter pots flanking bottom of rear porch staircase, containing dead plant material
- Cast iron ornate low fencing at edge of planter bed near northwest corner of house
- Hitching post 4' high metal stand pipe with horse head and ring near top end of service drive appears to be a contemporary feature
- Plastic trash receptacles under the rear porch
- (2) plastic trash barrels flanking entrance to service drive
- (2) orange plastic cones also flanking service drive entrance
- Childrens' fort dog house (?) on south property line

#### Utilities

Overhead utility wires connect from a utility pole on the south property line to the southwest corner of the house. These lines appear to be for electric power to the house. Mounted on the south side of the house at this same corner are utility meters and panel boxes. Another overhead wire extends from the same utility pole straight across the rear yard to Conyers Street. The pole supports three canisters near the top and would appear to be a main feeder source for other properties beyond the Orange Hall property. Another breaker box and cords with electrical outlets is located on the southeast corner of the house. This is presumably for the outdoor lighting.

Two air-conditioning condensing units are located on concrete pads near the southwest corner of the house. One of the units appears to be newer and one an older model. There is also a window unit in one of the windows on the lower level of the north side of the house. Mounted to the west side of the house is a large circular metal hooded exhaust fan protruding out from the building. This was presumably added to vent a contemporary kitchen in the lower level of the house.



*Figure II-108. View of Property Looking Northeast.* 

A spigot on a short metal stand pipe, a sewer clean-out cap and water meter valve box are grouped in the lawn just off the southwest corner of the house. A bright blue metal well cover and separate meter are located further out from the house in this same direction near the southwest corner of the property. A circular cover in the ground indicates the location of a sewage grinder station adjacent to the restroom facility, just south of the building. A small valve box is also located here, just south of the walkway that surrounds the restroom. Two water meters are located on either side of the picket fence on the north side of the property near the service drive entrance on Conyers Street. Also located here is a plastic stand pipe. Another spigot and garden hose are located next to the fountain in the northeast corner of the property.

There is a collection of six plastic valve boxes grouped in the lawn next to the walkway near the service drive. These are installed at varying heights and angles, posing a potential trip hazard and are highly visible, since they are exposed and sticking up above the grass.

#### Drainage

There is an alleged underground network of drainage pipes that collect rain water from around the house and carry it diagonally under the front lawn out to the city storm water system, exiting the site near the northeast corner of the property. A rectangular concrete and brick-lined drainage channel structure was discovered partially exposed in the ground along the western edge of the property. This structure contains debris and overgrown plant material. It is not clear what this structure connects to or if it is still in use. The construction materials do not appear to be historic.

Foundation planting beds along the north and south sides of the house contain a linear gravel space between the house façade and the shrubs. These pervious areas are presumably for diffusing rainwater run-off from the roof and may percolate down to an underground piped drainage system.

#### Site Lighting

There are a number of small up light fixtures on metal stand pipes in the lawn areas around the front and sides of the house. Spot light fixtures are also mounted on concrete pads near the ground level at the edge of two planter beds in the front yard. These fixtures are partially obscured by the large plantings. There are also two in ground light fixtures adjacent to the fountain feature. With the exception of the fountain lights, all other fixtures are directed at the house and provide a dramatic glowing wash of light on the building at night. Other light fixtures on the property include two lantern type fixtures mounted to the house on either side of the front door and two similar lantern fixtures mounted on either side of the entrance doors to the

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public restroom building. There is also a small broken lantern type fixture on a four foot high black metal pole at the end of the brick walk that is on axis with the rear porch steps.

Additional lighting is provided by vintage street lights on pedestrian-scale decorative poles that surround the property. One such light pole is located in the planted median on Osborne Street centered on the front walkway that leads to the house.

#### Irrigation

Components of an irrigation system are evident throughout the site. The irrigation clock is housed in a panel box on the southeast corner of the house. Also noted were a number of broken or damaged sprinkler heads protruding or laying detached in the lawn areas.

#### Vegetation

#### Trees

The property contains a number of mature trees. As mentioned in the Methodology, the size of trees today, versus the time of the 2001 Survey, indicates an average growth rate of one half (.5) inches per year for most of the trees. The average growth rate will differ between species, but this is a reasonable point of reference for approximating the date of most of the plant material on site.

Based on this theory, the largest trees on the property would be less than 100 years old and would not date back to the time Orange Hall was constructed in the late 1830s.

However it is feasible that some of the slower-growing tree species may be more than 100 years old. This would include the Southern Magnolia in the front yard and two Eastern Red Cedars: one on the southeast corner of the house and another much larger one near the service drive entrance on the north property line. These trees appear in mature form in a number of undated historic photographs believed to predate the turn of the century. If we take the diameter breast height (d.b.h.) from the 2001 survey and divide by an average annual growth rate of (.2) inches/year (typically assigned to these species), the (30) inch Magnolia would be at least 150 years old. The (26) and (48) inch Eastern Red Cedars would be at least 130 and 240 years old respectively. Therefore, the 240-year-old cedar, which is located on the north property line near the service drive entrance, would predate the period when Orange Hall was constructed by approximately seventy-five years.

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A number of small trees have been planted since the 2001 Survey. These consist primarily of ornamental or fruiting types such as Dogwood, Crape Myrtle and Orange.

#### Shrubs and Ground Cover

A variety of shrubs are concentrated around the house foundation and on portions of the perimeter of the property. These plantings appear to have been installed in the last five to ten years. Lawn is maintained by regular mowing practices and consists of a fescue mix with an assortment of volunteer groundcover plants. There are a number of depressions in the lawn areas where trees were formerly located and stumps remain in locations where trees have died more recently and have been removed. A number of young trees and some shrubs have been planted on the property since the 2001 Survey Drawing. Due to the extent of plant material inventoried, the collection has been organized by the following areas around the house: East (Front) Yard, West (Rear) Yard, North Yard and South Yard.

#### East (Front) Yard

There are two circular planter beds symmetrically located in the lawn spaces on either side of the front walkway that contain dense masses of Sago Palms. These planters are in the same locations of circular beds indicated on the Original Grounds Layout Plan and in 1939 HABS photographs, where some type of stone or brick border materials are visible. They also appear very clearly in an earlier photograph (date unknown) as the edging material for an empty planter space.

The front walkway is bordered by a low Wintergreen Boxwood hedge that is maintained at an approximate height of (18) inches. The hedge contains several breaks where plants are missing.

A number of mature trees in the front yard help to frame the house. These include Eastern Red Cedar and Crape Myrtle trees on the southeast corner of the house; a mature Pecan tree in the southern portion of the front lawn; and a large Southern Magnolia in the northern portion of the front lawn.

The (26) inch cedar tree has an irregular branching habit and appears to have suffered some storm damage over the years. Based on the 1939 HABS photographs, which show a small seedling, suggest the tree is approximately seventy years old. For some reason it does not appear on the 2001 survey drawing, but is probably seventy years old today. The tree is consumed with Spanish moss and appears to be struggling. In this same vicinity is a stump from a dead palm tree. The (20) inch Pecan tree has some dead limb tips. There is also a (24) inch Cherry in the southern portion of the front lawn with a broken leader that needs corrective pruning. The

(30) inch Magnolia has a good form and has been pruned on the bottom to maintain clearance underneath.

The south property line border planting contains a variety of trees and shrubs and several dead trees, including Wild Cherry, Water Oak, Palms and Bamboo. Just in front of the border plantings are some recently planted small flowering trees and shrubs, including Dogwood, Redbud and Azaleas. These plantings are starting to encroach on the open lawn space.

The northern portion of the front yard contains (2) Live Oaks located along the property line that may need to be uplimbed as they mature for clearance on the adjacent sidewalk. A small orange tree has been recently planted at the northeast fence corner, at the same location where a large Oak tree has died and only a stump remains. Two small Crape Myrtle trees were also recently planted along the north property line.

There is a variety of shrub foundation plantings on both sides of the front porch, consisting mostly of Indian Hawthorn, Helleri Holly and Azaleas. Taller accent shrubs anchor the corners where the front steps protrude from the building and some Mondo Grass is included as ground cover.

The circular planter space surrounding the fountain contains Indian Hawthorn shrubs, Blue Rug Juniper, regular and variegated Liriope and Chrysanthemums.

#### North Yard

The same palette of foundation plantings, consisting mostly of Helleri Holly and Indian Hawthorn, wrap around the north side of the house. This planting area also contains some bare spots.

The north side of the lot contains a large open lawn area that is used for wedding receptions. This is also in close proximity to the service drive entrance and the restroom facility. Two very nice specimen quality treeform Sago Palms flank the concrete walk near the northwest corner of the house.

There is a large (30) inch Southern Magnolia just outside the fence to the north of the property line on Conyers Street that has some die back on a number of the upper branches. Two small (4) inch Southern Magnolias have been recently planted in the lawn space.

#### South Yard

Foundation plantings consisting of Indian Hawthorn and Helleri Holly also wrap around the south side of the house. A separate shrub bed with Helleri Holly and a (24) inch Pecan tree in the center is located on the southwest corner of the house.

South border perimeter plantings continue from the front yard and consist of Bamboo, Cherry, Cherry Laurel and Camellia. This strip also contains two large tree stumps. In front of the border are recent plantings of Crape Myrtle, Orange and Azaleas.

#### West (Rear) Yard

The rear yard contains a number of fairly large Water Oak and Southern Magnolia trees that create a shady environment. As a result, the lawn is sparse and patchy with frequent bare spots. Most of the trees appear to be in good health and have good form, with the exception of one (22) inch Water Oak that is severely damaged. Fallen and broken limbs should be removed as soon as possible.

The south property line border planting continues toward the southwest corner of the lot with several breaks. Plant masses include Bamboo, Camellias, Azaleas, near tree-form size Cleyera, Sago Palm, Palms, Live Oaks and Pecan. One (12) inch Pecan tree has died since the 2001 Survey. Several recently planted small Crape Myrtle trees are located just in front of the border bed in the lawn space. Inside the border plantings is a (20) inch Southern Magnolia tree that has a number of dead branches. A double trunk (36) inch Water Oak located in the southern portion of the rear yard on the 2001 Survey is now a single trunk tree with an adjacent flush cut stump.

In the very southwest corner is a (6) inch Southern Magnolia. The western border plantings along the property line consist of Bamboo, Camphor, Water Oak trees and various vines. English ivy is predominant ground cover along the western property line and is found growing up the trunks of nearby trees. The border has many breaks with views to off-site elements that are not in keeping with the historic house site. Approximately half of the western border is made up of white picket fencing and miscellaneous boards from the neighboring residential property. There are very few plantings in front of the fence. A small Cherry tree and a Yucca plant are growing behind the restroom building.

There is a small planting bed partially edged with railroad ties that contains (1) palm tree and a (24) inch Water Oak. Nothing else appears to be growing in this space. Scattered around this area are several large Water Oaks and a (15) inch Southern Magnolia.

Centered on the rear porch steps are the rows of Crape Myrtle trees that outline the intersecting brick walkways. A few Orange trees are interspersed with the Crapes. The walkways are further outlined by rows of Liriope and a couple of clumps of Camellias behind the rows of trees. The intersection circle is outlined with Indian Hawthorn shrubs.

A Helleri Holly shrub mass with Mondo underneath is located just north of the porch stairs next to the concrete walk that leads to the lower level

entrance door. This shrub mass is quite large and blocks views to and from the recessed area under the rear porch where the lower level entrance door is located. Also growing on the trellis in this location is a Lady Bank's Rose. Other shrub masses with Helleri Holly or Azalea are located next to the service drive, in the far northwest corner and just outside the property near the pedestrian gate opening on Conyers Street. A shrub mass indicated on the 2001 Survey just west of the service drive has since been removed.

Some of the oldest trees on the property are located along the northern property line. These include several large Water Oaks, a fairly large Live Oak, and a (48) inch Eastern Red Cedar just west of the service drive entrance. This Cedar is most likely the oldest tree on the property. A large Cherry tree with a split trunk is in very close proximity to the Cedar and has a number of lower branches that are drooping into the drive space.

A (42) inch Water Oak tree just west of the pedestrian gateway on Conyers Street is surrounded by a bed of Cast Iron Plant and Liriope.

### Archaeological Investigation

Research gathered on prior archaeological work at Orange Hall has indicated that at least two organized excavation projects had been conducted in 1979 and 2002. Shovel tests and test units dug from these projects identified several areas where features were present. A general backyard midden zone was part of this discovery, however the recent construction of the public restroom structure, walkways and gardens had disturbed some areas immediately west and northwest of the house. Work associated with the current study was conducted April 4-8, 2005, and began with an investigation of two sandstone blocks located near the surface of the ground in the back yard, southwest of Orange Hall. These artifacts appeared to be cut stones, like those that would be associated with a structure, however, probing in the immediate vicinity revealed no evidence of any in situ foundations.

Shovel testing was also conducted as part of the site investigation. The units were placed along a transect paralleling the south side of the house and extending east to Osborne Street. (refer to Figure 0-5).

The current archaeological investigation was guided by several questions about the Orange Hall building chronology. Although historical research had been able to illuminate several of the research questions, the archaeological investigation was used to help corroborate these findings. The first question, common to most old buildings, was: when was the house constructed? Another pertinent question was: whether the brick floor in the basement kitchen dated to the construction of the house, or to a later construction period. Given the focus of these questions, it was decided to conduct the archaeological investigation on the interior of the building. Also contributing to this decision was the amount of intervention that had occurred around the perimeter of the building due to the installation of a foundation drainage system. It was anticipated that all evidence of a builder's trench in this area would have been destroyed by this installation.

Therefore, it was decided to look for the exterior foundation builder's trench from the interior side. The first excavation unit was placed in the northeast corner of the room where the exterior wall intersected a small section of an interior wall, which joined the large chimney that formed the rest of the interior wall. It was postulated that three builder's trenches should be found in this corner between the outer wall and the north side of the chimney and the interior wall. This area was almost exactly 1 meter wide between the exterior wall and the chimney wall (north-south) and 1 meter from the interior wall to just beyond the outer edge of the chimney corner (east-west) as shown in Figure II-109. A wider view of the chimney is presented in Figure II-110 to show the relationship of the two test units (Test Unit 1 in the background and Test Unit 2 in foreground). The northern edge of the chimney, which formed the south wall of the test unit, contains



Figure II-109. View of Old Kitchen (B10).

two apertures (see Figure II-111). The bottom aperture opened just a few inches above the brick floor into a pit that extends about 20 centimeters (8 inches) deep. At one time this may have been a firebox that held coals to heat the oven above it. Because it was filled with ashy soil and artifacts, it has been referred to as an ash pit, probably not its original function. The oven located above the firebox or ash pit had a larger arched opening than the pit below it.

In Test Unit 1 the bricks were removed and placed aside in the same pattern as they were originally laid, so that they could be replaced in the same pattern. Test Unit 1 was excavated in controlled levels and vertical depths were measured from a nail at the top of the brick in the northwest corner of the unit. The base of each level was drawn to scale and photographed. All soil from the unit was screened through ¼" mesh hardware cloth and the retrieved artifacts were bagged according to each excavated provenience (level). Samples of brick, mortar, plaster, shell and charcoal were collected from each level of excavation. Features were excavated separately and recorded in detail as well as photographed and drawn in plan view. Profile drawings were made of all four walls of Test Unit 1. A second Test Unit (2), approximately 1 x 1 meter in size, was opened along the western edge of the hearth apron. The bricks were removed and placed nearby so that they could be replaced in the same pattern as they were removed. The soils were screened and plan drawings and photographs were made of the unit.

Rob Yallop, LAS Project Manager, excavated a small test unit (LAS TU) adjacent to the edge of the east wall foundation of the house. The purpose of this excavation was to examine the below grade construction of the east foundation wall. Artifacts recovered were sent to Southern Research's laboratory for cleaning and analysis along with a profile and plan of the excavation unit, which is presented in the next section.

In the laboratory, artifacts were washed and sorted. All artifacts were identified as to their class and type, based on a modified South classification system.<sup>32</sup> The artifacts were then counted or weighed, or in some cases both. Artifact descriptions, counts and weights along with provenience information were coded into a spreadsheet format for tabulation and quantification. After sorting and identification, the artifacts were stored in acid free clear plastic bags. The provenance information was marked on acid free labels, which were placed inside each bag.

#### Results

A total of 1,404 artifacts were recovered from the two units excavated inside the basement kitchen and the single unit dug by LAS. The total



Figure II-110. Inside the basement showing the locations of Test Units 1 and 2. View is to the northeast.



Figure II-111. Test Unit 1, Base of Level 6 Showing the top of the builder's trench.

<sup>&</sup>lt;sup>32</sup> South, Stanley. *Method and Theory in Historical Archeology*. Academic Press, New York.

weight of those artifacts that were weighed was 9,988 grams (22 lbs). The items weighed included brick, mortar, plaster, shell, bone, seeds/nuts wood and charcoal. All recovered artifacts are listed in (Appendix H: Artifact Inventory), which lists the artifacts by identified class/type with the corresponding provenience information (TU, level, or feature). Quantifications by count or weight are shown in the Inventory List. Samples of brick, mortar and plaster fragments were taken during screening and placed in the appropriate provenience bags along with the rest of the artifacts. Examples of some of the artifacts recovered are presented in Appendix I in several photographs, which are grouped into classes of artifacts. Each excavation unit is discussed below and a summation and discussion is presented at the end of this section.

#### Test Unit 1

The bricks removed from the floor (See Figure II-109) for Test Unit 1 measured approximately 5 cm in thickness and were considered Level 1. The soil immediately underneath the brick flooring was removed as a transitional zone (Level 2), it was a dry sandy loam soil measuring about 2 cm (1 inch) in depth, containing well preserved wood, bone, seeds, nut shells and other organic matter, along with historic artifacts such as glass, oxidized iron, architectural debris and one Indian pottery fragment. The most prevalent artifacts were architectural debris consisting of wellpreserved wood fragments, brick, mortar and plaster fragments. Level 3 was dug from about 7 cm below the floor surface to about 15 cm below the floor surface. Beginning with Level 4 through 6, the unit was dug in 5 cm levels. At the base of Level 5 a layer of thick compacted mortar appeared along the north exterior wall surrounded by a darker, yellowish brown, sandy loam. Clumps of mortar were also observed along the interior (east) wall at the base of Level 5. The compacted mortar and darker soil surrounding it along the exterior wall (Feature 9) became clearer in Level 6. Evidence of the builder's trench for the exterior wall became clearer immediately below the compacted mortar (Feature 9) paralleling the exterior wall. This can be seen in the photograph taken at the base of Level 6 (Figure II-111). Also observed at the base of Level 6 was a zone of compacted mortar paralleling the interior wall and then extending along the chimney base. The dark yellowish brown sandy soils of the builder's trench appeared to extend along the interior wall and then parallel the chimney base (see Figure II-111). Lighter soil appeared in the center of the test unit surrounded by the builder's trench soils that appeared to form a U around it. Along the chimney side of the unit, the trench stain appeared slightly darker in color and contained a concentration of oyster shell in Level 6.

In Level 7 of Test Unit 1, the soil color lightened along the interior wall (east) and the chimney base wall (south). At this Level it became evident that both the interior wall and the chimney base ended higher up than the exterior wall foundation. The brick for the interior wall and chimney ended at the same depth and on top of a thick layer of mortar at about 24

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centimeters (about 9.5 inches) below the top of the brick floor. The layer of mortar that held the bottom course of brick was irregular in thickness with a layer of crushed oyster shell about 2 centimeters (1 inch) thick at most. The bottom course of the chimney base ended at the same point as the interior wall, but on a thinner layer of mortar and a thinner layer of crushed shell. Because the soil coloration was consistent, Level 7 was excavated as a 26 centimeter (10 inches) level. The builder's trench for the exterior wall foundation was pedestalled and the rest of Level 7 was excavated to a depth of 56 centimeters (2.2 feet) below the top of the brick floor.



Figure II-112. Test Unit 1, west profile drawing illustrating the stratigraphy beneath the brick floor.

The builder's trench, which became clearly defined at the base of Level 6, was then excavated separately. The trench was about 65 centimeters (about 2 feet) in width (measuring out from the north wall). It tapered down to only about 35 centimeters (about 1 foot) in width at the bottom of the ditch where sterile sand appeared. The builder's trench can be seen in the west wall profile drawing illustrated in Figure II-112. The brick wall ended on a thick layer of mortar embedded with one course of brick, which stepped out (to the south) from the wall about 11 centimeters (4.5 inches). This bottom course was laid as headers, but placed on their sides with mortar both on top and below the bricks. Figure II-113 shows a close-up of the brick, mortar and shell configuration. Below the bottom course of brick was a thin lens of lighter colored sand followed by 51 centimeters (about two feet) of crushed oyster shell (Figure II-115). Figure II-114 shows Test Unit 1 completely excavated to the base of Level 7 and with the builder's trench



Figure II-113. Close-up of north foundation wall and oyster shell layer in builder's trench.

matrix removed to a depth of 95 centimeters (3 feet) below the top of the brick floor where sterile soil was encountered.

Artifacts recovered from screening the soils of Test Unit 1 consisted primarily of construction debris such as brick, mortar, plaster, nail fragments and window glass fragments. In much lesser numbers, small historic ceramic sherds, glass fragments (window and bottle) and animal bone were found (Appendix SRB). Other artifacts discovered include preserved wood, charcoal and seed fragments, insect fragments and oyster shell. The faunal (bone) and other organic materials (wood, seeds, insect fragments) were in an excellent state of preservation. The bone consisted mainly of fish scales, head elements, vertebrae and spines. Fish, turtle, chicken and pig were identified. Egg shell fragments were also observed (see Appendix SRA). By far, brick and mortar fragments were the most prevalent artifacts. Examples of these are shown in Appendix I along with several fragments of window glass. The architectural debris occurred in the highest concentration, as did all artifacts, between 10 and 30 centimeters (4 to 12 inches) below the top of the brick floor (Appendix SRB). For the most part, the artifacts were small in size, particularly the historic ceramics, glass and nails, suggesting that these items had been subjected to taphonomic forces such as surface exposure to foot traffic and weathering.



Figure II-115. Test Unit 1, Profile Drawing Illustrating the North Foundation Wall Resting Upon a Layer of Crushed Oyster Shell.



Figure II-114. Test Unit 1, Feature 11 builder's trench after excavation. View is to the east and the scale is one meter.

Test Unit 1 had a total of 91 nail fragments, none of which were identifiable as hand-wrought or machine-cut. Identified nails can be dated since machine cut nails were first manufactured around 1800, replacing hand wrought nails. All the glass fragments were small and consisted mostly of window glass (n=104), which was very thin with a heavy patina (from weathering), and bottle glass (n=37), which was mostly olive green (spirit bottles) in color and some clear leaded glass. Other artifacts of interest from the test unit included brass straight pins, a shell button, a brass button, a brass upholstery tack, a slate pencil fragment, several lead balls, kaolin pipe stems and a French gun flint (see Appendix I). These are all types of artifacts one would typically expect to find around households from the late eighteenth and early nineteenth century.

The historic ceramics, probably the most time sensitive artifacts in the collection, were almost all English manufactured and primarily refined earthenwares (Appendix SRB: Artifact Inventory). However, there were a few stonewares and porcelains. The earthenwares were mostly refined earthenware, creamwares and pearlwares. Most were decorated with monochrome (blue) and polychrome (yellow, brown, green, red) hand painting and transfer printing (almost all blue with one red). A few redware sherds were recovered, including a Jackfield sherd, which is considered a refined earthenware. As noted, there were very few stoneware sherds (n=6). These were gray and brown salt glazed (n=3) types and the rest were unidentifiable types. Two porcelain sherds were identified from the builder's trench and one unidentifiable one from Level 4. Two were plain and one was decorated with a blue hand painted design that appears to be Chinese porcelain, which has the earliest beginning manufacture date and the broadest manufacturing period (1660 to 1800) of any of the datable sherds from the excavations. Besides the builder's trench, historic ceramics occurred in levels 2 through 7. The builder's trench contained the most historic ceramics Levels 3 through 6 containing about the same number of sherds in each level (11, 10, 11, 12 respectively). Level 7, which was dug as a much thicker level had only three sherds. Examples of some of the historic ceramic types are shown in (Appendix I)

The manufacturing range for the ceramics covered a period from 1660 to 1840. Two Mean Ceramic Dates (MCD) were determined: a date of 1768 based on the known midrange dates of manufacturing and the date of 1794 based on the end date of manufacturing. As mentioned above, a few ceramic types (n=5) did not have documented manufacturing periods, and they are not counted in the MCD formula. The MCD dates seem quite early and may be a result of the small sample size of 67 sherds. However, the sherds were all identified to types that have fairly tight and consistent manufacturing ranges. Only one sherd had a manufacturing range that went as late as 1840, a pearlware sherd decorated with an underglazed, hand-painted blue edge, (edgeware), which was manufactured from 1780 to 1840. All of the remaining ceramics were manufactured no later than 1830. Only one redware sherd was identified and that was a Jackfield ware sherd, which

was manufactured as tea services primarily and sometimes side bowls, during the period from 1740 to 1780.

In most levels of the units, Native American pottery sherds were recovered along with chipped stone debitage associated with earlier occupations on the site by Native Americans (Appendix H). Twenty-six Indian ceramic sherds were found in Test Unit 1. Only one sherd was plain, the rest were decorated with simple stamping, cordmark stamping, net impressed and several with unidentifiable stamping. The simple stamped sherds probably date to the Deptford Phase of the Early Woodland Period. The cord marked and net impressed sherds may date to either the Woodland or the Mississippian Periods. There was one St. Simmons Fiber Tempered sherd, which represents the earliest type of ceramics made by Indians in North America. These artifacts occurred in the builder's trench and in all levels of test unit 1. The chert and quartz lithic debris, which resulted from stone tool manufacturing, cannot be dated to any particular Native American period since no diagnostic tools were recovered.

#### Test Unit 2

This approximately 1 x 1 meter unit abutted the west edge of the fireplace apron (hearth). Figure II-116 shows the unit in relationship to the hearth. Refer back to Figure II-110 for a perspective on the placement of Test Unit 1 near the window in the corner and Test Unit 2 next to and in front of the chimney. Test Unit 2 was opened to examine the area in front of the fireplace. The brick flooring was removed and stacked nearby in the same pattern so that it could be replaced after the unit was finished. After the brick floor (Level 1) was removed, the intermediate zone (Level 2) an approximately three (3) centimeter level, directly beneath the brick was excavated and screened separately as Level 2, which contained a total of 14 artifacts. Level 3 was removed and screened as a 5 centimeter zone and contained 281 counted artifacts, which consisted of 49 unidentified nail fragments, a window glass fragment, an olive green bottle glass fragment, brick, mortar, oyster shell, charcoal, seeds and wood fragments. This level also contained 1.4 grams of perfectly preserved wood shavings. Some of the fragments were still curled up as if they had just been planed from a board (see Appendix I). Also perfectly preserved were three peanut shell fragments (see Appendix I). The nail fragments in Level 3 of Test Unit 2 were too badly corroded to determine if they were hand-wrought or machine-cut. Compared to Level 3 in Test Unit 1, Level 3 of this second test unit contained over twice as many nails (n=91). The generally poor preservation condition of the nails in both test units suggests that they had been exposed to weathering for some time or that the soil is extremely acidic, or both.



Figure II-116. Test Unit 2, view to the east.

#### LAS Test Unit

As part of the architectural investigation, Rob Yallop excavated an approximately 53 centimeter (1.7 feet) by 42 centimeter (1.3 feet) unit outside of Orange Hall adjacent to a section of the east wall of the house located under window E03. The purpose was to determine the condition of the foundation and builder's trench on the exterior. The profile and plan views of this excavation are presented in Figure II-117. The unit was excavated to a depth of 92 centimeters (about three feet) below the ground surface. In the plan view, mortar and shell mixture measuring about 15 centimeters (6 inches) wide adjoins the wall. Adjacent to the shell and mortar mixture is a band of crushed ovster shell, also about 15 centimeters (6 inches) wide, bordered by a tan sandy loam representing the soil matrix outside the trench. In the profile, the brick foundation can be seen with a zone of crushed oyster shell below the brick and underlain by undisturbed tan sandy loam. Thirty six artifacts (Appendix H: Artifact Inventory) were recovered containing mostly brick, mortar and oyster shell, although four nails were recovered with one in good enough condition to tell it was a wrought or cut nail, but without the head of the nail preserved well enough to differentiate. Also found was a screw fragment and two large Deptford Check Stamped sherds from the Early Woodland Period (see illustrations in Appendix I).



Figure II-117. LAS Test Unit, plan and profile drawings on east exterior foundation wall.

The reconstructed blue transfer printed plate found by Alan Bailey in 1975 was photographed and the maker's mark was researched. The plate is of an oriental style, a popular decoration during the early nineteenth century (Appendix I). The vessel has an unusually ornate maker's mark on the reverse side of the plate that consists of an urn (known in Coysh and Henrywood as the Ridgway Urn) and beehive cartouche with a weeping willow. The plate is identified to the English potter, William Ridgeway,

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who manufactured this particular vessel for the brief period of 1830 to 1834 (Kovel and Kovel 1986), which is a very tight manufacturing range.

#### Summation

Orange Hall sits on ground that has been occupied for more than thirty-five hundred years, since the time of the Late Archaic Indians. Everywhere archaeologists have excavated on the Orange Hall Site, they have found evidence of Native Americans having used the site over these many thousands of years. Also present on the site is a late eighteenth century occupation or a very early nineteenth century occupation that predates the construction of Orange Hall. Artifacts that consistently date to the earliest days of St. Marys have been recovered beneath Orange Hall and in the back yard. It is quite possible there was more than one structure on the property predating Orange Hall.

Excavations next to three brick walls in the interior basement showed a sequence of construction as follows. The builder's trenches for the outer wall foundations were dug first. Then, a thick layer of crushed shell was placed in the bottom of the trench with a thin layer of sand placed upon the top of the shell, which was followed by a thick layer of mortar. A bottom course of brick for the foundation was laid in the mortar and covered by another thick layer of mortar. The brick wall then was built up toward the first floor of the house. Probably following the laying of the exterior and any interior load-bearing walls, plus the chimney foundations, all of these builder's trenches were refilled. Then trenches would have been dug for interior, non-load bearing, brick wall foundations and the north wing of the central chimney on the north- northwest side of the house. This is the portion of chimney excavated next to that which contained the oven and pit below it. This part of the chimney did not support anything above it, not even extending to the ceiling, and, therefore, was not load bearing. These shallower trenches were dug and refilled in a similar fashion to the deeper exterior trenches, having a layer of crushed shell placed at the bottom of the trench, with a mortar layer on top of the shell to hold the bottom course of brick. These trenches were then refilled. None of the interior walls would have been load bearing, which explains why their foundations are not as deep as the exterior foundations. In the basement, the portion of the chimney that extended out from the firebox and chimney stack would not have been load bearing, either, unlike the firebox and flue, which extend up for two stories. Where the Orange Hall foundations were dug there would have been artifacts discarded or dropped from earlier occupations on the lot. These would have been lying on top of the soil with some embedded into the ground. The builder's trenches would have been dug through this soil, mixing the soils and artifacts in them.

The brick floor appears to belong to original construction of the house, although the floor in the basement was probably not laid until after the

house was finished. Following the completion of the house, a layer of sand was smoothed and leveled across the dirt floor of the basement and bricks were laid in the sand with no mortar to bond them together. Test Unit 2 revealed that directly below the brick flooring were well preserved wood shavings and other organic matter such as peanut shells and seeds. It is hypothesized that these items belonged to the period of construction during which the interior portions such as the above ceiling and flooring for that story were finished. The shavings coming from the sills and floor boards and the peanuts were perhaps part of a worker's lunch. Figure II-118 shows the relationship of the chimney to the interior and exterior walls, and to the test units that were excavated. It also illustrates the soil stratigraphy that underlies the floor and building. Most of the brick, mortar and plaster found in our excavations probably belong to the demolition of earlier buildings to make way for Orange Hall, although some of the debris at the higher levels could belong to construction of Orange Hall. Most of the artifacts found in Test Units 1 and 2 belong to a period that predates the construction of Orange Hall. The artifacts, especially the historic ceramics, provide manufacturing dates that consistently fall into a manufacturing period that predates the house. Furthermore, the small size of the ceramics and glass and the poor condition of the nails suggest that these artifacts may have been present in the backyard of earlier structures located perhaps closer to Osborne Street or maybe Conyers Street.



Figure II-118. North to south section of the basement showing the stratigraphy beneath the brick floor and details of the foundation walls.

### Interpretation

During the site visit to Orange Hall two types of visitors and tours were observed.

Walk-in visitors were greeted at the front door to Orange Hall. They paid their admission and were given the brief hand-out to use in a self-guided tour. The docent suggested that she was available to answer questions. The visitors walked throughout the house unescorted and let themselves out.

For a large tour group, several docents were on-hand, staged in several areas to answer questions of visitors. Again, the general brochure and the labels in the rooms were the primary means of interpretation. As is often found in historic houses, the focus of the rooms and the interpretation tends to be on the furniture (the hard work that went into acquiring pieces for the house is evident) rather than the stories of the people who used the furniture and their roles in the community.

In general the current interpretation seems minimal, generally unstructured and not very engaging. The excitement of what has happened at Orange Hall and what is about to happen is missing. The positive impact of tours on visitors is probably less than desired. However, the new research findings and the plans for Orange Hall's preservation and interpretation should lend new enthusiasm to both the docents and the visitors.

#### Summary of Existing Conditions and Interim Recommendations

#### Summary of Existing Conditions

The physical investigation of Orange Hall revealed that the building retains a vast amount of original and historic fabric and that the condition of its major architectural elements is generally good. The original floor plan remains remarkably intact with only minor modifications having been completed over the years. Areas identified as having experienced substantial alteration or the wholesale removal of historic fabric are limited to portions of the basement, the front and rear porches, the second floor and the rear appendages.

In some cases, problem areas or deficiencies were identified that have resulted in the severe deterioration of building elements such as the lack of an appropriate rainwater distribution system and the associated poor drainage at the base of the building. Repair or remediation of some of these material deficiencies will be required in the short term to halt the continued loss of fabric or the progression of the problem.

Structural deficiencies identified included limited areas of overstress and material failure, inappropriate alteration of structural members causing unsafe conditions as well as areas that do not possess adequate design strength to accommodate current use loads. In some cases these deficiencies will require limiting access to certain sections of the building or the temporary shoring of affected areas.

The existing Mechanical system within Orange Hall is currently in fair condition and provides adequate heating and cooling for building occupants. The system, however, is not designed to provide sufficient temperature and humidity control for a museum environment. Also, at least one of the air handling units located in the attic is near the end of its anticipated lifespan and will likely need to be replaced in the near future.

The electrical system was found to be in fair condition with numerous deficiencies identified during the assessment. Given that component failure of this system has the potential to cause fire, it is recommended that the items listed below with regard to this system be addressed as a high priority.

With the exception of the few isolated deficiencies identified during the survey, the Plumbing System was found to be in generally good condition.

The existing landscape and landscape elements consist of a mix of historic fabric and modern additions and alterations. The most dramatic change to the Orange Hall property resulted from the severing of the historic parcel in the 1940s and the reduction of its original size by approximately one third. Obviously this alteration will limit the ability of the Foundation to truly

restore the entirety of the historic property associated with Orange Hall. Historic plant material does survive, as well as a number of specimen trees. Evidence of historic circulation paths and other features are not obviously present, however, they likely survive in the form of archaeological remains. Finally, the plant material is generally in fair condition, however, a lack of maintenance and monitoring has resulted in several condition problems.

#### Interim Recommendations

The following interim recommendations are so called because they address deficiencies identified during the course of this study that require immediate or short term resolution. These recommendations have been purposely isolated from the broader treatment plan presented in Part III of the HSR. Although in some cases, the remediation of these deficiencies would be most economical within the scope of a comprehensive restoration plan, it is recognized that implementation of such a program will be contingent upon successful fundraising, and that this process may take some time. In some cases, the deficiencies identified require prompt attention in order to ensure the preservation of the building, its materials and the safety of its occupants. Therefore the interim recommendations are offered to assist the Foundation in effectively prioritizing their efforts and the allocation of resources in the short term.

Also included among the recommendations are policy and procedural recommendations that can be implemented immediately at little or no cost that will benefit the property, add to the body of research and help to ensure the responsible management of Orange Hall prior to restoration. The interim recommendations are organized according to the major areas of study.

#### Item Recommendation

#### General

- 1. Update National Register Nomination It is recommended that the existing national register nomination be updated based on the body of research conducted since its completion in the mid-1970s. The information provided in the existing nomination is based on the limited research that was completed at the time of the nomination. The existing body of knowledge now provides a greater understanding of the history of Orange Hall. If completed by volunteers, this should be a no cost item.
- 2. Adopt HSR as "Official" Foundation Policy It is recommended that the Foundation (and possibly the city) adopt the HSR document as official policy. This will provide the Foundation/City with a framework for focusing efforts and allocating resources. It will also provide consistent direction for the treatment of the structure in the long term.

#### **Estimated Potential Cost**

\$0

\$0
#### Item Recommendation

- 3. Conduct Furnishing Plan It is recommended that a furnishings plan be completed for Orange Hall. Given the lack of furnishings with direct associations to the house, it will be important to establish a plan and policy for acquisition and de-accession. The furnishings plan should be coordinated with the Interpretation Plan presented in Section III of the HSR.
- 4. Review CAP Assessment document to ensure critical issues are addressed. Although there is some overlap between the CAP Assessment and the HSR, this review exercise will assist the foundation in prioritizing short term measures.
- 5. Heritage Conservation Network - Horse Hair Plaster Conservation Workshop - It is recommended that activities conducted as part of this workshop be limited to the analysis, limited and careful demolition and restoration of areas of historic stucco on the south elevation of the house and for interior work that this be limited to Bedroom 207. During the assessment of existing conditions it was noted that areas of the remaining stucco have debonded and can therefore be removed and restored as part of the workshop effort. This should be verified by experts taking part in the workshop. Prior to conducting any work, it is recommended that the area to be restored be documented with photography and the scoring patterns measured and sketched. This is extremely important in that once removed this evidence will be lost. Due to the continuing problem of rising damp, if upon demolition of the debonded stucco it is found that the masonry substrate is in poor condition, it is recommended that new stucco not be applied to this area. For these same reasons as well as the painting of the masonry it is recommended that no restorative activities be conducted on the north wall of the building. For analysis of historic interior plaster it is recommended that samples be taken from the keys visible in the exposure window on the south wall of Bedroom 206. Removal of interior trim elements may be necessary to ensure an appropriate interface with the finished wall plane. Finally, all phases of the restoration effort should be documented with photography.
- 6. Review existing Emergency Preparedness and Disaster Planning and Response **\$6** procedures for Orange Hall It is recommended that procedures for dealing with natural and manmade emergencies be reviewed to ensure that the staff at Orange Hall is familiar with and able to implement appropriate procedures in advance of and following potential crisis.
- 7. Program of Continued Research It is recommended that research on the history of Orange Hall and its occupants continue as an ongoing program of the Foundation. Although it is recommended that this research address all eras of the building's history, specific areas of study that could not be adequately addressed during the course of this study include the work of Isaac Slayton, the role of the servant and later hired help in the day to day activities of the household, the Civil War era occupation of Orange Hall and the activities of the occupying forces, the mid-twentieth century occupation of Orange Hall by boarder/tenants, mill workers and later the City of St. Marys. A program of oral history may be able to shed light on these most recent occupations. Finally it is recommended that research be conducted into the various decorative trends and treatments for the eras established by the Interpretive Plan (See Part III Use, Interpretation and Treatment).

**Estimated Potential Cost** 

\$15,000 - 20,000

\$0

\$0

\$0

\$0

#### Item Recommendation

- 8. Landmark Museum Designation - It is recommended that the Foundation pursue \$0 designation of Orange Hall as a Landmark Museum. The purpose of this designation is to pursue the exemption of Orange Hall from the "ordinary provisions of the state's fire code" so that it can be preserved or restored in an authentic manner. Application packages are available from the Georgia Department of Natural Resources, Historic Preservation Division. Richard Cloues, Deputy State Historic Preservation Officer, is the point of contact within the Division for this program. If the application is completed utilizing volunteers, this will be a no cost item.
- 9. Comprehensive Paint Analysis of Limited Elements - It is recommended that paint analysis be performed in a comprehensive manner throughout the various rooms of Orange Hall. This effort will be guided by the Interpretation Plan set out in Part III of the HSR. It should be kept in mind that this effort will be able to provide information about the finishes of the wood elements and the late nineteenth and early twentieth century wall and ceiling finishes where historic materials are present. Finishes analysis will not be able to help determine how the walls and ceilings would have looked during the earliest history of the house, since it has been discovered that wall paper was likely the original treatment. As mentioned above, consultation with an historic interiors specialist or continued research in this area will be required to help determine appropriate decorative treatments in areas interpreted to this earliest period.
- 10. Remove Commercial Kitchen Equipment from Room B05 - It is recommended that the \$0 commercial kitchen equipment in Room B05 be removed or sold - These costs may offset to result in no cost to the Foundation.
- 11. Fire Marshall Letter – It is recommended that all proposed recommendations outlined in \$2.500 the response letter to the Fire Marshall be implemented. It is further recommended that the Foundation work closely with the Fire Marshall to maintain compliance will all applicable codes and regulations (See Appendix K).
- \$1,000 12. Remove Signage and Interpretive Materials that Convey Incorrect Information - It is recommended that all signage and other interpretive materials be updated to reflect the most recent information.

#### Architecture

- 1. Install Temporary Rain Water Distribution System - It is recommended that an eave mounted gutter and downspout system be installed at Orange Hall to stop rain water run-off from collecting at the base of the building. Ensure downspout extensions are of sufficient length to carry rainwater away from the base of the building and that grading provides a positive slope away from the structure.
- 2. Paint Restroom Building - It is recommended that the restroom building be painted a \$2,500 color that will help it blend with the surrounding landscape.

#### Structural System

1. Temporarily Shore First Floor Structural Members - First floor structural members have \$1.000 been cut and are inadequately supported at modified stair to basement.

### **Estimated Potential Cost**

\$20,000 - \$25,000

#### Item Recommendation

### **Estimated Potential Cost**

2.	Temporarily Restrict Public Access to Rear Porch - The rear porch structure at the first floor has been severely compromised resulting in an unsafe condition. It is recommended that public access to the rear porch be temporarily restricted until appropriate measures are taken to shore up the structure or remedy existing deficiencies.	\$0
3.	Temporarily Shore First Floor Joists at Split Ends - The 3" x 8" joists at the first floor hallway are splitting at notched ends. Also, the first floor wall does not bear directly on the masonry foundation wall below.	\$1,000
4.	Reinforce Attic Framing - The 3" x 4" spreader members in the attic are inadequate to spread load to attic floor joists. This is resulting in deflection of the 7" x 7" roof support girders. It is recommended that the spreader members be reinforced.	\$2,500
5.	Wood Destroying Organisms - Ensure damage caused by wood destroying Organisms has been repaired and that measures are continued to limit the buildings' vulnerability to pests.	<b>\$500</b> (annually)
	Mechanical System	
1.	Install data collection devices to monitor temperature and humidity within the building for a period of 1 year. This will provide valuable data for developing solutions to improve the environmental conditions within the building and designing new systems. It is recommended that 12-15 locations be monitored throughout the building.	\$3,000
2.	Remove storage from Electrical Room (B12) and provide lock for door.	\$100
3.	Ensure that exhaust fan for hood in the kitchen is disconnected and post signs to indicate it must not be used.	\$0
	Electrical System	
1.	Circuit Tracing - Trace all circuits and account for connection to all outlets, lights and equipment.	\$8,000
2.	Label Panelboards – Label all circuits in panelboards and prepare a schedule with loads sized and identified.	\$4,000
3.	Fixture Testing - Test all lighting fixtures for defects. Repair or replace defective fixtures.	\$400
4.	Outlet Testing - Test all outlets for continuity, short circuits and proper grounding	
5.	Disconnect Kitchen Equipment – It is recommended that the kitchen equipment be disconnected and outlets and wiring be removed. Show these circuits as spares on panel schedules.	\$500
6.	Outlet Strips - Provide outlet strips with circuit breaker for all extension cords used.	\$150

Item	Recommendation	<b>Estimated Potential Cost</b>
	Plumbing System	
1.	Repair Leaking Toilet and Faucet – Repair fixtures in the first floor restroom or shut off water to these fixtures. Remove existing mold in this room.	\$100
2.	Repair Broken Irrigation Piping at Pump - Repair leaking underground irrigation piping and replace missing sprinkler heads.	\$500
3.	Seal Unused Hub Drain in Kitchen (B05) - Extend the vent above the flood rim of all fixtures and install an air admittance valve on the top of the vent or install seal on top of existing vent and ensure that kitchen equipment is not used.	
4.	Water Disconnection - Disconnect water from all kitchen equipment.	\$100
	Landscape	
1.	Plant Material Removal - Remove non-historic vegetation near base of building, conduct re-grading as necessary to encourage flow of water away from the building foundation.	\$1,000
2.	Elimination of On-Site Parking – Eliminate vehicle parking inside the property, especially on the service drive pad where two of the oldest trees on the property are located and the root zones are likely being impacted by compaction. Remove asphalt parking area.	\$0
3.	Pruning Program - Dead or damaged plant material should be properly pruned and branches removed from the site to prevent potential hazards. Diseased plant material should be monitored, pruned and removed from the site to prevent spread to healthy plants. Invasive exotic plant material should be eradicated to prevent it from getting out of control and potentially choking out historic plant material.	\$3,500
	A Water Oak at the rear of the property with a number of broken branches is one such example of a damaged tree that is in need of pruning. A split trunk Cherry tree that is adjacent to the oldest tree (Cedar) on the property should be removed in order to give the Cedar more space to grow. A twenty (20) inch Water Oak on the opposite side of the driveway is also encroaching on the canopy of the historic Cedar tree and is leaning on the inside of the fence. It is unlikely that pruning can correct the form of a tree this size and it should also be removed to give the historic Cedar plenty of clearance.	
	Trees that are obstructing circulation flow should be pruned to uplimb branches for adequate clearance and to maintain spatial relationships throughout the property. Significant plant material, especially trees that date back to the nineteenth century, should be identified, labeled and dated with the approximate year of installation.	
4.	Ensure grounds care program for the property includes at a minimum: 1) care for all types of plants, 2) regular inspection of site systems such as lighting and irrigation 3) maintenance of circulation routes to keep them clear of litter and debris and 4) Care and monitoring of mature trees, especially those that are older than 100 years, by a professional arborist.	<b>5,000 – 6,000</b> (annually)

#### Item Recommendation

#### Archaeology

1. Develop a management plan and research design to guide the protection and conservation of the archaeological resources prior to restoration. This plan will provide technical guidance for considering the effects to archaeological resources at the earliest opportunity whenever any activities are planned that might disturb anything below grade. This includes any new underground utilities and the maintenance of existing utilities. The plan will also recommend that collecting of artifacts through metal detecting, surface collecting or digging by non-professionals be prohibited. Recommendations for proper display and curation of artifacts will also be addressed. Finally, the plan will include an archaeology fact sheet for docents to use to inform visitors and guests of the archaeological discoveries at Orange Hall.

Archaeology has a unique ability at Orange Hall to address questions regarding the site and the structure that cannot be answered by currently available historic records and documents. The research design will consider the ways that scientifically conducted archaeological studies at Orange Hall can contribute to the allied fields of anthropology, history, architectural history, landscape architecture and geography. Issues concerning the construction date of Orange Hall, changes in the use of the landscape through time and the material culture preserved on site should all be primary objectives in the research design.

#### Interpretation

- 1. Add Staff Consider adding a staff member with training and experience in historic house museums to lead other staff and volunteers in the upcoming years.
- 2. Professional Membership The Orange Hall Foundation or a staff member should become a member of the Georgia Association of Museums (GAMG) or the Southeastern Museums Conference (SEMC). The annual meeting of the Southeastern Museums Conference will be held at Jekyll Island this October and will offer an opportunity to learn more about many areas of historic house museums. The GAMG annual meeting will be in Albany in January 2006. GAMG also offers interns and consultation services to members.
- 3. Volunteer Recruitment Recruit new volunteers as docents and as assistants for **\$0** research and record keeping.
- 4. Keep the public and docents informed about the progress of the plans for revitalizing **\$0** Orange Hall and about the new research findings.
- 5. Let visitors know that Orange Hall is in the midst of change. Talk to them about the **\$0** historic structure report and the future plans.
- 6. Incorporate the new historical research into the tour of the house. The material \$0 presented by the docents and by the printed guides should be updated to reflect new findings and new methods of interpretation.

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**Estimated Potential Cost** 

### \$5,000

35,000-45,000 (annually)

\$650

### Item Recommendation

### **Estimated Potential Cost**

7.	In informal or formal ways, gather information from visitors about why they have come to Orange Hall—how they found out about it — and what their experience has been. What do they find most interesting? What are the best aspects of the visit and what needs to be improved?	<b>\$0</b>
8.	Inventory and catalogue the collections in each of the period rooms and in storage throughout the house. Gather any information on the source for the collections and the history of the pieces. This will be a basis for future decisions about what should be kept and what should be removed from the collections as a furnishings plan is developed.	<b>\$0</b>
9.	Gather all potential research materials and reports together and begin a filing system for these.	\$0
10.	Consider developing an oral history program to record the stories of people who lived in the house before 1960. These may become the basis for interpretation of the 1930s- 60s.	\$0
	TOTAL ESTIMATED POTENTIAL COST FOR INTERIM MEASURES	\$113,000 - \$134,000

### PART III

# USE, INTERPRETATION AND TREATMENT

### Use

The program for continued use of Orange Hall has been established through an informal collaborative agreement between the City of St. Marys and the Orange Hall Foundation. Orange Hall and its associated property will continue to function as an historic site or house museum interpreting the history of the building, its former occupants and the surrounding community and region. Public access to the building and property will continue according to the current schedule (Tuesday through Sunday from 9:00am to 4:00pm). A majority of the building's interior will be used for interpretation consisting of the display of historic furnishings, finishes, decorative treatments and artifacts that will help to convey the historic scene and the interpretive message. Associated with this primary use, secondary and support functions such as a gift shop, small research library, changing exhibit space, employee offices and storage will also be a part of the building program.

Use of the basement level will be divided between interpretive space, museum operations and building support. The first floor will be used entirely for interpretation with the exception of the reserved elevator space and a small office. The second floor will also be used for interpretation as well as a small research room and storage (See Figures III-1 through III-3).

The property will continue to be utilized for special events such as weddings and other social gatherings. Such events, not associated with the site's primary purpose, will continue to be governed by current policy restricting use of the building interior and limiting site usage to the surrounding lawns and possibly the front porch.

The presence of the public restroom building at the rear of the property will also require that unrestricted access to this facility be maintained.

### Interpretation

The Orange Hall Foundation's goal is to develop Orange Hall into a premiere historic house museum. In this effort the Foundation has several factors working in its favor. In 1936 Orange Hall was included in the Historical American Buildings Survey as "being worthy of the most careful preservation for the benefit of future generations" and in 1973 it was placed on the National Register of Historic Places. It now anchors the St. Marys Historic District, which includes other historic houses, churches and the Oak Grove Cemetery. The district's historical treasures nicely complement the natural history resources on nearby Cumberland Island National Seashore. Lodging, dining and shopping are all available within walking distance of Orange Hall, which is currently the only historic house museum open to the public on a regular basis in St. Marys and Camden County. Finally, the entire Georgia coast is experiencing rising numbers of visitors and residents. This all translates into a large potential audience of both new and returning visitors for Orange Hall.

The Foundation is taking on this task of developing a museum at a time when, within the field of historic preservation and heritage tourism, there is great discussion about the high number of historic house museums and the dwindling resources to support them. Many articles and panel discussions have recently addressed this issue. "Historic House Museum Malaise: A Conference Considers What's Wrong" was published in the Autumn 2002 issue of History News, the magazine of the American Association for State and Local History (AASLH). Author Gerald George reports on a conference held jointly by the National Trust for Historic Preservation and the AASLH in spring 2002 to "try to understand what may be wrong with the historic house museum movement and what to do about it." The question they address is:

In the increasing competition for visitors, members, and financial support, many, if not most, historic sites are struggling for survival, and the quality of preservation and maintenance of many such sites has declined precipitously. In addition, the quality and appeal of the traditional historic house interpretation does not successfully compete with other contemporary sources of educational leisure time activities. Is it time for new models, new standards, or new approaches?

This point is made, not to discourage the Orange Hall Foundation from its purpose, but to encourage it to consider different models and approaches, along with the best of old models and old programs, for historic house museums when developing and implementing its interpretive programs.

Judy Randall, President and CEO of Randall Travel Marketing, spoke at a June 2005 workshop in Warm Springs, Georgia, titled, "Heritage Tourism: Putting History to Work in Georgia." She recommended that organizations promote their site first to current visitors and the local/regional audience. She discussed the changing visitor profile and what heritage and cultural visitors today want:

- 1. New and unique
- 2. Authentic
- 3. Be where history happened
- 4. Fun
- Convenient
  A great story
  Safety
- 8. Comfortable
- 9. Short, sweet, affordable
- 10. Retail & food/beverage

The following interpretive plan comes out of a vision that Orange Hall will attract growing numbers of visitors from the local community and beyond, while preserving the integrity of the house as an historic structure. Orange Hall will serve as a major resource for researching, preserving and interpreting not only the history of the house, but also the history of the community and the region. The interpretation of Orange Hall will connect the lives of its occupants with the lives of its visitors and do so in engaging and meaningful ways. Visitors should leave not just with new facts but with new or increased understanding of the themes that run through history. These efforts must attract visitors, volunteers and other sources of support for Orange Hall's ongoing work.

### The Interpretive Plan

Orange Hall, following closely the most familiar models of historic house museums, could focus the interpretation on the house's architectural style, its furnishings and its occupants in the years preceding the Civil War. This is the period of the house's greatest architectural significance and corresponds with St. Marys' high tide as a bustling, prosperous community. Docent-led or self-guided tours would present visitors with an overview of the various inhabitants and representative furnishings in "don't touch" period rooms including the kitchen, parlor, dining room and several bedrooms. One or two rooms would be set aside for an introductory audio-visual program or museum exhibits on the history of Orange Hall, and a shop would sell related merchandise for visitors to take home. There is much to recommend in this approach. The recently restored Governors' Mansion in Milledgeville is an exceptional example of this approach. Because of this exceptional site and other homes interpreting the antebellum period in Georgia, and because visitors (and professionals in the field) are looking for something new, the proposed interpretive plan for Orange Hall incorporates the best of these elements and adds some different or less common ways to connect visitors in their present lives to the history of the house and its occupants. It also reflects the individual history of Orange Hall.

### Selecting a Significant Period in Orange Hall's History

The historical background of Orange Hall is presented earlier in this report and suggests the breadth of material to draw upon for the interpretation of the site. It has also been recommended that the period of significance for Orange Hall be broadly expanded to encompass the entirety of its history. In general terms the history of the Orange Hall property can be organized into six periods:

- Before the Founding of St. Marys and Prehistory
- Early St. Marys and the Antebellum Period
- Civil War Years (this could be merged with the Antebellum Period)
- Postbellum Period up to 1933
- 1933 to 1960
- 1960 to the Present

A general description or characterization of these periods and the occupants of Orange Hall follows.

### Before the Founding of St. Marys and Prehistory

Prior to European settlement, the area now defined as Camden County, Georgia, was occupied for millennia by American Indians. Archaeological evidence of their presence has been unearthed on the Orange Hall property. Spanish and French explorers also made their mark on the region before permanent settlement by English colonists. Although all of this history predates the

construction of Orange Hall by many years, it should nevertheless be acknowledged in any interpretation of the property, even if it is not addressed in depth.

#### Early St. Marys and the Antebellum Period

This period would include the founding and settlement of St. Marys and ownership of Lot 43. The most significant event is the construction of Orange Hall c. 1838 by Isaac Slayton, under contract to Horace S. Pratt. Pratt's residence at Orange Hall is uncertain, and D. L. Clinch, as well as other possible early occupants, only rented the house—a rather unusual beginning for Orange Hall. It was possibly not until its purchase by James Mongin Smith that the house truly became a home. Francis M. Adams and his family followed Smith's. At Orange Hall family members, enslaved servants, visiting relatives and friends all interacted with one another in many ways. The yard of Orange Hall would have served both functional and ornamental purposes.

Of the prominent men who owned or occupied the house, at least four of them were Yale graduates. All shared other attributes. They came to St. Marys and Camden County to make their lives here, have a home and raise a family. They were active civic leaders. Between them they invested in the economy, supported the churches and the schools and took part in local politics.

In this period St. Marys was a bustling center of commerce with a busy shipbuilding industry. Sailing vessels plied the St. Marys and other local rivers to carry rice and cotton from the plantations to markets in Savannah and beyond. The topics of conversation inside Orange Hall would likely have ranged from local topics such as new shops in town or local elections to national topics such as the growing divide over the issue of slavery in the South.

### The Civil War Years

This could be considered the second period, or the conclusion of the first. During the war many St. Marys residents, including Francis Adams and his family, fled the area in the face of advancing Union troops. St. Marys was occupied by federal forces several times during the Civil War. Sources state that Orange Hall itself was also occupied by federal forces in the later stages of the War or immediately after its end. A rather low purchase price for Orange Hall in 1866 suggests that the property suffered a great deal of damage during the war.

#### The Postbellum Years into the 1930s

The postbellum era brought a different type of owner and occupant than before the war. Orange Hall became a second or third home for the Fordhams, the Beckers and the Fryhofers. These residents had made their lives and their fortunes and raised their families outside Camden County and Georgia. Orange Hall served as their winter residence. To some extent their money helped support the area, which was struggling to regain its pre-war bustle. The Beckers made improvements to the 90-year-old house to make it the social center of St. Marys during the winter months. Maids, cooks and gardeners, now paid rather than enslaved, helped maintain the house and yard, the latter becoming less of a work space and more of an ornamental space for its part-time residents.

The Fordhams' possession of Orange Hall is the longest of any other owner (except for the city of St. Marys)—more than thirty years. Yet they, like the Beckers and Fryhofers (the Fryhofers

apparently never lived at Orange Hall), were not invested in the St. Marys community in the same way as those who owned the house before the Civil War. Talk of the day among the occupants may have focused less on local or regional news and more on the northern or national—growth of unions, the Progressive era, World War I, women's suffrage, fads of the roaring '20s and the onset of the Great Depression.

### 1933 through the Great Depression to 1960

The period from 1933 to 1960 is marked by the home's conversion from single-owner occupancy into apartments. Through the 1930s and World War II, Orange Hall remained in the hands of the Townsend family, which rented rooms or apartments in part of the house. In 1951, when St. Marys Kraft Corporation purchased the house to convert it to apartments for its workers, the conversion of Orange Hall to multi-family housing was complete.

Although the economic background of the house's occupants had gradually declined from upper class to working class, Orange Hall's new occupants were once again full members of the St. Marys community, earning their livelihoods in the town and tying their lives to the area. Conversations may have centered on neighborhood matters, from local men serving in WWII to the health of the local paper industry.

The yard once again became more functional and less ornamental, befitting residents with less leisure time than their predecessors for adding decorative touches. The yard may have hosted a victory garden during World War II. It may also have served as a parking lot for boarders.

### 1960 to the Present

This period marks the conversion of Orange Hall from a residence for single or multiple families into a public building and a different kind of community resource. In 1960 Kraft deeded it to the city for use as a library and civic center. During the 1970s local residents took a new interest in Orange Hall, leading to its nomination to the National Register of Historic Places. The development of Kings Bay Naval Station, increased retirement living and tourism have since stimulated the local economy and spurred renewed efforts to return Orange Hall to its place as a local landmark and a resource in the community. Civic-minded citizens, like those in St. Marys' and Camden County's antebellum years, want to share the past with Orange Hall's visitors, including local residents.

### Summary and Conclusion

If the interpretation of Orange Hall was to focus on just one period of significance, the antebellum period would be a strong candidate based upon the house's architectural significance as a rare example of the Greek Revival style along the Georgia coast and the fact that this has changed little. The fact that several other period structures still remain across the front and side streets from Orange Hall also support preserving its exterior to this time and interpreting its interior in the same period. This was also a period of general economic strength for St. Marys, and the occupants of the house reflect prominent individuals based upon wealth or position in the community.

On the other hand, Orange Hall has no strong connection in this period to one particular family, but rather several. The furnishings of those who rented the home may have been very different than those who later owned it. No inventories have yet been found from this period. The home is not known in this period (or any other) as the site of any exceptional event. Rather, Orange Hall has seen through the years the comings and goings of many different occupants reflecting the changing times of St. Marys and the surrounding area. A brochure encouraging membership in the Orange Hall Foundation says that "the history of Orange Hall is the history of St. Marys as demonstrated by its connection to early churches, to plantation owners, to Union Army occupation, to economic decline and to its current protected designation." These connections should be reinforced with the interpretation. Rather than try to force Orange Hall into the mold of most other historic house museums, the house's interpretation should reflect the changing occupants, their socioeconomic backgrounds and their roles in the community from the late 1830s to the present.

### Interpretive Methods—Overview

Period rooms, furnished as they would have been at a certain point in history, are the primary interpretive medium of most historic house museums. According to "Historic House Museum Malaise," cited earlier, many of the conference attendees complained of redundancy in historic house museums—"too damn many spinning wheels," as one person characterized the typical house museum collection, "and too few examples of 20<sup>th</sup>-century lifestyles."

Most historic house museums represent the eighteenth or early-nineteenth century and focus on the upper classes and their possessions. This situation is changing. One museum that directly counters this tendency is the Tenement Museum in New York City, a property of the National Trust for Historic Preservation. More late-nineteenth and early-twentieth century sites, such as the houses of Jekyll Island, are being interpreted.

Managers of some sites have chosen to leave the rooms bare, to focus on architectural details and employ engaging stories to encourage visitors to imagine what the rooms might have been like. Drayton Hall near Charleston is an example of an excellent interpretive program that does not include historic furnishings. Sometimes this choice is made in order to emphasize the architectural details; in other cases it is the result of a lack of original furnishings and the decision not to seek out representative period pieces with which to fill the house.

### Interpretive Methods-Recommendations for Orange Hall

The treatment of rooms at Orange Hall should reflect the history of the various occupants, their lives and the times in which they occurred. The house could be considered as a kind of "album" and each room or space that is furnished to a particular period considered a page in the album. Each room can present an event that may have taken place there. The "situations" presented will allow discussion and reflection upon issues and events of the time and how they relate to today.

In this kind of treatment, individual rooms (walls, ceilings, floors) would be restored to representative finishes of a particular period in the Hall's history. Key pieces of furniture directly related to the situation being depicted would be original (if any exist and can be found) or period pieces. The other furnishings that would have been in the room can be dealt with in several ways: they could be included as usual, they could be left out completely, focusing the visitors' attention on the situation depicted, or they could be treated differently than usual. The room could be furnished with "ghosts" of the other period furnishings—namely, reproduction pieces of the appropriate period, but

finished entirely in white. Again, the intent is to focus the interpretation on the event, not the setting. (It also minimizes the number of period pieces that need to be collected for the furnishings plan.)

Against the background of "ghost" furnishings the central vignette would be comprised of period furnishings and artifacts.

Each room's exhibit could be rounded out with explanatory panels and separate displays of additional artifacts or reproductions (which could be handled by visitors). Reproduction period images of the occupants and Orange Hall would be included when possible. The extent of these supporting materials could vary.

This treatment of each room can be used to create a layered effect that focuses the visitor's attention on a series of historic events and people associated with Orange Hall, rather than the secondary story of the building itself or its furnishings. While the history of the house and its furnishings will remain important, this type of treatment will make Orange Hall and its story different from the average house museum.

A similar kind of treatment (there are no "ghost" furnishings) has been done by the National Museum of American History in an exhibit titled "Within These Walls." The exhibit is described thusly on the museum's Web site:

At the center of this gallery is a partially reconstructed house that stood for 200 years at 16 Elm Street in Ipswich, Massachusetts, about 30 miles north of Boston. The house and the exhibition that surrounds it tell the stories of five families who lived there over the years and made history in their kitchens and parlors, through everyday choices and personal acts of courage and sacrifice. Through their lives, the exhibition explores some of the important ways ordinary people have been part of the great changes and events in American history." It uses a combination of furnished period room settings and interpretive panels to introduce and interpret each family and time period.

This type of interpretive approach for Orange Hall meets the criteria Judy Randall included in her list for attracting visitors. It also answers some of the criticisms mentioned in "Historic House Museum Malaise," and it provides a workable, flexible plan for developing and maintaining Orange Hall over time as a premiere historic house museum. A few artifacts within the rooms might change to reflect new situations in the same setting and period. Different situations, different conversations can be easily interpreted, thereby keeping the interpretation fresh.

Two examples of possible "situation" rooms for Orange Hall are briefly outlined below.

The first is an unfinished room with sawhorses and lumber (or other appropriate items as research determines) pattern books, ornamental details, finishes, tools, etc., reflecting the construction methods from the 1830s and the Greek Revival style of architecture. A docent or interpretive panels can describe the setting as one where Pratt and Slayton are discussing the selection of materials and finishes for the home. The interpretation can cover Pratt's involvement with the house's design and speculate upon the reasons for his selection of the Greek Revival style. The materials and tools could be originals (to be protected) or "please touch" reproductions, allowing people to pick them up and feel their heft or their delicacy.

A second setting involves Francis Adams and might be "staged" in the study or parlor, with a desk and chair as the principal period pieces. A satchel might be packed, and other newspapers, documents, books, objects, etc., laid out on the desk. The setting might depict Adams preparing for a meeting in his role as head of the local academy to address parents on the topics of tuition and accommodations for infirm children like his own. It might reflect his deliberations or

convictions about his upcoming vote as a representative from "Old Camden" at the secession convention in Milledgeville.

Docents or printed materials could address the key points of the interpretation in each of these settings. Different, specialized tours could be offered for scheduled local school groups. Teachers (involved in the planning for these rooms from the beginning) might use certain rooms for small groups working on certain periods or themes in history, civics or social studies and tied to the state curriculum guidelines. At special times, actors or living history interpreters might give short performances within the rooms, portraying the individuals and their "situation."

The following suggestions for "situation" rooms span the history of the house from the 1840s to the present and reflect different occupants and their roles in the house and the community. They allow for some discussion of various topics ranging from the economy and politics to education and social life. A generally chronological approach proceeds from settings in the yard and in the basement to the first floor, and then to the second floor. Transitions between the rooms will need to be provided by guides to "fill in" what happened to the various occupants (not all, but the key families). The interpretation should include not just the husbands, but also the wives, children and servants. In addition to the period rooms, other spaces are suggested to provide opportunities for general interpretation, exhibits, meetings and a museum shop—all to contribute to the visitor's overall experience at Orange Hall.

Additional research, discussion and decisions about the interpretation and the overall use of the building will influence the final selection of "situations" in the period rooms and the final use of spaces throughout Orange Hall. The following suggestions are offered for consideration. As the interpretive plan is implemented, flexibility is important to allow for changes that result from new research findings or the needs and interests of visitors that are sure to emerge.

### Basement

### Under Rear Porch and Yard - 1840s-1860s

Setting: In the yard, and at future reconstructed outbuildings

*Interpretive Points:* The landscaping of Orange Hall and the use of the yard would be presented here. Exhibit panels could supplement guided tours. Interpretation of the kitchen, stables and servants quarters would look at the activities that took place in these buildings and the lives of those who conducted them. The focus would be on the antebellum period. Various areas could be used for "hands-on" activities related to gardening, cooking, laundering or caring for the horses and carriages. As an example, amid wash buckets and clothes lines the interpretation could look at changes in clothes, their manufacture and their care. Who did the laundry, how long did it take and how does that compare with our lives today?

### Basement Hall - 1840s -1850s

This area could be used for further interpretation on the history of the lot on which Orange Hall was built and upon the landscaping of the yard. Archaeological findings could be addressed in



Figure III-1. Basement Level Plan Showing Use Zones and Proposed Interpretation.

this area as well. Reproductions of maps, drawings and other graphic materials would be exhibited on wall panels. Artifacts could also be incorporated.

#### Old Kitchen – 1840s-1850s - preparation for dinner

*Setting:* The kitchen area could be used to depict preparations for a festive dinner or a typical family meal. Equipment and ingredients for preparing the meal could be set out along with recipes. (On occasion, something from out of the period—an electric blender—might be added as a kind of "what's wrong with this setting," and carried out in all the rooms. Visitors would be made aware of and asked to look for this reoccurring element.)

*Interpretive Points:* Explore the decisions about what to have, how to get the ingredients, prepare them, etc. How might the location of St. Marys have affected the foods available? How long did it take to prepare a large meal? A focus might be on the enslaved people serving in the household and the role of Mrs. Smith.

[One account mentions a wine cellar in the basement. Further research into wine cellars in this period and documentation of one at Orange Hall would present a very distinct interpretive opportunity.]

#### Servant's Room - 1840s-1850s - the end of a long workday

*Setting:* At the end of a long workday, Orange Hall's enslaved servants (any hired servants?) retired to their quarters. Objects and furnishings would depict their possible "free time" activities, taking care of their own lives in the few hours not devoted to taking care of their masters.

*Interpretive Points:* Describe the typical workday of enslaved servants in antebellum Orange Hall. What life and activities might they have had in the community? What might their conversations have been about and how different would they have been than those going on in the family dining room?

#### Old Dining Hall - 1860s

This area is proposed as a museum shop space and also an area for small changing exhibits devoted to topics related to Orange Hall or the community at large. In order to take advantage of existing historic fabric, the room will appear as it did in the years following the Civil War.

#### First Floor

#### Front Porch, Entry Hall and Back Porch - 1838 - 1840s

These areas will be used by docents to introduce visitors to Orange Hall, its architecture and its construction.





The front porch is the best vantage point for docents to briefly mention Horace Pratt, his family and the construction of Orange Hall. The setting and the similarities between 1838 and today should be pointed out. The architectural style of other period buildings can be mentioned and the Greek Revival elements of Orange Hall identified.

The central entry hall would be the area to further address who Horace Pratt was and his selection of the Greek Revival style for the home. The mahogany banister can be used to help address the hiring of Isaac Slayton and construction of the house.

The back porch offers a good vantage point to discuss the lot, the landscaping and the name Orange Hall.

Before ushering visitors into the bedroom, the docent would tell of Pratt's decision to move to Alabama for a teaching position at the University, his fate and the use of the house by Clinch, and perhaps others, before its purchase by James M. Smith.

#### First Floor Bedroom - 1840s-1850s - period bedroom

*Setting:* A period bed, with the covers turned down slightly, would be the focal point of the room. The setting would suggest that Mr. and Mrs. Smith are sitting in bed conversing about matters of the day. He would perhaps discuss the rice crop and activities at the plantation. Her comments would be about the children and their schooling—what opportunities there are in St. Marys or the larger area.

*Interpretive Points:* Smith represents the planters in Camden County in this period and the role of agriculture in the economy. This and other elements of the economy at the time should be discussed. Smith chose to live in the city with his wife and five children. What educational opportunities were available to the children—the Academy; any others? What is different about St. Marys' economy today? In what industries do the visitors work? Are any of them in agriculture? How has education in St. Marys and the country changed?

#### Parlor - 1840s-1850s - period parlor

*Setting:* A period desk and chair like those Francis Adams' might have used would be the principal pieces. A satchel might be packed, and other newspapers, documents, books, objects laid out on the desk. The setting depicts Adams preparing for the trip to Milledgeville and the secession convention.

*Interpretive Points:* Adams was prominent in the community and chosen as a delegate. What were the issues to be considered in deciding to vote for or against secession? Was Camden County strongly pro-secession? How do individuals make similar kinds of decisions today about crucial issues? Orange Hall's fate during the Civil War needs to be told.

#### Lounge - 1870s-1880s - period lounge

*Setting:* This room could be set up as it might have looked in 1875 when the Fordhams hosted Nathaniel Bishop, the writer and explorer who completed a canoe trip from Canada to Florida, stopping at St. Marys. The focus could be on a seating area in the room and the conversation.

*Interpretive Points:* This allows the docents to discuss the purchase of Orange Hall by a northerner for use as a winter residence and the social activities at the house. This is a "new kind of owner." The interpretation would explore the elite social life on the Georgia coast at this point. Why were northerners attracted to this area? Consider Jekyll Island and Cumberland—the similarities and differences. Tourism in this historic period and the similarities and differences to tourism in St. Marys today should be addressed. Where are the visitors from today, and what brought them to the area?

### Dining Room - 1920-1925 - period dining room

*Setting:* The dining table would be set for an elaborate dinner party hosted by the Beckers for outof-town guests. The Beckers can recount their winters in St. Marys—why they chose to come to St. Marys and how they are enjoying it.

*Interpretive Points:* This might be another opportunity to address the economy. The Beckers made money in Ohio in the manufacture of automobiles, then came to the South to invest in land for development purposes. What "old families" in the area could boast of doing well economically in this period? The changes made by the Beckers to Orange Hall should be interpreted, as many of them remain today. Comparisons with entertaining today can be discussed.

### Second Floor

### Northwest Bedroom - 1920-1925 - period bedroom with traveling trunks, "resort" wear

*Setting:* One of the bedrooms could be shown in the process of preparation for out-of-town guests in the Becker era. The servants and their work would be highlighted. Or maybe it could depict a socialite in the process of unpacking clothes for various activities in St. Marys in the early 1920s.

*Interpretive Points:* Consider the role of servants at Orange Hall in this period "upstairs" as opposed to downstairs, and consider the difference between paid servants in this era and enslaved servants in the antebellum period. Also explore the activities and the "equipment" needed for vacationing on the coast in this period. Compare these to popular vacation activities today.

### Southernmost Bedrooms - 1940s-50s - apartment

*Setting:* Two adjacent rooms could be set up as an apartment during the 1940s that reflects at least in small ways that WWII is taking place.



Figure III-3. Second Floor Plan Showing Use Zones and Proposed Interpretation.

*Interpretive Points:* The transition of Orange Hall to apartments and the economy in St. Marys or other factors that influenced this should be interpreted. The impact of the War on the economy and on the lives of residents could be discussed. How are these renters alike and different from D. L. Clinch and his children? A look at changes to the home, structurally and with modern utilities, might be included.

### Northeast Bedroom - 1960s - research room or meeting room

*Setting:* This would be an actual reference and research room on Orange Hall. It would house the materials gathered for documenting the history and interpreting the house. Graphic wall panels could provide additional information. The room could also be used for meetings and presentations.

*Interpretive Points:* This reflects the possible use of the room during the 1960s when Orange Hall was to be a civic center and library. It allows a discussion about the community nature of Orange Hall and how it has been a community resource in many ways over its history. The transition from community center in one sense to community center in another—as an historic house reflecting the history of the community - can be discussed to bring the story of St. Marys and Camden County up to the present.

### Central Hall - 1920-1925

Like the basement level hall, this area would be for general interpretation. Wall panels could provide a general overview of the history—a kind of timeline that offers visitors the context and a recap of all that they have heard about on the tour.

### General Interpretive Points

For any setting and interpretation, careful research will be required in order to achieve historical accuracy for the period furnishings and decor, as well as the facts, issues and opinions of the individuals and the times. Ongoing research, even after the interpretation is developed, will lead to new discoveries that will keep the interpretation current and interesting. Letting visitors know about the process of documenting the history of the house and its occupants gives visitors a sense of going "behind the scenes." It also helps them understand how the history of Orange Hall (and other historic houses) is pieced together and refined over time using various sources— archaeological evidence taken from the grounds, surviving landscape elements, structural evidence revealed in the house and written, visual and oral records left by or gathered from witnesses to Orange Hall's history. The date of the house's construction is an example that can be cited in the interpretation. New sources indicate that the house was built c. 1838. In the future, additional evidence may help us establish more exact dates and allow us to confirm if Horace Pratt and his family occupied the house before moving to Tuscaloosa.

In selecting the settings and the situations, the final interpretive plan should reflect the lives of different kinds of people—different roles in the family, house and community; different socioeconomic backgrounds; different politics; and different religious beliefs. If this includes controversy, so be it. Controversy should not be shied away from, but instead addressed with accuracy and sensitivity.

Another element of the interpretation of Orange Hall discussed previously is to tie the events inside the house to other people, places and events in St. Marys, Camden County and the surrounding region. The interpretation should include references to other nearby historic sites. Listed below are some examples.

Before the Founding of St. Marys

- Cumberland Island—Dungeness
- Point Peter
- Bloody Marsh Battle Site, St. Simons
- Antebellum Period
- Oak Grove Cemetery—burial place of Isaac Slayton and Francis Adams
- Presbyterian Church—where Pratt preached and where his first wife and father-in-law are buried
- Other churches in town
- The Washington pump—a possible source of water for Orange Hall's occupants
- The Archibald Clark home
- The tabby sugar works ruins of John Houstoun McIntosh (father-in-law of D. L. Clinch)
- Hofwyl-Broadfield Plantation—rice cultivation

Civil War

- The Methodist and Presbyterian Churches
- Occupation of St. Marys

Postbellum Period through 1930s

- The Carnegies on Cumberland
- The Spencer House and the Riverview Hotel
- Camden County Courthouse in Woodbine

1930s to 1960

• Toonerville trolley (St. Marys to Kingsland)

1960 to the present

- Bryan-Lang Historical Library
- Submarine Museum

Special note should be made about the ties between Cumberland Island and Orange Hall. Especially in the eighteenth and early-nineteenth centuries, the lives of the inhabitants of Cumberland Island and Orange Hall are complementary. The natural history and resources of Cumberland are similar to those of St. Marys and the area and are reflected in the economic activities. Cumberland's and St. Marys' more divergent history in the late-nineteenth and twentieth centuries can also be addressed. Ties between Orange Hall and the National Park Service operations at St. Marys should be strengthened. Many visitors drawn to Cumberland will not know of Orange Hall. Cooperative promotion of both sites by both organizations can benefit the visitors who come with varied interests and especially help build visitation for Orange Hall.

### Other Interpretive Elements and Adjunct Programs

In addition to the period rooms, the following avenues for interpretation should be pursued. As programs grow, space requirements may change and different arrangements may be required.

### Archaeological Research and Structural Analysis

Archaeological studies and structural analysis, including paint sampling, have turned up much evidence about the site, the house and its occupants. The findings need to be woven into the tours. As appropriate, new archaeological digs could be scheduled and then interpreted as they occur. The same is true for any work being done on the house. It can be seen as an interpretive opportunity (as long as safety of the visitors is not a concern). One upstairs bedroom shows the construction of the plaster and lathe walls. This kind of interpretive element could be repeated in other areas.

### Audio-visual Program

An audio-visual program to provide an overview of Orange Hall's history could be developed and shown on demand or on a regular schedule in a space in Orange Hall. The program might also be used for programs or presentations made at organizations throughout the county. The space in which the program is shown might double as a meeting room or classroom for special programs.

### Changing Exhibits

As mentioned earlier, part of the family dining room on the lower level could be devoted to small changing exhibits related not just to Orange Hall, but to the whole history of St. Marys, Camden County and the region. The Bryan-Lang Research Library preserves the history of the County but does not have the space to present very large exhibits. The Cumberland Island National Seashore museum must limit exhibits to stories related to Cumberland Island. A space within Orange Hall available for changing exhibits would serve the interests of both Orange Hall and the larger community. Changing exhibits would give Orange Hall the opportunity to interpret subjects or themes not easily presented in period rooms. These exhibits could be developed by Orange Hall or borrowed or rented from other organizations. Those developed by Orange Hall could be packaged and sent out as traveling exhibits to schools and other organizations. Changing exhibits would give Orange hall "something new" to gain periodic, regular attention.

### Museum Store

The suggestion has been made that the museum store be located in part of the Old Dining Hall on the lower level. The museum store should be considered an extension of the interpretation, offering products related to the history of Orange Hall and Camden County. With innovative products tied to the house and local history, the store could become a "stand alone" attraction, drawing residents on a regular basis for distinctive gifts.

### Tours and Traffic Patterns

The traffic patterns for tours of Orange Hall will need to take many factors into consideration. Different routes will have different advantages and disadvantages. Accessibility is one important factor that may require alternatives.

This interpretive plan recommends a standard route beginning at the front porch. On nice days the tour could even begin at the base of the stairs. Visitors would purchase tickets on the basement level in the museum shop and look at merchandise and changing exhibits until the scheduled tour began.

Beginning the tour at the front door allows visitors the feeling of entering the home as guests would have in the 1830s. Visitors are automatically drawn to the imposing front façade of the house, and here they can take in the Greek Revival architectural elements. It also places them in the 1830s context with the view of the Presbyterian Church and the Archibald Clark house across the streets. This is a good place, physically and conceptually, to start the tour.

The tour would proceed through the front door, along the center hallway and out onto the porch. The tour would then move into and through the bedroom and front parlor, then across the hall through the lounge and dining room. The tours would then continue upstairs to the postbellum and twentieth-century rooms. Finally, visitors would go to the basement level and conclude the tour with the servants' room, the antebellum kitchen and the interpretation in the hallway. They could exit through the museum shop and the changing exhibits area or out into the yard.

A second option is to begin the tours in the basement after purchasing tickets in the museum shop. The disadvantage to this is that the introduction to Horace Pratt and the architecture—the story of the Orange Hall's beginnings—must be deferred until moving upstairs or else told in a setting that compromises the interpretation.

The entire length of the tour should probably be between 30 and 45 minutes.

### Large Tour Groups

Large groups may need to be divided with starting points throughout the house. Rather than a fully guided tour for these groups, docents might be positioned in the halls of all floors to provide introductions and then answer questions as the visitors view the rooms on their own.

### School Groups

School groups may also need to be divided into smaller tour groups, which would start at varying points throughout the house. Teachers in the local area should be brought into the planning for tours and other programs directed at schools. Different age students studying different subjects will benefit from tours developed with their learning levels and interests in mind. The tours for school groups should not be just watered-down versions of the general tour.

Orange Hall has a tremendous opportunity to serve the community and to develop a strong base of support for its operations by implementing strong, innovative school programs. Learning specialists involved in developing tours can offer skills that will also apply to the general tours. In addition to tours, Orange Hall can provide other programs such as traveling trunks and talks by docents that go out to the schools.

### Docents

Self-guided tours through the house, relying on printed brochures or interpretive panels in the rooms, can be effective. Docents can be present to greet visitors and answer questions. But guided tours by a knowledgeable, enthusiastic docent are preferable. Visitors can ask questions of a guide at any point in the tour, and he or she can respond to needs or interests of the visitor. The docent provides added security to the house and the furnishings. The docent can also gather information informally from visitors about their reasons for visiting Orange Hall and their satisfaction with the visit.

Historic house museums are a service business, and good service from a tour guide creates a very favorable impression for the visitor. People typically want to interact with others—their visit is largely social in nature. Rather than lecture visitors, guides should be encouraged to develop tours that engage visitors with stories, questions and humor. This will make the tour more enjoyable and dramatically increase the odds that visitors will leave with new understanding and pleasant memories of Orange Hall.

### Docent Training

To give good tours, docents must be given proper training and resources. Docents should receive the following:

- Job description for docents
- General overview of the history of Orange Hall, the roles of the city of St. Marys and Orange Hall Foundation in preserving and interpreting Orange Hall. This should include the purpose statement for the Foundation.
- The historical background for Orange Hall and biographies of individuals to be introduced to the visitors.
- Tour guidelines regarding traffic patterns, start times, length of tours, number of visitors per docent, etc.
- The key points to be made in the overall interpretation and in the interpretation of each room. Tour guides should be able to individualize their tours, but still present the information and interpretation established for each room.
- In addition to the manual, docents should have access and be encouraged to conduct research in files or reference materials maintained for that purpose. Docents should receive training before they begin giving tours, and periodically thereafter to reinforce their knowledge and skills.
- Periodic evaluation. The director of Orange Hall should conduct or delegate periodic evaluations of docents to ensure that no unsubstantiated claims or stories have crept into the interpretation and that docents are effectively presenting the material.
- Praise and recognition for their work. This can be done not only with words but with deeds including luncheons and outings.

### Conclusion

Orange Hall, with its long and varied past and new leadership, is well-positioned to become a vital community resource and an anchor of heritage tourism in St. Marys and Camden County. Orange Hall's history and resources make it an excellent candidate to become one of the next generation of historic house museums, one that can introduce visitors to the proud history of not just one house and a few elite occupants, but of an entire community and how its members' experiences connect to those of visitors today.

### Treatment

Treatment recommendations for Orange Hall and its landscape will be guided by the Secretary of Interior Standards for the Treatment of Historic Properties. These Standards were developed to direct treatment of buildings and sites that have been listed on or found eligible for listing on the National Register of Historic Places. Four distinct approaches have been established by the Standards and are broadly categorized as follows:

*Preservation* - focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.

*Rehabilitation* - acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.

*Restoration* - depicts a property at a particular period of time in its history, while removing evidence of other periods.

*Reconstruction* - re-creates vanished or non-surviving portions of a property for interpretive purposes.

Many factors contribute to the selection of an appropriate treatment for an historic property. Such considerations are provided by the Standards and include the building or site's significance or "relative importance in history," the physical condition of the resource, proposed use and interpretation and mandated code requirements. These preceding considerations have all been taken into account when developing the proposed treatment strategies for the Orange Hall property.

These factors together with the desire of the Orange Hall Foundation and the City of St. Marys to continue to develop Orange Hall into a premier museum and community resource, provide the framework for the following treatment recommendations.

### **Building Exterior**

### Treatment Philosophy

It is recommended that the exterior of Orange Hall be restored to its mid-nineteenth century appearance. This approach will preserve and restore important character defining features of the building, will require the removal of very few elements from other periods and is consistent with the character of the neighborhood and the period of significance of the St. Marys National Register Historic District.

### Specific Treatment Recommendations

### **Building Utility Connections**

• Measures should be taken to eliminate or minimize the visual intrusion of modern utilities that were obviously not present during the restoration period. This also includes utility connections to the building as well as any associated equipment. Where possible connections should be inconspicuous and building systems designed so that meters and equipment can be placed within the Building Support area of the basement level.

### Below Grade Drainage System

• The assessment of existing conditions has consistently identified the presence of moisture within the foundation walls or rising damp as a critical issue. The deteriorative effects of this condition are resulting in the loss of historic fabric, undermining the stability of the building's masonry foundation and impacting finishes and furnishings within the building's interior. It is therefore recommended that a new below grade drainage system as well as a program of waterproofing below grade building elements be introduced as part of the treatment program.

### Masonry Repair and Stucco Restoration

• It is recommended that the original stucco finish of the exterior masonry walls be restored. The quoins placed at the corners of the structure and the scoring of the stucco to resemble stone were techniques intentionally employed by the builder to enhance the building's appearance as a Greek Temple. Only remnants of this application remain on the south elevation. Reapplication of the stucco treatment should be preceded by installation of the below grade drainage system and the repair and cleaning of the masonry substrate.

### Architectural Woodwork

• Repair and restore exterior architectural woodwork. In several areas such as the basement level window surrounds and sections of the porch, exterior wood elements were

found to be in poor condition due to rot. It is recommended that these elements be repaired and restored.

Installation of Vapor Barrier

• The Wall Cavity Analysis presented in Part II of the HSR has revealed the potential for condensation within the wall cavity exists currently and will continue even in the event that humidity control is added to the building. It is therefore proposed that a vapor barrier be installed at the exterior side of the wall assembly in order to prevent warm, moist air from penetrating the wall cavity. Installation of the vapor barrier will require removal of the wood siding, the installation of the vapor barrier and reinstallation of the wood siding.

### Porch Columns

• It is recommended that the non-historic base installed at the foot of the front porch columns be removed. This will require the repair and reconstruction of this section of the columns. One of the identifying characteristics of the Doric Order is the omission of the base and the termination of the column into the horizontal surface on which it rests.

### **Exterior Painting**

• Following the repair and restoration of exterior architectural woodwork it is recommended that the building be painted in its entirety. Color selection should be based on the findings of the architectural finishes analysis.

Exterior Light Fixtures

• It is recommended that the fixtures flanking each side of the main entrance as well as any other contemporary lighting be removed as they would not have been present during the period of interpretation.

### Window Restoration

• It is recommended that the existing windows and their components be restored. The existing windows are in fair condition but will require restorative measures to remove paint build-up, repair loose joinery operation mechanisms, rotted members and failed glazing, among other deficiencies.

Non-historic window units should be replaced with accurate replicas of the originals in terms of stile and rail dimension and muntin profile.

Replacement of modern glazing should also be conducted in those areas to be restored to their mid-nineteenth century appearance. The glass inclusions and unevenness of the historic panes occur as a result of limitations in glass producing technology during the last century. Although subtle, these characteristics are important to the interpretation of the spaces and should therefore be replicated as part of the restoration process.

Restoration of historic windows is generally a multi-step process that includes removal of the unit, stripping of paint and glazing, removal of glass panes, repair of wood members, reinstallation of glass, glazing and application of finishes.

Window restoration should also include the addition of interior storm windows to prevent condensation problems.

#### Shutter Reconstruction

• It is recommended that the no longer extant wood shutters be reconstructed. The existing shutters are non-operable and inappropriately sized and should therefore be removed. Accurate replication is possible based on the historic photographs, which consistently show an operable louvered shutter with a dark finish. The associated hardware (shutter hinges and shutter "dogs" or holdbacks) should also be restored and replicated where missing as part of this restoration treatment.

#### Roof

• It is recommended that a new roof be installed incorporating an interior gutter system as was originally installed on the building. Historic images as well as physical evidence discovered within the attic reveal that the original roof of Orange Hall had an interior or box gutter system with exposed downspouts. This method of rain water collection was common during the period and especially on Greek Revival Style buildings where the cornice development was integral to the overall design. Based on building practice during the early to mid-nineteenth century it is likely that the original roofing material was metal. In keeping with this it would be recommended that a terne-coated, stainless steel (TCSS) standing seam metal roof with incorporated gutters be installed on Orange Hall. Downspouts should be connected to storm water utilities to ensure the distribution of rainwater run-off away from the building.

In addition, repair and refinishing of the two masonry chimneys should take place prior to or in conjunction with the roof repair.

### Structural Wood Repair

• The review and assessment of the structural system identified several deficiencies that will have to be addressed as part of the comprehensive restoration effort. Interim recommendations provided in Part II of the HSR provide temporary stabilization solutions, however these deficiencies will need to be corrected during the comprehensive

restoration program. In addition, the load capacity of existing structural members will likely have to be supplemented in order to comply with modern code requirements.

### Addition of Non-Historic Entrance

• It is recommended that a new building entrance be located beneath the front stairs of Orange Hall to accommodate the proposed new use of the Dining Room as a Gift Shop and exhibit space and to simplify and organize the logistics of site visitation. Although this will require the introduction of architectural and landscape elements that would not have been present during the period of interpretation, it is believed that they will not diminish or detract from the overall historic character of the property. The appearance of the primary elevation will not be affected in any way given the strategic location of the intervention below the front stair. Design of door and trim elements associated with this new opening should be sensitive and compatible yet not replicate historic features.

### **Building Interior**

### Treatment Philosophy

Treatment of the building interior will be a combination of restoration and rehabilitation. Although a majority of the interior will be used for interpretive purposes, museum operations and building support functions will also be a part of the building program. Within these non-interpreted spaces interventions will be required that prevent the application of a restoration treatment approach or render it impracticable. Therefore rehabilitation will be applied as the proposed treatment for these spaces. Rehabilitation preserves the historic character of a space while providing latitude to make necessary modifications.

Those spaces selected for interpretation will be restored to their historic appearance based on the period designated by the Interpretive Plan. Specific treatment recommendations will be guided by historic documentation and physical evidence. In some cases further study, such as the completion of a comprehensive finishes analysis and the identification of appropriate mid-nineteenth century wall coverings, will be required in order to determine final decorative treatments.

### Specific Treatment Recommendations

### **Basement**

The most invasive treatment measures will take place at the basement level. Work required to improve drainage, install utilities and equipment associated with building systems and conduct structural repairs will require extensive intervention in this area. In addition, as compared to the floors above, the basement level has experienced the extensive removal of historic fabric and finishes and therefore will require more restorative measures.

• In order to provide unrestricted accessibility to all levels of Orange Hall, it is recommended that an elevator be installed in the building utilizing the southern most rear appendages (Electrical Room, former Pantry and Dressing Room above). This will require removal of the existing Electrical Room, utility connections and other equipment to the Building Support Area (See Figure III-4). The existing space occupied by the Electrical Room will have to be expanded to accommodate the elevator. Above shaft equipment shall be incorporated within the existing roof line. The Elevator machine room shall be located within the designated Building Support Area.

Modifications to the building fabric for installation of the elevator should be confined to the interior of the spaces described above. Interior and exterior trim elements adjacent to these spaces should remain unchanged.

Unless below grade evidence indicates otherwise, the design of the new enclosing walls of the elevator shaft at the basement level should be clad with wood in a similar design to that indicated on the HABS drawings.

• Remove Door B10 and restore window to this location. Sash, jamb, interior and exterior trim elements should match other adjacent basement level windows.



Figure III-4. Proposed Basement Level Treatment Plan. The items shown in red represent proposed alterations.

- Reconstruct frame dividing wall and doorway between Old Kitchen and Servants' Room. This should be preceded by below floor investigation to determine if any evidence remains confirming the presence of a more substantial masonry dividing wall. If no evidence exists, construct wall in general accordance with that shown in HABS documentation (board and batten or vertical boards).
- Remove frame dividing wall in central hallway to restore original open plan.
- Remove existing floor slab in central hallway and reinstall wood structural members and wide plank wood flooring.
- Restore plaster wall finishes and reconstruct baseboards and historically appropriate doors to central hallway.
- Restore plaster wall and ceiling finish to Multi-Purpose Room and reconstruct baseboard and trim elements.
- Reconstruct cabinet at north end of Dining Room. Cabinet reconstruction should mirror the existing example found at the southern end of the space. Replicate ca. 1860s hardware for installation on new cabinet.
- Reapply plaster finishes to walls, refinish historic flooring and install appropriate trim elements in Old Dining Room.
- Remove twentieth century bathroom installation below exterior stair. Maintain nonhistoric opening in masonry wall.
- Install required data, telephone and electrical connections in those areas not being used for interpretation such as the Gift Shop and Exhibit Space, Meeting Room and Building Support Area.
- It is recommended that a small restroom be installed in the Building Support Area of the basement level for use by museum staff.
- Remove commercial kitchen installation and associated equipment.
- Reconstruct doors and replicate period hardware in those areas to be interpreted.

### First Floor

Treatment of the first floor will be limited to the repair and restoration of existing materials and the application of appropriate finishes. Implementation of the Interpretation Plan does not require changes to the floor plan or the reconstruction of major building elements. The architecture of the first floor spaces has changed very little over time with each subsequent owner personalizing the spaces through the installation of new furnishings and the application of decorative finishes according to taste and trends of the period. The treatment of each room will be based on physical and documentary evidence gathered about the probable appearance of the individual space during the selected time period.



Figure III-5. Proposed First Floor Level Treatment Plan. With the exception of the alterations required for installation of the elevator no floor plan changes will be required at the first floor level.

- Existing plaster walls, cornices and ceiling medallions should be restored. Previous restoration/repair work conducted as part of the Title X program in the late 1970s and early 1980s has resulted in marred and damaged plaster features. Evidence should be gathered to determine original profiles and these features restored by persons skilled in the restoration of decorative plaster elements.
- It is recommended that the picture rail be removed in the Hall, Bedroom, Parlor and Lounge as this element would not have been present during the period of interpretation for these spaces.
- Interior shutters and shutter pockets require restoration in order to improve appearance and operability. Restore and replicate hardware components.
- It is recommended that light fixtures appropriate to the period of interpretation be installed in each space (Completion of a Historic Furnishings Plan will provide guidance in the selection of appropriate fixtures). Many of the existing fixtures appear to date from after the turn of the twentieth century and specifically from the Becker occupation and should therefore be removed. The existing fixture located in the Dining Room should be retained and restored as this space will be returned to its Becker era appearance.
- Install required data, telephone and electrical connections in first floor office space. Although this space is not being interpreted, these elements should be minimized and care taken in their placement.
- Apply decorative finishes to wood trim elements according to recommendations of Architectural Finishes Survey conducted as part of this report and the Comprehensive Finishes Analysis (To be completed). Based on further research and professional consultation select and install appropriate wall coverings in those spaces where it would have been present during the period of interpretation.
- Refinish floors to reduce modern-era high gloss sheen and provide a more accurate depiction of the historic condition.
- Replicate period appropriate door hardware in those areas to be interpreted.
- Repair fireplace mantels where necessary and restore masonry of fireboxes by removal of later finish treatments.

### Second Floor

The second floor also remains relatively intact, with the exception of minor alterations to the building plan. Restorative measures will be applied to all spaces on the second floor with the exception of the rear appendages, reserved for the elevator and storage. A rehabilitation strategy will be applied to Bedroom 207 so that it conveys its 1960s character, yet can be adapted to its new use as a research room.

• Restore plaster wall and ceiling finish to second floor rooms. During the Title X Program of the late 1970s and early 1980s, the plaster wall and ceiling finish was removed


Figure III-6. Proposed Second Floor Treatment Plan. The items shown in red represent proposed alterations.

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throughout the second floor. The existing finish consists of  $\frac{1}{2}$  drywall, which should be removed. Removal of these finishes provides an opportunity to learn more about the building, its structure and condition. Thorough documentation of the wall construction should take place upon removal of these finishes.

In addition, the ceiling has been dropped approximately 8" from its original elevation. It is recommended that the original wall and ceiling finishes be restored and the ceiling returned to its historic height.

- Reconstruct dividing wall between Bedroom 206 and Bedroom 207. Physical evidence and comparison with other floor plans contemporary with Orange Hall suggests that these spaces were originally separated by a wall.
- Reconstruct closets and frame pass-through between Bedrooms 201 and 202. Design of this reconstruction should be reflective of the 1940s 1950s period. Additional research and oral interviews should be conducted to expand the body of knowledge about the appearance of these spaces during this time period.
- Install required data, telephone and electrical connections in second floor Research Room. Although this space is not being interpreted, these elements should be minimized and care taken in their placement.
- Interior shutters, shutter pockets and shutter hardware require restoration in order to improve appearance and operability.
- Apply decorative finishes to wood trim elements according to recommendations of Architectural Finishes Survey conducted as part of this report and the Comprehensive Finishes Analysis (To be completed).
- Remove paint from wood flooring and restore historic finish. If it is discovered through further research that paint was present during the interpreted periods of this floor, it should be retained in these areas.
- Replicate period appropriate door hardware in those areas to be interpreted.

#### Building Systems

### Mechanical System

• Modify the existing air conditioning system to control humidity within the house. If the contents of the house require only nominal conditions, the system can be modified to limit humidity to less than 60% at all times. If upon implementation of a comprehensive restoration and interpretation plan, the contents of the house are modified to contain furniture and other artifacts requiring closer humidity control, the systems in the house may need to have major modifications, including complete replacement. For instance, if the

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conditions required are 30% to 50% RH, along with good gas and particulate filtration, the fan coils will need to be changed to include equipment with proper filtration, reheat and independent temperature and humidity control. In any case, the control system will need to be modified to include humidity control and some form of reheat introduced to the air-handling system. The system design must depend on the final program conditions to be maintained within the house.

Given that implementation of the interpretive plan will require acquisition of historic furnishings and possibly textiles, paper and other fragile artifacts, it is recommended that a mechanical system capable of providing an environment conducive to artifact conservation be installed.

The introduction of air conditioning within a historic structure also introduces the potential for condensation within the structure. Condensation within the structure will lead to rot, insect infestation and mold growth. Since air conditioning was a future concept when this house was built, the wall construction does not anticipate that the temperature inside would be consistently lower than the outside temperature. In costal areas with high humidity and high temperatures outside for long periods in the summer, controlling the temperature inside can lead to climate conditions within the walls of the house that can lead to destruction of the fabric. Currently, the staff reports that mold appears on the inside door moldings at each of the outside doors during the summer. Hot, moist outside air leaking around the doors contacts the cold surfaces of the inside door moldings and walls and the relative humidity in that area rises well above 60%. Above 60% RH, mold growth is supported. If this is happening at the doors, the condition within the walls is similar. For these reasons it will be essential to address these issues in the comprehensive restoration program through the installation of a vapor barrier and interior storm windows as discussed above.

#### Fire Protection System

• It is recommended that a comprehensive fire protection (sprinkler) system be installed to protect the building, its contents and occupants. Installation of this system should only occur within the scope of a larger comprehensive restoration program, due to the extensive intervention that will be required. The system must also meet requirements of NFPA 13 and NFPA 914, be installed by a licensed sprinkler contractor, be coordinated with the projected future use of all spaces and should include the following features:

a. Sprinkler heads in the basement should be upright or pendent heads with exposed piping where there is no ceiling. All spaces must have coverage. System must be coordinated with future use and finishes in the basement. If future ceilings are anticipated, the piping should be installed to allow ceiling installation in the future without relocation of piping.

b. Sprinkler heads in the first and second floor should be concealed sidewall type with concealed piping all installed to intrude as little as possible into the historic fabric of the house.

c. Sprinkler heads in all spaces, including concealed spaces, should be selected to give proper coverage.

d. The entire system should be a firecycle preaction type so that water is only supplied to the sprinklers when a system of heat detectors senses a fire condition in the spaces. Once water does flow and the sensors determine the fire is out, water flow will stop, but resume again if the sensors determine there still is active fire. This system helps prevent damage to the house from a leak in the piping system, and minimizes water damage in case of an actual fire situation. The alarms for trouble and fire should be interconnected with the fire alarm and connected by telephone to the fire department.

e. A new water supply of the proper size, with a proper back flow preventer, will need to be installed from the city water system.

Electrical System

- Install New Electrical System. It is recommended that as part of the comprehensive restoration plan, a new electrical system should be installed in the building. In some areas, such as the first floor, it may be practicable to salvage sections of existing wiring to minimize the invasive measures that would be required to install new wiring. It is recommended that the newly installed electrical service be 208/120 volts, 3 phase, 4 wire.
- Install New Fire Alarm and Smoke Detection System. It is recommended that a new fire alarm and smoke detection system be installed in the building to protect the structure and its occupants.
- Install additional exterior power outlet locations to accommodate special events use of the grounds.
- Install New Landscape Lighting System. The current system is in poor condition and should be replaced.
- Install New Security System. This existing security system will not be adequate to ensure the security of a restored Orange Hall.
- It is recommended that a lightning protection system be installed on the building.

#### Plumbing System

• It is recommended that a new plumbing system be installed that is coordinated with the new mechanical system and the relocated restroom in the basement.

#### General Recommendations

Reduce Visual Intrusions

• It is recommended that evidence of modern utilities such as electrical switches, outlets, thermostats, as well as supply and return grilles and diffusers be eliminated where possible or minimized. Various strategies exist for reducing the visual intrusion of these elements such as placement, finish and system design. Advancements in technology should also be explored during the design process for options that will reduce the visual impact of these devices.

#### Documentation

• Historic fabric that is to be removed as part of the restoration process should be documented prior to removal, and in some cases retained for future study or reference. The construction process should be documented using photography to create a record of restoration activities and record discovered conditions.

### Hazardous Materials

• It is anticipated that hazardous materials are present within the building. Removal or remediation of this material should be considered as part of the restoration plan. A hazardous materials survey should be conducted to determine the scope of removal and potential strategies for remediation.

Preliminary Demolition Package

• Prior to completion of construction documents, it is recommended that a preliminary demolition package be executed to verify assumptions, confirm existing conditions and ensure design direction is based on sound physical evidence. Performing preliminary demolition will also improve the accuracy and completeness of construction documents leading to lower construction costs and reducing changes to the contract due to unforeseen conditions.

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#### Project Delivery

• It is recommended that Construction Management as a project delivery method be considered for implementation of the restoration plan. The utilization of a construction management firm with expertise in the successful completion of historic preservation projects would complement the owner/design team and provide guidance throughout the project planning, construction and close-out phases of the project.

Pre-Qualification of Project Team Members

• It is essential that qualified architects, contractors, subcontractors and craftsmen be utilized during the design and implementation of a project of this scope and complexity. It is recommended that a project team with demonstrated experience in the successful completion of restoration projects be assembled. Sub-contractors and craftspeople should be familiar with the professional standards and guidelines for the treatment of historic materials. Therefore it is recommended that a process of pre-qualification be developed for the selection of the Project Team.

### Building Site and Landscape

### Treatment Philosophy

The proposed treatment of the Orange Hall landscape is rehabilitation, however, the restoration of a number of historic elements is proposed to return the property to its general appearance of the mid-nineteenth century. Given that the treatment plan calls for the retention of non-historic elements within the landscape as well as the addition of features that would not have been present during the historic period, by definition, it cannot be considered a restoration. Returning the landscape to its mid-nineteenth century appearance, however, is consistent with proposed treatment recommendations for the exterior of Orange Hall as well as the period of significance of the St. Marys Historic District and the general character of the neighborhood.

Given that no historic images or drawings exist documenting the property during this time, the proposed treatment plan will attempt to recreate those portions of the landscape in which there is relative confidence in their placement or appearance during this period. Restoration as a treatment strategy generally requires firm evidence of the historic condition to be considered a viable approach. In the case of the Orange Hall property, some conjecture has been necessary in preparing the landscape plan and developing the specific treatment recommendations. The basis of these recommendations lies in the compiled research, which includes contemporary descriptions of the property, postbellum period photographs, archaeological evidence and design ques taken from other period landscapes. Figure III-7 is a conjectural plan of the property illustrating how it may have been organized during the midnineteenth century.

The proposed treatment plan for the property follows the conjectural plan described above (Figure III-8). In some cases, existing non-historic elements such as walkways and the restroom facility have been retained as part of the treatment plan. Although not present during the mid-nineteenth century, they continue to provide necessary functions for continued use of the property and therefore have been retained. It has also been necessary to introduce a limited number of new walkways to the plan in order to maintain access to the site and logical circulation. These elements have been graphically differentiated in the sketch plan and are further discussed in the Specific Treatment Recommendations.

#### Specific Treatment Recommendations

#### **Utilities**

• The presence of modern utilities will detract from the historic integrity of a restored Orange Hall landscape. Therefore it is recommended that within the property boundaries, elements associated with these utilities be concealed to free the site of modern visual intrusions. This can be achieved by direct burial of these utilities.

Also, existing overhead utilities are in conflict with historic tree canopies and therefore should be removed or relocated. Under no circumstances should the canopies of historic plant material be trimmed to accommodate the routing of overhead utilities.



Figure III-7. Conjectural Landscape Plan Ca. 1840s -1860s.

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Figure III-8. Proposed Landscape Treatment Plan.

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#### Views

- Although the rear portion of the property is no longer part of the site, a majority of the original Orange Hall parcel is still intact. It is recommended that current views to the west be screened with vegetation, especially of contemporary buildings and site features that are likely to detract from the historic character of the property. It is important to maintain views and a spatial connection to the First Presbyterian Church across Conyers Street because of its historic associations with the property. In addition, views to other historic homes on Osborne Street provide an important context for the property and therefore should be maintained. The open grassed lot to the south does not currently detract from the property and the proposed placement of sour orange tree along this boundary will provide a visual buffer in this direction.
- Vegetative buffers and the design of sensitive and compatible screens may be necessary to minimize the visual intrusion of equipment, such as HVAC condensing units.

#### **Outbuildings**

• It is recommended that the historic outbuildings be interpreted as archaeological remains through the exposure and possible permanent display of foundation elements. In the absence of documentation or descriptions of these structures, reconstruction of the buildings would be entirely based on conjecture. Also, the earliest existing documentation that shows the siting of these structures is the Civil War era map of St. Marys (Figure I-5). Completed twenty four years after the initial construction of Orange Hall it remains unknown if the configuration shown on this map represents the original or designed layout of the property.

In addition, at this time, no program requirements have been identified by the City or Foundation that cannot be accommodated within Orange Hall. Future potential uses of these structures that may warrant reconstruction could include an orientation room where audio-visual presentations can be viewed, a catering kitchen to facilitate special events or incorporation of the public restrooms into one of the structures and elimination of the non-historic, ill-placed existing building.

With this said, the presence of the existing restroom facility on the site will be considered an intrusion to the restored landscape. However, given that it currently accommodates an essential function and is in relatively good condition based on its recent construction, its removal would be impracticable at this time. Application of a paint color that reduces the visual impact of the building and allows it to better blend into the surrounding landscape is recommended as a short term measure.

#### Removal of Contemporary Site Features and Plant Material

• With the exception of the public restroom facility and circulation pathways identified in the treatment plan, it is recommended that all contemporary site features be removed from the property. Such items include the fountain, concrete benches, planter pots, new brick paths, concrete walks and driveway and recently installed plant material that is not appropriate in terms

of location, species or suitability for the historic landscape. On-site storage and trash should also be removed.

The recent installation of the Crape Myrtle tree-lined brick pathways centered on the rear porch steps is a well-intended re-creation of a design described in contemporary nineteenth-century accounts of Orange Hall. Unfortunately, adequate research to accurately locate former pathways and plantings was not conducted prior to implementation and the existing location of this feature is too close to the house. As a result, the contemporary installation gives a false sense of history and should therefore be removed.

It is also recommended that the crape myrtle trees planted along the boundary of the property also be removed.

#### Introduction of Contemporary Site Features

- In the future, all introduced contemporary materials should be out of necessity only and should first consider the potential impact to the historic integrity of the site. Reconstruction of historic elements should be based only on adequate documentation.
- Fundraising programs that involve naming opportunities for donors if implemented should be organized and grouped in a single designated area that does not detract from the site. Commemorative plaques should be located with other contemporary features, such as the public restroom building, or located in the interior of the house within proper interpretive areas.

#### Perimeter Fencing

- Reconstruct perimeter fence according to its earliest design configuration as discerned from historic photographs. This earlier fence shown in historic images differs from the existing fence in several ways:
  - 1. pales have flat tops
  - 2. pales are closely spaced
  - 3. central gate has arched pales with pointed tops
  - 4. central gate has tall capped support posts

These characteristics should be incorporated into the new fence design. It may be possible to utilize elements of the existing fence structure as part of this reconstruction.

#### Circulation Pathways

• Restore circulation pathways according to surviving physical evidence and proposed treatment plan (See Figure III-8).

Several pathways are recommended for reconstruction in order to restore to the site circulation elements present during the mid-nineteenth century. These historic elements include:

- 1. The main entrance path. The bricks currently installed in the main entrance path are an extruded brick of modern character. These should be replaced with brick material that more closely resembles that which would have been available in the mid-nineteenth century. Utilization of salvaged material would be a viable option. If further research or archaeological study determines that the front entrance path was a material other than brick during the period of interpretation it is recommended that this material be installed.
- 2. The rear east/west axis path running from the base of the rear stair and terminating at the rear property line (This path would have originally extended to the rear property line at Wheeler Street).
- 3. The north/south axis pathway, which extends from approximately the driveway entrance on Conyers Street and terminates at the vegetable garden.
- 4. The circular feature at the axis of the pathways described above, bordered with sour orange trees. Although the exact location and relative size of this circular landscape feature are not known, the sketch plan indicates a reasonable placement of this feature on the east west axis in a symmetrical placement with the outbuildings.
- 5. The pathways beginning at the main entrance path and extending around the sides of the building.
- 6. Archaeological investigation techniques should be utilized to determine the original materials of these pathways.

The following non-historic circulation elements are also recommended.

- 1. The existing pathway extending from Conyers Street to the rear of the building is recommended to remain. This pathway would provide an accessible route from the sidewalk to the rear of the building and future elevator access.
- 2. Two new pathways are also proposed. The first will provide access to the new entryway below the front stairs. This path will parallel each side of the front walk and extend under the entry stair. The second path will begin at a point on Conyers Street and extend to the existing restroom facility maintaining public access to this building.

### Planting Beds

• Restore symmetrically located circular planting beds in the front yard. It is possible that evidence of these planting beds remains present in these locations. Limited below grade probing should be conducted to determine the location and dimension of these features. Historic photographs of the landscape appear to show remnants of perennial plantings in these beds. Restoration of a perennial bed is recommended.

#### Plant Materials

- It is recommended that all healthy, mature, canopy trees be retained with the exception of those threatening the historic cedar tree and specifically slated for removal by the Proposed Landscape Treatment Plan.
- The addition of a small number of yucca plants would be appropriate and enhance the historic character of the landscape.
- The addition of other plant material should be limited to species that would have been present during the mid-nineteenth century. A list of appropriate plant materials has been provided in Appendix J.
- Grass should be maintained in those areas left undefined in the Proposed Landscape Treatment Plan. Specifically, the lawn north of Orange Hall should be retained as open space to continue to accommodate temporary structures such as tents for large gatherings and special events.

### Vegetable Garden

• Reconstruct Vegetable Garden. The likelihood of a kitchen garden located on the south side of the property, to the rear of the house, is highly probable based on the organizational patterns of the property. A twentieth century description of the property does mention the presence of a garden in the general area of the proposed reconstruction. It is very possible that a nineteenth-century person describing the relative grandeur of the Orange Hall property would not have mentioned such a common landscape feature as a kitchen garden.

#### Site Interpretation

• Site interpretation will be an important component to enhance the visitor's experience. Interpretive signage can be part of the interpretive program to include graphics such as historic maps, plans and photographs. Text should be concise and easy to understand. Due to the relatively small size of the property and in order to avoid visual clutter in the landscape, it would be less obtrusive to display documentation of the historic landscape in an appropriate location on the inside of the house, perhaps on the ground level. It may also be appropriate to design an informational kiosk with display panels, a site map and brochures for self-guided tours of the property to be located somewhere in the vicinity of the public restroom facility. It may even be feasible to mount the displays to the exterior walls of the restroom facility building so as to more completely utilize this non-historic building.

#### Archaeology

• It is recommended that archaeological techniques be used to learn more about and accurately locate the property's historic landscape features. This work should be conducted prior to design and implementation of the proposed treatment plan.

#### Archaeology

When funds become available for restoration and treatment of the site, consideration must be given to time and money for archaeological data recovery if plans call for any below grade ground disturbance (footings, slabs, utility lines, drainage ditches, irrigation lines, etc.) including new landscape features, new buildings or modifications to Orange Hall. This and previous studies demonstrate that significant Native American and historic period archaeological deposits and features are present in the yards and beneath the structure. Data recovery may be expensive and time consuming if significant portions of the site are disturbed below grade. Archaeology should be the first task scheduled for completion on the project time line.

The interpretive plan calls for the discovery, exposure and permanent display of foundation remains or other evidence associated with the outbuildings in the rear yard of Orange Hall. This will require extensive investigation to establish the boundaries of these features and recover artifacts that will help determine the use and types of activities that would have taken place within these structures. This effort could be completed within a single project scope or phased over time in an ongoing program of investigation.

Whenever archaeological studies are ongoing at the site, inform and involve the public. Archaeology provides unique opportunities to increase visitation to the site, especially for the local school system. Interest in an historic site increases noticeably when excavations are open to public observation.

**Requirements for Treatment** 

Applicable regulatory requirements will need to be considered as part of implementing the proposed treatment plan. Building, life safety, accessibility, energy and hazardous materials codes and legislation each impose certain requirements of the treatment design and are generally linked to the structure's ultimate use and occupancy classification. Most codes acknowledge the special challenge of adapting historic structures to meet these requirements and often allow for alternative means of achieving the desired results. A close working relationship with local authorities having jurisdiction is often the best way to ensure compliance issues are resolved to the satisfaction of all parties. Ultimately success is achieved when a solution can be reached that creates a safe and accessible environment while preserving the important character defining features of the structure.

The Secretary of Interior Standards for the Treatment of Historic Properties guides the treatment of historic resources that have been placed on the National Register of Historic Places. The Standards and the accompanying guidelines provide "best practice" guidance for the treatment of these buildings and their individual components and materials. The Standards are organized by the four recognized treatment approaches: preservation, restoration, rehabilitation and reconstruction.

The requirements of the Americans with Disabilities Act, the Georgia State Accessibility Code and local legislation will guide accessibility to Orange Hall. These mandates, as well as the stated desire of the Orange Hall Foundation to make Orange Hall accessible to all people, have resulted in the inclusion of an elevator in the proposed treatment plan. This along with other requirements of the above Acts must be implemented in a sensitive manner in order to minimize impacts to historic fabric and the introduction of modern elements within the restored environments.

Life safety and fire protection regulations will also need to be considered during design and implementation of the proposed restoration treatment plan. In addition to the obvious measures that are recommended to be incorporated into the treatment plan, such as the installation of a fire protection or sprinkler system, smoke detection and security, structural modifications will need to take place to supplement historic members that do not meet current loading requirements.

Regulations regarding the safe encapsulation or removal of hazardous materials will need to be adhered to. This is often a challenge in historic buildings where materials found to be hazardous are also historic. Lead based paint is likely the most pervasive material that will be encountered and that falls within this category. Fortunately the proposed use of the building does not require universal abatement of the material; however measures to protect workers and building occupants will need to be implemented during construction activities that require removal or disturbance of these materials.

The City of St. Marys utilizes the latest editions of the following building codes adopted by the State of Georgia:

- Standard Building Code 2000 with Georgia Amendments (IBC)
- National Electrical Code 1999 with 2000 amendments
- ICC Fuel Gas Code 2000 with amendments
- ICC Mechanical Code 2000 with amendments
- ICC Plumbing Code 2000 with amendments
- CABO One-And-Two Family Dwelling Code with 2000 and 2001 amendments
- Georgia State Energy Code for Building
- Standard Fire Prevention Code

HISTORIC STRUCTURE REPORT

In addition to the above, restoration activities will be required to comply with provisions to protect the character of the established St. Marys National Register Historic District.

HISTORIC STRUCTURE REPORT

### Preliminary Cost Estimate

The following provides a preliminary estimate of the potential costs of implementing the proposed treatment plan outlined in the previous pages. The estimate is based solely on the information provided in the HSR. Potential costs have been generated using applicable guidelines such as current versions of the Means Construction Cost Data manuals as well as limited comparison with other projects of similar size and scope.

Construction costs can be influenced by various factors including inflation, raw material and energy costs, local labor conditions as well as natural disasters among others. Therefore as the project moves forward, re-evaluation of the project scope and cost environment will be necessary and should take place at the various stages of the design process. The estimate is presented in 2005 dollars.

The following provides a summary of the project costs by major scope category. For a detailed breakdown of estimated project costs refer to Appendix L.

#### **Summary of Cost Estimate**

		TOTAL	\$ 5,361,827
•	Furnishings and Interpretation		\$ 500,000
•	Design, Testing and Related Costs		\$ 453,622
•	Landscape Restoration and Site Development		\$ 651,001
•	New Building Systems		\$ 1,225,462
•	Building Restoration		\$ 2,281,742
•	Comprehensive Archaeological Investigation		\$ 250,000

## **APPENDIX A**

## **EXISTING CONDITIONS PHOTOGRAPHS**

HISTORIC STRUCTURE REPORT



### PLATE I

HISTORIC STRUCTURE REPORT



### PLATE II

HISTORIC STRUCTURE REPORT



### PLATE III

HISTORIC STRUCTURE REPORT



### PLATE IV

HISTORIC STRUCTURE REPORT



### PLATE V

HISTORIC STRUCTURE REPORT



PLATE VI

HISTORIC STRUCTURE REPORT



### PLATE VII

HISTORIC STRUCTURE REPORT



### PLATE VIII

HISTORIC STRUCTURE REPORT



### PLATE IX

HISTORIC STRUCTURE REPORT



### PLATE X

HISTORIC STRUCTURE REPORT



### PLATE XI

HISTORIC STRUCTURE REPORT



### PLATE XII

HISTORIC STRUCTURE REPORT



### PLATE XIII

HISTORIC STRUCTURE REPORT



### PLATE XIV

HISTORIC STRUCTURE REPORT



### PLATE XV

HISTORIC STRUCTURE REPORT



### PLATE XVI

HISTORIC STRUCTURE REPORT



### PLATE XVII

HISTORIC STRUCTURE REPORT



### PLATE XVIII

HISTORIC STRUCTURE REPORT


PLATE IXX

HISTORIC STRUCTURE REPORT

APPENDIX A

#### **APPENDIX B**

# **EXISTING CONDITIONS DRAWINGS**

HISTORIC STRUCTURE REPORT

**APPENDIX B** 





















#### **APPENDIX C**

# HISTORIC AMERICAN BUILDING SURVEY DOCUMENTATION

HISTORIC STRUCTURE REPORT

Orange Hall St.Mary's, Camden County,Georgia

•

HABS No. 14-16 HABS GA

20- SAMA

PHOTOGRAPHS WRITTEN HISTORICAL AND DESCRIPTIVE DATA District No. 14 REDUCED COPIES OF MEASURED DRAWINGS

Historic American Buildings Survey P.Thornton Marye, District Officer 62 Bartow St.,N.W.,Atlanta,Georgia

HABS No. 14-16 Page 1. HAB5 SA 20- SAMA

ORANGE HALL St. Mary's, Camden County Georgia

Owner: Mrs. S.C.Townsend.

Date of Frection: 1810-15.

Architect: No record.



Builder: No record.

Present Condition: Good.

Number of Storeys: Two, and basement.

Materials of Construction: Wood.

Other Existing Records: See text; see <u>Gardens of Colony and State</u>; vol. 2., p. 420.

Additional Data: See following pages.



HISTORIC STRUCTURE REPORT



HABS GA. 20-SAMA

HABS PROJECT NO. 14-16

ORANGE HALL, St. Mary's Camden County, Georgia. Frame, high basement. Two storied columned portico. Early Republic.

Built by the Rev. Horace Southworth Pratt, a Presbyterian minister, between 1810 and 1815.

It is well maintained by its present owner and occupant, Mrs. S.C.Townsend.



DISTRICT OFFICER HABS

Reviewed 1936 by H.C.F.

HISTORIC STRUCTURE REPORT

HABS No. 14-16 Page 3.

HAB5 GA. 20-SAMA

#### ORANGE HALL St. Mary's, Camden County Georgia

82.00

#### ARCHITECTURAL NOTES:

This building of the Early Republican period is a Doric prostyle temple. The pediment is flattened and the columns are widely spaced. At the rear end is a superimposed inset protico, one porch above the other.

The brick basement storey is stuccoed and has stucco quoins of inch projection. In the basement used to be the old kitchen, now marked by its whitewashed walls, a herringbone brick floor pattern and a Dtch oven. The old Dining Room was under the front portico.

by Henry Chandles Forman March 1936



HISTORIC STRUCTURE REPORT



HISTORIC STRUCTURE REPORT



HISTORIC STRUCTURE REPORT



HISTORIC STRUCTURE REPORT



HISTORIC STRUCTURE REPORT



HISTORIC STRUCTURE REPORT

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HISTORIC STRUCTURE REPORT





HISTORIC STRUCTURE REPORT







HISTORIC STRUCTURE REPORT



HISTORIC STRUCTURE REPORT



HISTORIC STRUCTURE REPORT









HISTORIC STRUCTURE REPORT



HISTORIC STRUCTURE REPORT

# **APPENDIX D**

# **HISTORIC PHOTOGRAPHS**

HISTORIC STRUCTURE REPORT

**APPENDIX D**


IMAGE I

HISTORIC STRUCTURE REPORT



IMAGE 2

HISTORIC STRUCTURE REPORT



IMABE 3

HISTORIC STRUCTURE REPORT



IMAGE 4

HISTORIC STRUCTURE REPORT



IMAGE 5

HISTORIC STRUCTURE REPORT



IMAGE 6

HISTORIC STRUCTURE REPORT



IMAGE 7

HISTORIC STRUCTURE REPORT



IMAGE 8

HISTORIC STRUCTURE REPORT



IMAGE 9

HISTORIC STRUCTURE REPORT



IMAGE 10

HISTORIC STRUCTURE REPORT



IMAGE 11

HISTORIC STRUCTURE REPORT



IMAGE 12

HISTORIC STRUCTURE REPORT



IMAGE 13

HISTORIC STRUCTURE REPORT



IMAGE 14

HISTORIC STRUCTURE REPORT



#### IMAGE 15

HISTORIC STRUCTURE REPORT



IMAGE 16

HISTORIC STRUCTURE REPORT



IMAGE 17

HISTORIC STRUCTURE REPORT



IMAGE 18

HISTORIC STRUCTURE REPORT



IMAGE 19

HISTORIC STRUCTURE REPORT



IMAGE 20

HISTORIC STRUCTURE REPORT



IMAGE 21

HISTORIC STRUCTURE REPORT



IMAGE 22

HISTORIC STRUCTURE REPORT

#### **APPENDIX E**

### NATIONAL REGISTER OF HISTORIC PLACES NOMINATION FORM

HISTORIC STRUCTURE REPORT

**APPENDIX E** 

	Fo (Re	IN 10-300 UNITED STATE NATIONAL REC INVENTOR	S DEPARTMENT OF THE I TIONAL PARK SERVICE SISTER OF HISTORI RY - NOMINATION F	TERIOR		Georgia OUNTY, Camden			
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		St. Marvs			8th - Wi	11iamson S. S	tuckev		
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	3.	Georgia		13	Camden		] 0:	39	
^	<b>CONTRACTOR</b>	CATEGORY	OWNER	SHIP		STATUS	ACCESSIBL	E	1
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D		Site Structure	Private [	] In Pro		Unoccupied	Restricted		
		C) Object	Both [	] Being	Considered	Preservation work	No	đ	
٦		PRESENT USE (Check One of A	fore as Appropriate)				<u> </u>		ł
5		Agricultural G	overnment 📋 Park			] Transportation	Comments		1
¥		Commercial In	dustrial 🗌 Priva	te Reside	nce	Other (Specify)		<u> </u>	
-		Entertainment () Mu	useum Scien	tific				_	
z	4.	OWNER OF PROPERTY				-			
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	5.	COURTHOUSE, REGISTRY OF	RIPTION DEEDS, ETC:					0	5
		Camden County Court	house					Inde	
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	Pre-Columbian	17th Century	121 19th Century	
	I Isth Century			
•	SPECIFIC DATE(S) (If Applicable	and Known) c.1846	-36 53	
	AREAS OF SIGNIFICANCE (Chec	K One or More as Appropri	riate)	Urban Planning
	Prehistoric	Engineering	Reliaion/Phi-	XX Other (Specify)
	Historic	Industry	losophy	History
		Invention	17 Science	
	Architecture	Londscape	Sculpture	
	Art	Architecture	Social/Human-	
	Commerce	Literature	itarian	
	Communications	Military	Theater	
	Conservation	Music	Transportation	
	STATEMENT OF SIGNIFICANCE			
	•			
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z	Orange Hall is prese	ently serving as	a library and civ	vic center.
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_	According to ora.	l tradition the	house was built I	826-29 for Mrs. Horace
j	Pratt, either by her	r husband or fat	cner, John Wood.	norace Frace, one of
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U	seven brothers who Presbyterian Church	in 1822. He ma	arried Jane F. Woo	d, the only daughter of
с л	seven brothers who of Presbyterian Church John Wood, a Loyalis	in 1822. He ma st who had to fi	arried Jane F. Wood Lee Savannah after	d, the only daughter of the Revolution. It is Hall for the Pratts.
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STATE	LIAISON OFFICER CI	ERTIFICATION	1		N	ATIONAL	REGIST	ER VERI	FICATIO	۷
As the designated State Lisison Officer for the Na- tional Historic Preservation Act of 1966 (Public Law 89-665). I hereby nominate this property for inclusion in the National Register and certify that it has been					l hereby Nøtiona	certify t 1 Registe	hat this p r.	roperty is	included	in the
evaluated according to the citeria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is: National 101 State & Local [					Director, Office of Archeology and Historic Preservation					vation
	May yre	gony Ju	vitt		Date	Γ;	51			,
Name _	//									
Name	State Liaison	Officer				Keepe	r of The i	Vational F	Register	



HISTORIC STRUCTURE REPORT

#### **APPENDIX E**

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FORM 10-301 A	UNITED STATES DEPARTMENT OF T NATIONAL PARK SERVIC NATIONAL REGISTER OF HISTO PROPERTY PHOTOGRAPH	HE INTERIOR E RIC PLACES FORM with photograph)	
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PORM 10-301 A (e/72) I. NAME COMMON Orange Hall 2. LOCATION DTATE Georgia DTREET AND NUMBER 311 OSDORRE Street 3. PHOTO REF CONCE PHOTO CREDIT Kenneth Kanvison 4. ICENTIF.CATION	UNITED STATES DEPARTMENT OF TI NATIONAL PARK SERVIC NATIONAL REGISTER OF HISTO PROPERTY PHOTOGRAPH Type all entries - attach to or enclos AND/OR HISTORIC COUNTY Camiden	HE INTERIOR E RIC PLACES FORM so with photograph) NUMERIC CODE (Assigned by NPS) TOWN St. Marys NEGATIVE PILED AT Camden County Tribune,	St.
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PORM 10-301 A (6/72) I. NAME COMMON Orange Hall 2. LOCATION DTATE Georgia DTREET AND NUMBER 311 OSDORRE STREET NOTO REF MOTO CREDIT Kenneth Halvison A (CENTIF.CATION COMMUNICATION, ETC. View of front facade, 10	UNITED STATES DEPARTMENT OF TI NATIONAL PARK SERVIC NATIONAL REGISTER OF HISTO PROPERTY PHOTOGRAPH Type all entries - attach to or enclos AND/OR HISTORIC COUNTY Camden DATE October 1972 Ooking west	HE INTERIOR E RIC PLACES FORM so with photograph) NUMERIC CODE (Assigned by NPS) TOWN St. Marys NEGATIVE FILED AT Camden County Tribune,	St.
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PORM 10-501 A (8/72)	UNITED STATES DEPARTMENT OF TH NATIONAL PARK SERVICE IATIONAL REGISTER OF HISTO PROPERTY PHOTOGRAPH	E INTERIOR RIC PLACES FORM
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РО ЯМ 10-501 А (0/72) N (1 1. NAME СОММОН Огалде Hall 2. LOCATION ВТАТЕ	UNITED STATES DEPARTMENT OF TH NATIONAL PARK SERVICE IATIONAL REGISTER OF HISTOI PROPERTY PHOTOGRAPH Type all entries - attach to or en close AND/OR HISTORIC	E INTERIOR RIC PLACES FORM a with photograph) NUMERIC CODE (Assigned by NPS)
PORM 10-501 A (0/72) N (72) N	UNITED STATES DEPARTMENT OF TH NATIONAL PARK SERVICE IATIONAL REGISTER OF HISTOI PROPERTY PHOTOGRAPH Type all entries - attach to or en close AND/OR HISTORIC COUNTY Camden	E INTERIOR RIC PLACES FORM o with photograph) NUMERIC CODE (Assigned by NPS) TOWN St. Marys
FORM 10-301 A (8/72) N (1 1. NAME COMMON Orange Hall 2. LOCATION STATE <u>Georgia</u> STREET AND NUMBER	UNITED STATES DEPARTMENT OF TH NATIONAL PARK SERVICE IATIONAL REGISTER OF HISTOI PROPERTY PHOTOGRAPH Type all entries - attach to or en close AND/OR HISTORIC COUNTY Camden	TOWN St. Marys
FORM 10-501 A (0/72) N (72) 1. NAME COMMON Orange Hall 2. LOCATION STATE Georgia STREET AND NUMBER 311 Osborne Street	UNITED STATES DEPARTMENT OF TH NATIONAL PARK SERVICE IATIONAL REGISTER OF HISTOI PROPERTY PHOTOGRAPH Type all entries - attach to or en close AND/OR HISTORIC COUNTY Camden	E INTERIOR RIC PLACES FORM a with photograph) NUMERIC CODE (Assigned by NPS) TOWN St. Marys
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PORM 10-301 A (6/72) N (1/1) NAME COMMON Orange Hall 2. LOCATION STATE <u>Georgia</u> STREET AND NUMBER 311 OSDORE Street 3. PHOTO REFERENCE PHOTO CREDIT Kenneth Harrison 4. IDENTIFICATION DESCRIBE VIA DIRECTION, ETC.	UNITED STATES DEPARTMENT OF TH NATIONAL PARK SERVICE ATIONAL REGISTER OF HISTOI PROPERTY PHOTOGRAPH Type all entries - attach to or en close AND/OR HISTORIC COUNTY Camden	E INTERIOR RIC PLACES FORM a with photograph) NUMERIC CODE (Accigned by NPS) TOWN St. Marys NEGATIVE FILED AT Camden County Tribune, St. Mary
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FORM 10-501 A (6/72)	UNITED STATES DEPARTMENT OF TH NATIONAL PARK SERVICE NATIONAL REGISTER OF HISTOI PROPERTY PHOTOGRAPH Type all entries - attach to or en close AND/OR HISTORIC COUNTY Camden DATE Joctober 1972 cing east	E INTERIOR RIC PLACES FORM e with photograph) NUMERIC CODE (Assigned by NPS) TOWN St. Marys NEGATIVE FILED AT Camden County Tribune, St. Mary
FORM 10-501 A (6/72) (272) 1. NAME COMMON Orange Hall 2. LOCATION STATE Georgia STREET AND NUMBER 311 OSborne Street 3. PHOTO REFERENCE PHOTO CREDIT Kenneth Harrison 4. IDENTIFICATION DESCRIBE VIEW OF REAL TION, ETC. View of rear facade, loo)	UNITED STATES DEPARTMENT OF TH NATIONAL PARK SERVICE ATTIONAL REGISTER OF HISTOI PROPERTY PHOTOGRAPH Type all entries - attach to or en close AND/OR HISTORIC COUNTY Camden DATE Joctober 1972 cing east	E INTERIOR RIC PLACES FORM e with photograph) NUMERIC CODE (Assigned by NPS) TOWN St. Marys NEGATIVE FILED AT Camden County Tribune, St. Mary

#### **APPENDIX F**

## **ARCHITECTURAL FINISHES DATA**

HISTORIC STRUCTURE REPORT

#### PRELIMINARY LABORATORY DATA

	PROJECT		DATE OF ANALYSIS
	DRANGE HALL		5/6 # 7/2005
	SPACES		ANALYST
	EXTERIOR & INTERIOR		Frank S. Welsh
	EQUIPMENT		
	Bausch & Lomb stereomicrosc Nikon SKE polarized light micr Schott halogen fiber-optic illum	ope (10 - 105x) oscope iinator (3200K)	
D	ESCRIPTION OF PRESENTATION OF LABORAT	ORY DATA FR	OM THE ANALYSIS
aboratory a	maryola of the matchicany argumeant coarings.		
The informa Illustrations Sample Loc	ation on these pages is the data upon which additional re diagramming the locations from which the samples were ation sheets. KEY TO THE ABBREVIATIONS USED IN THE	esearch and analy	yees can be based. ded in the Field Note -
The informa Illustrations Sample Loc	ation on these pages is the data upon which additional re diagramming the locations from which the samples were sation sheets. KEY TO THE ABBREVIATIONS USED IN THE Coat:	e taken are inclus LABORATORY	vees can be based. ded in the Field Note - <b>DATA SHEETS</b>
The informa Illustrations Sample Loc For <u>Laver/C</u> • P	ation on these pages is the data upon which additional re diagramming the locations from which the samples were ation sheets. KEY TO THE ABBREVIATIONS USED IN THE Coat: = prime or sealer coating = intermediate or second prime	For Type of • O	vees can be based. ded in the Field Note - <b>'DATA SHEETS</b> <u>coating:</u> = oil = distemper or calciming
The informa Illustrations Sample Loc For <u>Laver/C</u> P I Gr	tion on these pages is the data upon which additional re diagramming the locations from which the samples were ation sheets. KEY TO THE ABBREVIATIONS USED IN THE Coat: = prime or sealer coating = intermediate or second prime = ground or base coating for machine or graining	For <u>Type of</u> • D • Web	yses can be based. ded in the Field Note - <b>'DATA SHEETS</b> <u>coating:</u> = oil = distemper or calcimine = whitewash
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The informa Illustrations Sample Loc P I I Gr For <u>Color N</u>	tion on these pages is the data upon which additional re diagramming the locations from which the samples were eation sheets. KEY TO THE ABBREVIATIONS USED IN THE Coat: = prime or sealer coating = intermediate or second prime = ground or base coating for marbling or graining = finish for final coating	For <u>Type of</u> • O • D • Wsh • Stn • Pb	yees can be based. ded in the Field Note - ' DATA SHEETS coating: = oil = distemper or calcimine = whitewash = varnish = stain = lead content
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The informa Illustrations Sample Loc Sample Loc P I Gr For <u>Color N</u> W YW YW YW YG GY MRB	tion on these pages is the data upon which additional re diagramming the locations from which the samples were ration sheets. <b>KEY TO THE ABBREVIATIONS USED IN THE</b> Coat: = prime or sealer coating = intermediate or second prime = ground or base coating for marbling or graining = finish for final coating lame: = white = yellowish white = yellowish gray = grayish yellow 3 = moderate reddish brown 4 = moderate reddish brown	For Type of • O • D • Vsh • Vm • Stn • Pb For <u>Age:</u> • orig • er • md • H	yees can be based. ded in the Field Note - 'DATA SHEETS coating: = oil = distemper or calcimine = whitewash = varnish = stain = lead content = original = early = middle = late
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WELSH COLOR & CONSERVATION, INC. @ 5/9/05 Page: 1 Project: Orange Hall

#### PRELIMINARY LABORATORY DATA SHEETS

EXTERIOR.

Sample Number	Location/ Description	Layers and Comments	Sample Number	Location/ Description	Layers and Comments
Ext-1	Front Porch (102) Flush Board Seding & first floor S. Sede, cuintau. Mom, Schund prosent stutter.	Pour of weathored evidence of Authore layers of old white paints.	Ext 5	Rear Porch (204) Ind Abor (204) Flich beard Stating & door way to Em 203.	Same as ext-2
Ed2_	Rear Porch (101) 1st Floor Flock board S. dig @ trin of door way to thall (100)	- wood · 3 to 5 layers of endy white paint (B) · 113ht gray · 12-13 reverwhite paints.	Ext6	Rear Porch (2) 2nd Hoser (204) Trini of doornwy to Aull.	Sance ent-3,
E.t3	Beer Porch 1st Flor (108) Tring of South window	More than 15 layers of extite paint. Originalis white (Pb)	Ext 7	Reor Porch C. Ind Aler (204) Transon Sash of doornoy to Hall (200)	Surenal Whites ? Don't Borown Drif /Blact. 5 to 10 new Whites
Ext4	Rear Porch (Con) 2 of floor (Con) Fluch board 5 iding @ trin of deprovey to Hall.	Sereas ext-3.	Ed- 8 Ed- 9	Rear Porch @ 2nd Aler (204) Trin of dearway to Row 203 Rear Porch@ 2nd Abor (204) Dear to Hull	Same as ext-3. Stripped- there is trace evidence to indicate that
					originally.

WELSH COLOR & CONSERVATION, INC. @ 5/4/05 Page 2 Project: Orange Hall

HISTORIC STRUCTURE REPORT

#### PRELIMINARY LABORATORY DATA SHEETS

INTERIOR

Sample Number	Location/ Description	Layers and Comments	Sample Number	Location/ Description	Layers and Comments
100-1	Trin of Norway to Ray 111	1P W/YW Brig 2F W/YW 3-10 5 YWS, W2, de Mate	100-7	Plaster in South Nicke.	1 Dirt on plaster IF white (distapp) 19 2F Yellow (distapp) 19 - later 20the paints
100-2	Trim of doorway to Dasewat.	Same as 100-1			
100-3.	Soor to Essenant.	- Stripped IP Yellas Dri, 26 Red Reddik Orage II 3 F DK Borown Graining 9/a ze 4/bbct on frul Maltrigs Cr. 4-7 DA Borown, WS. 19/272			
100-4	Stor to Rom. 104-	Stripped Same as 100-3			
100:5	Plaster Cornice aver doorning to Ray 111	1-2Feuchtes (Erstage)192 3F Yellow "192 4F Bloe Gray "192 5-BFS Yellow, Wis 20the			
100-6	East plaster and Colong er 2016 Picture Molding.	2 layers of White allofemper paint That are very un likely to be Oristhal.			

WELSH COLOR & CONSERVATION, INC. @ 5/6/05 Page 3

Page 3 Project: Orange Hall

HISTORIC STRUCTURE REPORT

#### PRELIMINARY LABORATORY DATA SHEETS

INTERIOR

Sample Number	Location/ Description	Layers and Comments	Sample Number	Location/ Description	Layers and Comments
/03-/	S. Plaster wall behind or 20th pictore not.	IF White (Dist) HMTE 2F Dripot Yelbar (Dist)	105-1	Trin of decrasy to Zarloy.	Stripped 1P W/YW Drig 2F W/YW 3- White 19/20 the
103-2	Plaster coracte over doornay to theil	1-2 Wis (Dist.) 19te 3F fellows " erzorre 4F Elec Gray " " 5- Yellows, Wis, et 20te	_111-1	Xbadaw trim	1P W/YW Orig 2F W/YW 3-11 = Whites 19/2042
104-1	Trim of doorway to Room 100	34- APE d 18 cs/ Yas Brig 2F cs/ Yas " 3 Yas 1972 72	112-1	Plastr walk doorway to Rm III	- Durt on plaster - no old paint.
	(Hall)		112-2	Flaster Cornila Over doorway to Rom 111	Sevenz / ok/ who ke distangers phis new grannstus
109-2	Door to Km 103	обеже as 100-3.			
104-3	Montel	Stripped IP W/YW Onj. 2F W/YW 3F Black - possibly difte mubleced. 4- 4is 2072			

WELSH COLOR & CONSERVATION, INC. @ 5/6/05 Page 4 Project: Orange #1/

HISTORIC STRUCTURE REPORT
### PRELIMINARY LABORATORY DATA SHEETS

INVERIOR

Sample Number	Location/ Description	Layers and Comments	Sample Number	Location/ Description	Layers and Comments
200-1	Salvaged plaster found under Acoring	- Sirt on plaster. Slayers of 20the oil point.	26-1	Trim of doorway to Hol (20)	1 P W/YW Drij 2F W/YW 3-105 Whites, YWS 19/28
	Probably from walts .	Note: wells potebly well popured thoughout the 19the			
200-2	Salvered	- Sirt on plastor-	206-2	Door to Hall	1P Sort Dronge Vellar Onj 26- Jart Orace Vellar 4 3F Maduak Baum
	Plaster bound under Aboring - Pakely from Calling	a little in comparison to 200-1 -7 loyers of all point mostly 20th.			graining glaze will that on posed orig. model ags 4-65 w's 19/2012
		the Caling cald have been distages originally + washed			
		077. 1	-206-3	Salveye Plaster formed under floor	· Dirt / Size 1-2 F's Grays 21the
_20[-1_	Montelprice	Stripped IP W/WS Bris 2F W/WS + md1972 3F Black + md1972 4- Whites lakeste 4 Pessebly morbhered.		in S.w. Corner,	Note: encline sujsets Autocolls ware populat throughout 19 2
ન્રેઇઝે →	Montelpreice	Same as 201-1			

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HISTORIC STRUCTURE REPORT

**APPENDIX F** 

### PHOTOMICROGRAPHS CROSSECTIONS





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### **APPENDIX G**

## **PERMEABILITY CALCULATIONS**

HISTORIC STRUCTURE REPORT

**APPENDIX G** 

### ORANGE HALL PERMEABILITY CALCULATIONS 6/30/2005 CURRENT WALLS W/LEAKING PAINT SEAL

#### WALL SECTION 1 JANUARY

F

LAYER OUTSIDE AIR EXTERIOR CONDITION	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 13.78	DEW POINT 18.10	R	т 0.25	EMPERATURE 29.00 25 WB
ENAMEL PAINT		0.000	13.78	18.10		0	32.28
PRIMER/SEALER		0.000	13.78	18.10		0	32.28
3/4" LAP BOARDS	0.9	0.000	13.78	18.10		0.81	42.92
7" AIR SPACE	0.31	0.000	13.78	18.10	1	0.91	54.87
5/8" DRYWALL	0.12	0.020	14.07	18.60		0.32	59.07
PRIMER SEALER		0.500	21.44	27.40		0	59.07
FLAT PAINT		0.630	30.72	35.80		0	59.07
INTERIOR CONDITION						0.68	68.00
INSIDE AIR			30.72	35.80			68.00 30 %RH
WALL SECTION 1 FEBR	UARY						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			6.32	2.60			27.00 21 WB
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.000	6.32	2.60		0	30.62
PRIMER/SEALER		0.000	6.32	2.60		0	30.62
3/4" LAP BOARDS	0.9	0.000	6.32	2.60		0.81	42.35
7" AIR SPACE	0.31	0.000	6.32	2.60		0.91	55.52
5/8" DRYWALL	0.12	0.020	6.98	4.60		0.32	60.15
PRIMER SEALER	0.11	0.500	23.46	29.40		0	60.15
FLAT PAINT		0.630	44.23	44.90		ō	60.15
INTERIOR CONDITION						0.68	70.00
INSIDE AIR			44.23	44.90			70.00 37.5 %RH
WALL SECTION 1 MARC	н						
LAYER	<b>RESISTANCE/IN</b>	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			9.61	10.80			30.00 24 WB
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.000	9.61	10.80		0	33.62
PRIMER/SEALER		0.000	9.61	10.80		0	33.62
3/4" LAP BOARDS	0.9	0.000	9.61	10.80		0.81	45.35
7" AIR SPACE	0.31	0.000	9.61	10.80		0.91	58.52
5/8" DRYWALL	0.12	0.020	10.40	12.40		0.32	63.15
PRIMER SEALER		0.500	30.10	35.30		0	63.15
FLAT PAINT		0.630	54.93	50.60		0	63.15
INTERIOR CONDITION			54.02	50.00		0.68	73.00
			54.95	50.60			73.00 45 %RH
WALL SECTION 1 APRIL							
	DECISTANCE	DESISTANCE	MOISTURE RATIO		в	-	
	REGIGTANCE/IN	REGISTANCE	110.60	69 90	K		74.00 71 MB
			110.00	03.00		0.25	14.00 / 1 WD
ENAMEL PAINT		0.000	110.60	69.90		0	74.08
PRIMER/SEALER		0.000	110.60	69.90		õ	74.08
3/4" LAP BOARDS	0.9	0.000	110.60	69.90		0.81	74.36
7" AIR SPACE	0.31	0.000	110.60	69.90		0.91	74.66
5/8" DRYMALL	0.12	0.020	109.81	69 70		0.32	74 77
PRIMER SEALER	0.12	0.500	90.18	64 10		0.02	74 77
FI AT PAINIT		0.630	65.44	55 30		õ	74 77
INTERIOR CONDITION		0.000	00.77	00.00		89.0	75.00
INSIDE AIR			65 44	55 30		0.00	75 00 50 %PH
				00.00			/01.11

i

#### WALL SECTION 1 MAY

LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR	0.9 0.31 0.12	RESISTANCE 0.000 0.000 0.000 0.000 0.020 0.500 0.630	MOISTURE RATIO 122.50 122.50 122.50 122.50 122.50 121.51 96.70 65.44 65.44	DEW POINT 72.90 72.90 72.90 72.90 72.90 72.60 66.10 55.30 55.30	R 0 0 0 0 0	TEMPERATURE           83.00         75.5 WB           25         0         82.33           0         82.33         81         80.14           91         77.69         32         76.83           0         76.83         0         76.83           0         76.83         75.00         75.00
WALL SECTION 1 JUNE						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	TEMPERATURE
OUTSIDE AIR			135.80	75.90		83.00 78 WB
EXTERIOR CONDITION					0	.25
ENAMEL PAINT		0.000	135.80	75.90		0 82.33
PRIMER/SEALER		0.000	135.80	75.90		0 82.33
3/4" LAP BOARDS	0.9	0.000	135.80	75.90	0	.81 80.14
7" AIR SPACE	0.31	0.000	135.80	75.90	0	.91 77.69
5/8" DRYWALL	0.12	0.020	134.59	75.60	0	.32 76.83
PRIMER SEALER		0.500	104.44	68.30		0 76.83
FLAT PAINT		0.630	66.44	55.30	0	0 /6.63
INTERIOR CONDITION			CC 44	FE 20	U	75.00 50 9/ 00
WALL SECTION 1 JULY						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	TEMPERATURE
OUTSIDE AIR			140.70	76.90		85.00 79 WB
EXTERIOR CONDITION					0	.25
ENAMEL PAINT		0.000	140.70	76.90		0 84.16
PRIMER/SEALER		0.000	140.70	76.90		0 84.16
3/4" LAP BOARDS	0.9	0.000	140.70	76.90	0	.81 81.43
7" AIR SPACE	0.31	0.000	140.70	76.90	0	.91 78.37
5/8" DRYWALL	0.12	0.020	139.39	76.60	0	.32 77.29
PRIMER SEALER		0.500	106.67	68.90		0 77.29
FLAT PAINT		0.630	65.44	55.30		0 77.29
INTERIOR CONDITION			05.44	55.00	0	.68 75.00
INSIDE AIR			65.44	55.30		75.00 50 %RH
WALL SECTION 1 AUGU	ST					
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	TEMPERATURE
OUTSIDE AIR			145.60	77.90		86.00 80 WB
EXTERIOR CONDITION					0	.25
ENAMEL PAINT		0.000	145.60	77.90		0 85.07
PRIMER/SEALER		0.000	145.60	77.90		0 85.07
3/4" LAP BOARDS	0.9	0.000	145.60	77.90	0	.81 82.07
7" AIR SPACE	0.31	0.000	145.60	77.90	0	.91 78.70
5/8" DRYWALL	0.12	0.020	144.21	77.70	0	.32 77.52 XX
PRIMER SEALER		0.500	109.35	69.60		0 77.52
FLAT PAINT		0.630	65.44	55.30		0 77.52
INTERIOR CONDITION					0	.68 75.00
INSIDE AIR			65.44	55.30		75.00 50 %RH

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#### WALL SECTION 1 SEPTEMBER

LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			143.80	77.50			83.00 79 WB
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.000	143.80	77.50		0	82.33
PRIMER/SEALER		0.000	143.80	77.50		0	82.33
3/4" LAP BOARDS	0.9	0.000	143.80	77.50		0.81	80.14
7" AIR SPACE	0.31	0.000	143.80	77.50		0.91	77.69
5/8" DRYWALL	0.12	0.020	142.44	77.30		0.32	76.83 XX
PRIMER SEALER		0.500	108.37	63.50		0	76.83
FLAT PAINT		0.630	65.44	55.30		0	76.83
INTERIOR CONDITION						0.68	75.00
INSIDE AIR			65.44	55.30			75.00 50 %RH
WALL SECTION 1 OCT	OBER						
LAYER	<b>RESISTANCE/IN</b>	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			33.49	37.90			51.00 29 WB
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.000	33.49	37.90		0	52.85
PRIMER/SEALER		0.000	33.49	37.90		0	52.85
3/4" LAP BOARDS	0.9	0.000	33.49	37.90		0.81	58.85
7" AIR SPACE	0.31	0.000	33.49	37.90		0.91	65.59
5/8" DRYWALL	0.12	0.020	33.86	38.20		0.32	67.96
PRIMER SEALER		0.500	43.18	44.30		0	67.96
FLAT PAINT		0.630	54.93	50.60		0	67.96
INTERIOR CONDITION						0.68	73.00
INSIDE AIR			54.93	50.60			73.00 45 %RH
WALL SECTION 1 NOV	EMBER RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
WALL SECTION 1 NOV LAYER OUTSIDE AIR	EMBER RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 22.87	DEW POINT 28.80	R	т	EMPERATURE 41.00 36 WB
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION	'EMBER RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 22.87	DEW POINT 28.80	R	T 0.25	EMPERATURE 41.00 36 WB
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT	EMBER RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 22.87 22.87	DEW POINT 28.80 28.80	R	0.25 0	EMPERATURE 41.00 36 WB 43.44
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER	EMBER RESISTANCE/IN	0.000 0.000	MOISTURE RATIO 22.87 22.87 22.87	DEW POINT 28.80 28.80 28.80 28.80	R	0.25 0 0	EMPERATURE 41.00 36 WB 43.44 43.44
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS	EMBER RESISTANCE/IN	RESISTANCE 0.000 0.000 0.000	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87	DEW POINT 28.80 28.80 28.80 28.80 28.80	R	0.25 0 0 0.81	EMPERATURE 41.00 36 WB 43.44 43.44 51.35
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMERVSEALER 3/4" LAP BOARDS 7" AIR SPACE	EMBER RESISTANCE/IN 0.9 0.31	RESISTANCE 0.000 0.000 0.000 0.000	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87 22.87	DEW POINT 28.80 28.80 28.80 28.80 28.80 28.80	R	0.25 0 0.81 0.91	EMPERATURE 41.00 36 WB 43.44 43.44 51.35 60.24
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 3/" AIR SPACE 5/8" DRYWALL	EMBER RESISTANCE/IN 0.9 0.31 0.12	0.000 0.000 0.000 0.000 0.000 0.020	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87 22.87 23.19	DEW POINT 28.80 28.80 28.80 28.80 28.80 29.10	R	T 0.25 0 0.81 0.91 0.32	EMPERATURE 41.00 36 WB 43.44 43.44 51.35 60.24 63.36
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL PRIMER SEALER	EMBER RESISTANCE/IN 0.9 0.31 0.12	RESISTANCE 0.000 0.000 0.000 0.000 0.020 0.500	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87 23.19 31.17 31.17	DEW POINT 28.80 28.80 28.80 28.80 28.80 29.10 36.18	R	0.25 0 0.81 0.91 0.32 0	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMERVSEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT	EMBER RESISTANCE/IN 0.9 0.31 0.12	RESISTANCE 0.000 0.000 0.000 0.000 0.020 0.500 0.630	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87 23.19 31.17 41.23	DEW POINT 28.80 28.80 28.80 28.80 28.80 29.10 36.18 43.10	R	0.25 0 0.81 0.91 0.32 0 0	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 63.36
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION	EMBER RESISTANCE/IN 0.9 0.31 0.12	<b>RESISTANCE</b> 0.000 0.000 0.000 0.020 0.500 0.630	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23	DEW POINT 28.80 28.80 28.80 28.80 28.80 29.10 36.18 43.10	R	0.25 0 0.81 0.91 0.32 0 0 0.68	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 63.36 70.00
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR	EMBER RESISTANCE/IN 0.9 0.31 0.12	RESISTANCE 0.000 0.000 0.000 0.000 0.020 0.500 0.630	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10	R	T 0.25 0 0.81 0.91 0.32 0 0 0.68	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 63.36 70.00 70.00 37.5 %RH
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 DEC	EMBER 0.9 0.31 0.12 EMBER	RESISTANCE 0.000 0.000 0.000 0.000 0.500 0.630	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10	R	T 0.25 0 0.81 0.91 0.32 0 0 0.68	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 63.36 70.00 70.00 37.5 %RH
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 DEC LAYER	EMBER 0.9 0.31 0.12 EMBER RESISTANCE/IN	RESISTANCE 0.000 0.000 0.000 0.020 0.500 0.630	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 MOISTURE RATIO	DEW POINT 28.80 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 DEW POINT	R	T 0.25 0 0.81 0.32 0 0.68	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 70.00 70.00 37.5 %RH
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 DEC LAYER OUTSIDE AIR	EMBER RESISTANCE/IN 0.9 0.31 0.12 EMBER RESISTANCE/IN	RESISTANCE 0.000 0.000 0.000 0.000 0.500 0.630 RESISTANCE	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 MOISTURE RATIO 16.61	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 43.10	R	T 0.25 0 0.81 0.91 0.32 0 0 0.68	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 70.00 70.00 37.5 %RH EMPERATURE 33.00 29 WB
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 DEC LAYER OUTSIDE AIR EXTERIOR CONDITION	EMBER 0.9 0.31 0.12 EMBER RESISTANCE/IN	RESISTANCE 0.000 0.000 0.000 0.020 0.500 0.630 RESISTANCE	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 41.23 MOISTURE RATIO 16.61	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 43.10 DEW POINT 22.10	R	T 0.25 0 0.81 0.91 0.32 0 0.68 T T T	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 70.00 70.00 37.5 %RH EMPERATURE 33.00 29 WB
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 DEC LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT	EMBER 0.9 0.31 0.12 EMBER RESISTANCE/IN	RESISTANCE 0.000 0.000 0.000 0.500 0.630 RESISTANCE 0.000	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 MOISTURE RATIO 16.61	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 DEW POINT 22.10	R	T 0.25 0 0.81 0.91 0.32 0 0.68 T 0.25 0	EMPERATURE 41.00 36 WB 43.44 43.44 51.35 60.24 63.36 63.36 63.36 70.00 70.00 37.5 %RH EMPERATURE 33.00 29 WB 35.95
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMERVSEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMERVSEALER	EMBER 0.9 0.31 0.12 EMBER RESISTANCE/IN	RESISTANCE 0.000 0.000 0.000 0.000 0.500 0.630 RESISTANCE 0.000 0.000	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 41.23 MOISTURE RATIO 16.61 16.61	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 DEW POINT 22.10 22.10 22.10	R	T 0.25 0 0.81 0.91 0.32 0 0.68 T 0.25 0 0 0	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 70.00 70.00 37.5 %RH EMPERATURE 33.00 29 WB 35.95 35.95
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 DEC LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS	EMBER 0.9 0.31 0.12 EMBER RESISTANCE/IN 0.9	RESISTANCE 0.000 0.000 0.000 0.000 0.020 0.500 0.630 RESISTANCE 0.000 0.000 0.000	MOISTURE RATIO 22.87 22.87 22.87 23.19 31.17 41.23 41.23 41.23 MOISTURE RATIO 16.61 16.61 16.61	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 43.10 DEW POINT 22.10 22.10 22.10 22.10	R	T 0.25 0 0.81 0.91 0.32 0 0 0.68 T T 0.25 0 0 0.81	EMPERATURE 41.00 36 WB 43.44 51.35 60.24 63.36 63.36 63.36 70.00 70.00 70.00 70.00 35.95 35.95 35.95
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 DEC LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE	EMBER RESISTANCE/IN 0.9 0.31 0.12 EMBER RESISTANCE/IN 0.9 0.31	RESISTANCE           0.000           0.000           0.000           0.000           0.000           0.000           0.000           0.500           0.630	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 41.23 MOISTURE RATIO 16.61 16.61 16.61 16.61	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 43.10 DEW POINT 22.10 22.10 22.10 22.10 22.10	R	T 0.25 0 0.81 0.32 0 0.68 T 0.25 0 0.68	EMPERATURE 41.00 36 WB 43.44 43.44 51.35 60.24 63.36 63.36 63.36 70.00 70.00 37.5 %RH EMPERATURE 33.00 29 WB 35.95 35.95 35.95 56.22
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMERVSEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR EXTERIOR CONDITION EXTERIOR CONDITION EXTERIOR S/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL	EMBER RESISTANCE/IN 0.9 0.31 0.12 EMBER RESISTANCE/IN 0.9 0.31 0.31 0.31 0.12	RESISTANCE 0.000 0.000 0.000 0.000 0.500 0.630  RESISTANCE 0.000 0	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 41.23 MOISTURE RATIO 16.61 16.61 16.61 16.61 16.61 16.61 16.61 16.65	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 43.10 DEW POINT 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10	R	T 0.25 0 0.81 0.32 0 0.68 T 0.25 0 0.81 0.25 0 0.81 0.91 0.32	EMPERATURE 41.00 36 WB 43.44 43.44 51.35 60.24 63.36 63.36 63.36 63.36 70.00 70.00 70.00 37.5 %RH EMPERATURE 33.00 29 WB 35.95 35.95 45.49 56.22 59.99
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER	EMBER RESISTANCE/IN 0.9 0.31 0.12 EMBER RESISTANCE/IN 0.9 0.31 0.12	RESISTANCE 0.000 0.000 0.000 0.500 0.630 RESISTANCE 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 41.23 MOISTURE RATIO 16.61 16.61 16.61 16.61 16.61 16.61 16.61 16.61 16.63	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 43.10 DEW POINT 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.40 28.90	R	T 0.25 0 0.81 0.32 0 0.68 T 0.25 0 0.68 0.81 0.91 0.32 0	EMPERATURE 41.00 36 WB 43.44 43.44 51.35 60.24 63.36 63.36 63.36 63.36 70.00 70.00 70.00 35.95 35.95 45.49 56.22 59.99
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 DEC LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT	EMBER RESISTANCE/IN 0.9 0.31 0.12 EMBER RESISTANCE/IN 0.9 0.31 0.31 0.12	RESISTANCE           0.000           0.000           0.000           0.000           0.000           0.000           0.000           0.500           0.630	MOISTURE RATIO 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 41.23 MOISTURE RATIO 16.61 16.61 16.61 16.61 16.61 16.61 16.61 16.61 16.61 16.61	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 43.10 DEW POINT 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 35.80	R	T 0.25 0 0.81 0.32 0 0.68 T 0.25 0 0 0.81 0.81 0.91 0.32 0 0 0 0 0 8.1 0.91 0.10 0.10 0.10 0.10 0.10 0.10 0.	EMPERATURE 41.00 36 WB 43.44 43.44 51.35 60.24 63.36 63.36 63.36 70.00 70.00 37.5 %RH EMPERATURE 33.00 29 WB 35.95 35.95 35.95 56.22 59.99 59.99
WALL SECTION 1 NOV LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 3/4" LAP BOA	EMBER RESISTANCE/IN 0.9 0.31 0.12 EMBER RESISTANCE/IN 0.9 0.31 0.12	0.000           0.000           0.000           0.000           0.000           0.000           0.000           0.000           0.500           0.630	MOISTURE RATIO 22.87 22.87 22.87 22.87 22.87 22.87 23.19 31.17 41.23 41.23 41.23 MOISTURE RATIO 16.61 16.61 16.61 16.61 16.61 16.61 16.61 16.65 16.61 16.65 16.65 16.65	DEW POINT 28.80 28.80 28.80 28.80 29.10 36.18 43.10 43.10 43.10 DEW POINT 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.10 22.50 23.580	R	T 0.25 0 0.81 0.32 0 0.68 T 0.25 0 0.81 0.25 0 0.81 0.32 0.91 0.32 0 0.68	EMPERATURE 41.00 36 WB 43.44 43.44 51.35 60.24 63.36 63.36 63.36 63.36 70.00 70.00 70.00 37.5 %RH EMPERATURE 33.00 29 WB 35.95 35.95 45.49 56.22 59.99 59.99 59.99 59.99 68.00

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### WALL SECTION SUMMER DESIGN FOR MOISTURE

LAYER OUTSIDE AIR	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 144.28	DEW POINT 79.50	R	EMPERATURE 85.30 79 WB
EXTERIOR CONDITION					0.25	
ENAMEL PAINT		0.000	144.28	79,50	0	84.43
PRIMER/SEALER		0.000	144.28	79.50	0	84.43
3/4" LAP BOARDS	0.9	0.000	144.28	79,50	0.81	81.62
7" AIR SPACE	0.31	0.000	144.28	79.50	0.91	78.47 XX
5/8" DRYWALL	0.12	0.020	142.91	79.30	0.32	77.36 XX
PRIMER SEALER		0.500	108.63	73.94	0	77.36
FLAT PAINT		0.630	65.44	55,30	0	77.36
INTERIOR CONDITION					0.68	75.00
INSIDE AIR			65.44	55.30		75.00 50 %RH

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HISTORIC STRUCTURE REPORT

**APPENDIX G** 

6/30/2005 CURF	RENT WALLS W/GOOD	PAINT SEAL					
WALL SECTION 1 JANU	JARY						
	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 13.78	DEW POINT 18.10	R	Т	EMPERATURE 29.00 25 W
EXTERIOR CONDITION						0.25	
		0 180	15 19	20.20		0	32.28
		0.160	16 44	31.80		ō	32.28
3/A" LAP BOARDS	0.9	0.675	21.72	27.70		0.81	42.92
7" AIR SPACE	0.31	0.000	21.72	27.70		0.91	54.87
5/8" DRYWALL	0.12	0.020	21.88	27.80		0.32	59.07
PRIMER SEALER		0.500	25.79	31.40		0	59.07
FLAT PAINT		0.630	30.72	35.80		0	59.07
INTERIOR CONDITION			30.72	35.80		0.68	68.00 68.00 30 %
WALL SECTION 1 FEBI	RUARY						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	T	EMPERATUR
OUTSIDE AIR EXTERIOR CONDITION			6.32	2.60		0.25	27.00 21 W
ENAMEL PAINT		0.180	9.47	10.50		0	30.62
PRIMER/SEALER		0.160	12.27	15.80		0	30.62
3/4" LAP BOARDS	0.9	0.675	24.09	29.90		0.81	42.35
7" AIR SPACE	0.31	0.000	24.09	29.90		0.91	55.52
5/8" DRYWALL	0.12	0.020	24.44	30.20		0.32	60.15
PRIMER SEALER		0.500	33.20	37.70		0	60.15
FLAT PAINT		0.630	44.23	44.90		0	60.15
INTERIOR CONDITION			(100	44.00		0.68	70.00
WALL SECTION 1 MAR	сн						
LAYER	<b>RESISTANCE/IN</b>	RESISTANCE	MOISTURE RATIO	DEW POINT	R	T	EMPERATUR
OUTSIDE AIR			9.61	10.80			30.00 24 V
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.180	13.38	17.50		0	33.62
PRIMER/SEALER		0.160	16.73	22.20		0	33.62
3/4" LAP BOARDS	0.9	0.675	30.86	35.90		0.81	45.35
7" AIR SPACE	0.31	0.000	30.86	35.90		0.91	58.52
5/8" DRYWALL	0.12	0.020	31.28	36.20		0.32	63.15
PRIMER SEALER		0.500	41.74	43.40		0	63.15
		0.650	54.95	50.60		0.68	73.00
INSIDE AIR			54.93	50.60		0.00	73.00 45 %
WALL SECTION 1 APRI	L						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATUR
OUTSIDE AIR EXTERIOR CONDITION			110.60	69.90		0.25	74.00 71 V
ENAMEL PAINT		0.180	106.85	68.90		0	74.08
PRIMER/SEALER		0.160	103.51	68.00		0	74.08
	0.9	0.675	89.43	63.90		0.81	74.36
3/4" LAP BOARDS	0.31	0.000	89.43	63.90		0.91	74.66
3/4" LAP BOARDS 7" AIR SPACE	0.51			00 70		0 22	74 77
3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL	0.12	0.020	89.01	63.70		0.32	14.11
3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER	0.12	0.020 0.500	89.01 78.58	63.70		0.32	74.77
3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT	0.12	0.020 0.500 0.630	89.01 78.58 65.44	60.30 55.30		0.32	74.77 74.77 74.77
3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION	0.12	0.020 0.500 0.630	89.01 78.58 65.44	60.30 55.30		0.32 0 0 0.68	74.77 74.77 75.00

v

WALL SECTION 1 MAY							
LAYER OUTSIDE AIR	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 122.50	DEW POINT 72.90	R	т	EMPERATURE 83.00 75.5 V
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.180	117.76	77.10		0	82.33
PRIMER/SEALER		0.160	113.54	70.70		0	82.33
3/4" LAP BOARDS	0.9	0.675	95.75	65.80		0.81	80.14
7" AIR SPACE	0.31	0.000	95.75	65.80		0.91	77.69
5/8" DRYWALL	0.12	0.020	95.22	63.60		0.32	76.03
PRIMER SEALER		0.500	62.04	55 30		0	76.83
INTERIOR CONDITION		0.050	05.44	55.50		0.68	75.00
INSIDE AIR			65.44	55.30			75.00 50 %F
WALL SECTION 1 JUNE	E					_	
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	1	EMPERATURE
EXTERIOR CONDITION			133.00	10,80		0.25	03.00 /0 WE
EXTERIOR CONDITION		0.190	130.03	74 60		0.20	82 33
		0.160	124 91	73.40		0	82.33
3/4" LAD BOARDS	0.9	0.675	103.28	68.00		0.81	80 14
7" AIR SPACE	0.31	0.000	103.28	68.00		0.91	77.69
5/8" DRYWALL	0.12	0.020	102.64	67.80		0.32	76.83
PRIMER SEALER		0.500	86.62	63.00		0	76.83
FLAT PAINT		0.630	66.44	55.30		0	76.83
INTERIOR CONDITION						0.00	75.00
			00.44	FE 20		0.00	75.00 50 %
INSIDE AIR			66.44	55.30		0.66	75.00 50 %F
INSIDE AIR	1		66.44	55.30		0.66	75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER	RESISTANCE/IN	RESISTANCE	66.44 MOISTURE RATIO	55.30 DEW POINT	R	0.68	75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR	RESISTANCE/IN	RESISTANCE	66.44 MOISTURE RATIO 140.70	55.30 DEW POINT 76.90	R	0.68	75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION	resistance/in	RESISTANCE	66.44 MOISTURE RATIO 140.70	55.30 DEW POINT 76.90	R	0.88 T 0.25	75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT	RESISTANCE/IN	RESISTANCE 0.180	66.44 MOISTURE RATIO 140.70 134.44	55.30 DEW POINT 76.90 75.60	R	0.88 1 0.25 0	75.00 50 %F TEMPERATURE 85.00 79 We 84.16
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER	RESISTANCE/IN	0.180 0.160 0.275	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42	55.30 DEW POINT 76.90 75.60 74.30 68.50	R	0.88 1 0.25 0 0	75.00 50 %F TEMPERATURE 85.00 79 WE 84.16 84.16 84.16
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR BOARDS	RESISTANCE/IN	0.180 0.160 0.675 0.000	66.44 <b>MOISTURE RATIO</b> 140.70 134.44 128.88 105.42 105.42	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50	R	0.85 0.25 0 0.81	75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALI	0.9 0.31 0.12	0.180 0.160 0.675 0.000 0.020	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.50 68.50	R	0.88 0 0 0.81 0.91 0.32	75.00 50 %F 75.00 50 %F 85.00 79 Wi 84.16 84.16 84.16 81.43 78.37 77.29
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEAL ER	0.9 0.31 0.12	RESISTANCE 0.180 0.160 0.675 0.000 0.500	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 105.42 104.72 87.34	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.50 68.30 63.20	R	0.88 0 0 0.81 0.91 0.32 0	75.00 50 %F 75.00 50 %F 85.00 79 Wi 84.16 84.16 81.43 78.37 77.29 77.29
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT	0.9 0.31 0.12	0.180 0.160 0.675 0.000 0.020 0.500 0.630	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72 87.34 65.44	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.50 68.30 63.20 55.30	R	0.88 0.25 0 0.81 0.91 0.32 0 0	75.00 50 %F 75.00 50 %F 85.00 79 WE 84.16 84.16 84.16 81.43 78.37 77.29 77.29
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION	0.9 0.31 0.12	0.180 0.160 0.675 0.000 0.020 0.500 0.630	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72 87.34 65.44	55.30 DEW POINT 76.90 74.30 68.50 68.50 68.30 63.20 55.30	R	0.88 0.25 0 0.81 0.91 0.32 0 0 0.68	75.00 50 %F 75.00 50 %F 85.00 79 WF 84.16 84.16 81.43 78.37 77.29 77.29 77.29 77.29 75.00
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR	0.9 0.31 0.12	0.180 0.160 0.675 0.000 0.020 0.500 0.630	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72 87.34 65.44 65.44	55.30 <b>DEW POINT</b> 76.90 75.60 74.30 68.50 68.50 68.30 63.20 55.30 55.30	R	0.88 0.25 0 0.81 0.91 0.91 0.91 0.68	75.00 50 %F 75.00 50 %F 85.00 79 WE 84.16 84.16 84.16 81.43 78.37 77.29 77.29 77.29 77.29 77.29 77.29 77.00 75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG	0.9 0.31 0.12	RESISTANCE 0.180 0.675 0.000 0.020 0.500 0.630	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72 87.34 65.44 65.44	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.50 68.30 63.20 55.30 55.30	R	0.88 0.25 0 0.81 0.32 0 0.68	75.00 50 %F 75.00 50 %F 85.00 79 We 84.16 84.16 81.43 78.37 77.29 77.29 77.29 77.29 75.00 75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUGU LAYER OUTSIDE AIR	O.9 0.31 0.12 UST RESISTANCE/IN	RESISTANCE 0.180 0.675 0.000 0.020 0.500 0.630 RESISTANCE	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72 87.34 65.44 65.44 65.44	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.30 63.20 55.30 55.30 DEW POINT 77.90	R	0.88 0.25 0 0.81 0.91 0.91 0.91 0.68	75.00 50 %F 75.00 50 %F 85.00 79 WF 84.16 84.16 81.43 77.29 77.29 77.29 77.29 77.29 75.00 75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUGH LAYER OUTSIDE AIR EXTERIOR CONDITION	0.9 0.31 0.12 UST RESISTANCE/IN	0.180           0.160           0.675           0.000           0.500           0.500           0.630	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 104.72 87.34 65.44 65.44 MOISTURE RATIO 145.60 138.04	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.50 63.20 55.30 55.30 55.30 DEW POINT 77.90 76.50	R	0.88 0 0 0.81 0.91 0.32 0 0.68	75.00 50 %F 75.00 50 %F 85.00 79 WI 84.16 84.16 84.16 84.16 81.43 77.29 77.29 77.29 77.29 77.29 75.00 76.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUGH UNSIDE AIR EXTERIOR CONDITION ENAMEL PAINT ENAMEL PAINT ENAMEL PAINT	O.9 0.31 0.12 UST RESISTANCE/IN	RESISTANCE 0.180 0.675 0.000 0.500 0.630 RESISTANCE 0.180	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 105.42 104.72 87.34 65.44 65.44 65.44 MOISTURE RATIO 145.60 138.94 138.94 138.94	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.30 63.20 55.30 55.30 55.30 DEW POINT 77.90 76.50 76.50	R	0.25 0 0 0.81 0.32 0 0.68 T 0.25 0	75.00 50 %F 75.00 50 %F 85.00 79 WE 84.16 84.16 84.16 81.43 77.29 77.29 77.29 77.29 77.29 77.29 77.29 75.00 75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 2/4" LAP BOAPDS	RESISTANCE/IN 0.9 0.31 0.12 UST RESISTANCE/IN	RESISTANCE 0.180 0.675 0.000 0.500 0.500 0.630 RESISTANCE 0.180 0.160 0.675	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72 87.34 65.44 65.44 65.44 MOISTURE RATIO 145.60 138.94 133.01 108.02	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.30 63.20 55.30 55.30 DEW POINT 77.90 76.50 75.20 9.20	R	0.85 0 0.81 0.32 0 0.68 1 0.25 0 0.68	75.00 50 %F 75.00 50 %F 85.00 79 WE 84.16 84.16 84.16 81.43 77.29 77.29 77.29 77.29 77.29 75.000
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" ORYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUGI LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIP BOARDS	0.9 0.31 0.12 UST RESISTANCE/IN	RESISTANCE 0.180 0.160 0.675 0.000 0.500 0.630 RESISTANCE 0.180 0.160 0.675 0.000	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 104.72 87.34 65.44 65.44 65.44 MOISTURE RATIO 145.60 138.94 133.01 108.02 108.02	55.30 DEW POINT 76.90 74.30 68.50 68.50 68.30 63.20 55.30 55.30 DEW POINT 77.90 76.50 75.20 69.20 69.20	R	0.88 0.25 0 0.81 0.91 0.91 0.68 T 0.25 0 0.81 0.91	75.00 50 %F 75.00 50 %F 85.00 79 WE 84.16 84.16 84.16 84.16 81.43 77.29 77.29 77.29 77.29 75.00 75.00 50 %F 75.00 50 %F 75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 5/6" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUGH UTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALI	0.9 0.31 0.12 UST RESISTANCE/IN 0.9 0.31 0.12	RESISTANCE           0.180           0.675           0.000           0.500           0.630             RESISTANCE           0.180           0.160           0.675           0.000	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 104.72 87.34 65.44 65.44 65.44 MOISTURE RATIO 145.60 138.94 138.01 108.02 107.28 108.02 107.28 108.02 107.28 108.02 107.28 108.02 107.28 108.02 107.28 108.02 107.28 108.02 107.28 108.02 109.02 107.28 109.02 109	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.30 63.20 55.30 55.30 55.30 DEW POINT 77.90 76.50 75.20 69.20 69.20 69.20 69.20 69.20	R	0.88 0 0 0.81 0.91 0.91 0.91 0.91 0.91 0.91 0.93 0 0.68 1 0.25 0 0 0.81 0.32	75.00 50 %F 75.00 50 %F 85.00 79 Wi 84.16 84.16 84.16 84.16 84.16 84.16 84.16 84.16 77.29 77.29 77.29 77.29 77.29 75.00 75.00 50 %F 77.50 75.00 50 %F
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 5/6" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/6" DRYWALL PRIMER SEALER 5/6" DRYWALL PRIMER SEALER	( RESISTANCE/IN 0.9 0.31 0.12 UST RESISTANCE/IN 0.9 0.31 0.31 0.12	RESISTANCE 0.180 0.160 0.675 0.000 0.500 0.630 RESISTANCE 0.180 0.160 0.675 0.000 0.675 0.000 0.020 0.500	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72 87.34 65.44 65.44 65.44 MOISTURE RATIO 145.60 138.94 133.01 108.02 108.02 108.02 107.28 88.77	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.30 63.20 55.30 55.30 55.30 DEW POINT 77.90 76.50 75.20 69.20 75.60 74.30 75.60 74.30 75.60 74.30 75.60 74.30 75.60 74.30 75.60 74.30 75.60 74.30 75.60 74.30 75.50 75.30 75.30 75.30 75.30 75.30 75.30 75.30 75.30 75.20 7	R	0.25 0 0.81 0.32 0 0.68 0.68 1 0.25 0 0.68	75.00 50 %F 75.00 50 %F 85.00 79 WE 84.16 84.16 84.16 81.43 77.29 77.29 77.29 77.29 77.29 75.00 75.00 50 %F 75.00 76.00 50 %F 85.07 85.07 85.07 85.07 82.07 78.70 77.52
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER SIA* LAP BOARDS 7* AIR SPACE 5/8* DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 5/8* DRYWALL PRIMER SEALER FLAT PAINT	( RESISTANCE/IN 0.9 0.31 0.12 UST RESISTANCE/IN 0.9 0.31 0.12	RESISTANCE 0.180 0.160 0.675 0.000 0.500 0.630 RESISTANCE 0.180 0.160 0.675 0.000 0.630	66.44 MOISTURE RATIO 140.70 134.44 128.86 105.42 104.72 87.34 65.44 65.44 65.44 MOISTURE RATIO 145.60 138.94 133.01 108.02 108.02 108.02 107.28 88.77 65.44	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.30 63.20 55.30 55.30 DEW POINT 77.90 76.50 75.20 69.20 60.20 6	R	0.88 0.25 0 0.81 0.32 0 0.68 0 0.68 1 0.25 0 0.81 0.91 0.32 0.32 0 0.81	TEMPERATURE 85.00 79 WE 84.16 84.16 84.16 81.43 77.29 77.29 77.29 77.29 75.00 76.00 50 %F TEMPERATURE 86.00 80 WE 85.07 85.07 85.07 85.07 85.07 78.70 77.52
INSIDE AIR WALL SECTION 1 JULY LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER 5/4" LAP BOARDS 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION	0.9 0.31 0.12 UST RESISTANCE/IN 0.9 0.31 0.12	RESISTANCE           0.180           0.1675           0.000           0.500           0.630             RESISTANCE           0.180           0.160           0.675           0.000           0.500	66.44 MOISTURE RATIO 140.70 134.44 128.88 105.42 105.42 104.72 87.34 65.44 65.44 65.44 MOISTURE RATIO 145.60 138.94 139 107.85 107.85 107.85 107.85 107.95	55.30 DEW POINT 76.90 75.60 74.30 68.50 68.50 68.50 68.50 63.20 55.30 55.30 55.30 DEW POINT 77.90 76.50 75.20 69.20 75.30 75.30 75.40 76.50 76.50 76.50 76.50 76.50 76.50 76.50 76.50 76.50 76.50 76.50 76.50 76.50 76.50 76.50 75.20 69.20 60.20 60.20 60.20 60.20 60.20 6	R	0.88 0 0 0 0.81 0.32 0 0.68 1 0.25 0 0.81 0.32 0 0.81 0.32 0 0.68	TEMPERATURE 85.00 79 WE 84.16 84.16 84.16 84.16 84.16 84.16 84.16 81.43 77.29 77.29 77.29 77.29 75.00 75.00 50 %F TEMPERATURE 86.00 80 WE 85.07 85.07 85.07 85.07 85.07 85.07 85.07 77.52 77.52 77.52

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#### WALL SECTION 1 SEPTEMBER

LAYER OUTSIDE AIR EXTERIOR CONDITION	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 143.80	DEW POINT 77.50	R	TEMP 83	ERATURE 3.00 79 WB
ENAMEL PAINT		0.180	137.29	76.20		0 82	2.33
PRIMER/SEALER		0.160	131.49	74.90		0 82	2.33
3/4" LAP BOARDS	0.9	0.675	107.06	69.00		0.81 80	0.14
7" AIR SPACE	0.31	0.000	107.06	69.00		0.91 77	7.69
5/8" DRYWALL	0.12	0.020	106.34	68.80		0.32 76	5.83
DRIMER SEALER	0.12	0.500	88.24	63.50		0 76	5.83
		0.630	65.44	55 30		0 76	5.83
INTERIOR CONDITION		0.000				0.68 75	5.00
INSIDE AIR			65.44	55.30		76	5.00 50 %RH
WALL SECTION 1 OCTO	OBER						
LAVER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	TEMP	ERATURE
OUTSIDE AIR	TEORO FAROEAR	TEOLO ITATO E	33.49	37.90		51	.00 29 WB
EXTERIOR CONDITION						0.25	
ENAMEL DAINT		0.180	35.27	39.20		0 52	85
		0.160	36.86	40.30		0 53	85
3/4" LAP BOARDS	0.9	0.675	43.54	44.50		0.81 58	3.85
7" AIR SPACE	0.31	0.000	43.54	44.50		0.91 65	5.59
5/8" DRYMALL	0.12	0.020	43.74	44.60		32 67	7.96
PRIMER SEALER		0.500	48.69	47.40		0 67	7.96
FLAT PAINT		0.630	54.93	50.60		0 67	7.96
INTERIOR CONDITION						0.68 73	3.00
INSIDE AIR			54.93	50.60		73	3.00 45 %RH
	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	TEMP	
EXTERIOR CONDITION			22.07	20.00		0.25	1.00 36 WB
ENAMEL PAINT		0 180	24 40	30.40		0 43	3 44
PRIMER/SEALER		0.160	25.75	31 70		0 43	3 4 4
3/4" LAP BOARDS	0.9	0.675	31.48	37.40		0.81 51	.35
7" AIR SPACE	0.31	0.000	31.48	37.40		0.91 60	0.24
5/8" DRYWALL	0.12	0.020	31.65	37.60		0.32 63	3.36
PRIMER SEALER		0.500	35.89	41.10		0 63	3.36
FLAT PAINT		0.630	41.23	43.10		0 63	3.36
INTERIOR CONDITION						0.68 70	0.00
INSIDE AIR			41.23	43.10		70	).00 37.5 %RH
WALL SECTION 1 DECI	EMBER						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	TEMP	ERATURE
OUTSIDE AIR			16.61	22.10		33	3.00 29 WB
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.180	17.78	25.30		0 35	5.95
PRIMER/SEALER		0.160	18.83	26.60		0 35	5.95
3/4" LAP BOARDS	0.9	0.675	23.23	31.10		0.81 45	5.49
7" AIR SPACE	0.31	0.000	23.23	31.10		0.91 56	5.22
5/8" DRYWALL	0.12	0.020	23.36	31.20	1	).32 59	9.99
PRIMER SEALER		0.500	26.61	34.50		0 59	9.99
FLAT PAINT		0.630	30.72	35.80		0 59	9.99
INTERIOR CONDITION					1	0.68 68	3.00
INSIDE AIR			30.72	35.80		68	3.00 30 %RH

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HISTORIC STRUCTURE REPORT

**APPENDIX G** 

#### ORANGE HALL PERMEABILITY CALCULATIONS 6/30/2005 CURRENT WALLS WINEW VAPOR BARRIER

WALL SECTION 1 JANUARY

LAYER OUTSIDE AIR	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO 13.78	DEW POINT 18.10	R	T	EMPERATURE 29.00 25 WB
EXTERIOR CONDITION		0 190	14.57	10 20		0.25	32.22
ENAMEL PAINT		0.180	14.57	19.30		0	32.22
PRIMER/SEALER		0.160	15.27	20.30		0	32.22
3/4" LAP BOARDS	0.9	0.675	18.23	24.00		1.81	42.64
ASPHALT SATURATED VB	PAPER	1.700	25.68	31.30		1.06	43.42
7" AIR SPACE	0.31	0.000	25.68	31.30		0.91	55.13
5/8" DRYWALL	0.12	0.020	25.77	31.40	1	1.32	59,25
PRIMER SEALER		0.500	27.96	33.50		0	59.25
FLAT PAINT		0.630	30.72	35.80		0	59.25
INTERIOR CONDITION						3.68	68.00
INSIDE AIR			30.72	35.80			68.00 30 %RH
WALL SECTION 1 FEB	RUARY						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			6.32	2.60			27.00 21 WB
EXTERIOR CONDITION						0.25	
ENAMEL DAINT		0 180	8.02	7 20		0	30 55
		0.160	9.53	10 70		õ	30.55
2/4" LAD BOADDS	0.0	0.675	15.00	21 10		1.81	42 04
JA LAP BUARDS	DADED	1 700	31.05	36.70		106	42.04
ASPHALI SATURATED VB	PAPER	1.700	31.90	36.70		1.00	-2.09 EE 04
7" AIR SPACE	0.31	0.000	31.95	30.70		1.91	55.61
5/8" DRYWALL	0.12	0.020	32.13	36.90		J.32	60.35
PRIMER SEALER		0.500	36.85	40.30		U	60.35
FLAT PAINT		0.630	42.80	44.90		0	60.35
INTERIOR CONDITION						0.68	70.00
INSIDE AIR			42.80	44.90			70.00 37.5 %RH
WALL SECTION 1 MAR	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			9.61	10.80			30.00 24 WB
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.180	11.72	14.80		0	33.55
PRIMER/SEALER		0.160	13.60	17.90		0	33.55
3/4" LAP BOARDS	0.9	0.675	21.51	27.50		0.81	45.04
ASPHALT SATURATED VB	PAPER	1.700	41.45	43.30		0.06	45.89
7" AIR SPACE	0.31	0.000	41.45	43.30		0.91	58.81
5/8" DRYWALL	0.12	0.020	41.68	43.40	1	0.32	63.35
PRIMER SEALER		0.500	47.54	46.80		0	63.35
FLAT PAINT		0.630	54.93	50,60		0	63.35
INTERIOR CONDITION						0.68	73.00
INSIDE AIR			54.93	50.60			73.00 45 %RH
WALL SECTION 1 APR	IL						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			110.60	69.90			74.00 71 WB
EXTERIOR CONDITION			110.00	00.00		25	
ENAMEL DAINT		0 180	108 50	69.40		0	74.08
PRIMER/SEALER		0.160	106.63	68.80		0	74.08
3/4" LAD BOADDS	0.9	0.675	98 74	66 70		181	74.35
ACOUNT CATIONTED VO	U.S	1 700	79.99	60.40		100	74.33
ASPHALI SATURATED VB	D 24	0.000	70.00	60.40		0.00	74.57
AIR SPACE	0.31	0.000	70.00	60.40		1.91	74.0/
5/8 DRYWALL	0.12	0.020	70.04	60.30		1.32	14.18
PRIMER SEALER		0.500	(2.80	58.20		U	14.18
FLAT PAINT		0.000	05.44	FF 00		•	74 70
		0.630	65.44	55.30		0	74.78
INTERIOR CONDITION		0.630	65.44	55.30	ł	0 0,68	74.78 75.00

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#### WALL SECTION 1 MAY

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LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			122.50	72.90			83.00 75.5 WB
EXTERIOR CONDITION					1	0.25	
ENAMEL PAINT		0.180	119.84	72.20		0	82.34
PRIMER/SEALER		0,160	117.48	71.60		0	82.34
3/4" LAP BOARDS	0.9	0.675	107.52	69.10		0.81	80.20
ASPHALT SATURATED VB F	PAPER	1.700	82.42	61.70		0.06	80.04
7" AIR SPACE	0.31	0.000	82 42	61.70		0.91	77.64
	0.12	0.020	82 12	61.50		0.32	76.80
DDIMED SEALED	0.12	0.500	74 74	58.90		0	76.80
FRIVIER SEALER		0.000	65.44	55 30		ñ	76.80
INTERIOR CONDITION		0.000	03.44	00.00		89.0	75.00
INSIDE AIR			65.44	55.30		0.00	75.00 50 %RH
WALL SECTION 1 JUNE	E						
LAYER	RESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	т	EMPERATURE
OUTSIDE AIR			135.80	75.90			83.00 78 WB
EXTERIOR CONDITION						0.25	
ENAMEL PAINT		0.180	132.57	75.20		0	82.34
PRIMER/SEALER		0.160	129.70	74.50		0	82.34
3/A" LAP BOARDS	0.9	0.675	117.59	71.70		0.81	80.20
ASPHALT SATURATED VB		1 700	87.08	63.10		0.06	80.04
7" AIR SPACE	0.31	0.000	87.08	63 10		0.91	77 64
	0.12	0.000	86 72	63.00		0.32	76.80
5/6 DRIVVALL	0.12	0.020	77 75	60.00		0.02	76.80
PRIVER SEALER		0.500	66.44	55.30		0	76.80
FLAT PAINT		0.030	00.44	33.30		0 60	70.00
INTERIOR CONDITION			CC 44	FE 20		0.00	75.00
INSIDE AIR			66.44	55.30			75.00 50 %RH
WALL SECTION 1 JULY	PESISTANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R		EMPERATURE
	REGISTANCE/IN	REDIO FAROL	140 70	76 90		•	85.00 79 W/B
EXTERIOR CONDITION			140.70	10.00		0 25	00.00 10 110
EXTERIOR CONDITION						0.20	
ENIANCE DAINT		0 1 2 0	137 20	76 20		0	84 17
		0.180	137.20	76.20		0	84.17 84.17
ENAMEL PAINT PRIMER/SEALER	0.0	0.180 0.160 0.675	137.20 134.08 120.94	76.20 75.50 72.50		0	84.17 84.17 81.50
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS	0.9	0.180 0.160 0.675	137.20 134.08 120.94	76.20 75.50 72.50		0 0 0.81	84.17 84.17 81.50 81.20
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F	0.9 PAPER	0.180 0.160 0.675 1.700	137.20 134.08 120.94 87.83	76.20 75.50 72.50 63.40		0 0 0.81 0.06	84.17 84.17 81.50 81.30 78.30
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE	0.9 PAPER 0.31	0.180 0.160 0.675 1.700 0.000	137.20 134.08 120.94 87.83 87.83	76.20 75.50 72.50 63.40 63.40		0 0 0.81 0.06 0.91	84.17 84.17 81.50 81.30 78.30
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL	0.9 PAPER 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020	137.20 134.08 120.94 87.83 87.83 87.44 77 74	76.20 75.50 72.50 63.40 63.40 63.20		0 0.81 0.06 0.91 0.32	84.17 84.17 81.50 81.30 78.30 77.24
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER	0.9 PAPER 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020 0.500	137.20 134.08 120.94 87.83 87.83 87.83 87.44 77.71	76.20 75.50 72.50 63.40 63.40 63.20 60.00		0 0.81 0.06 0.91 0.32 0	84.17 84.17 81.50 81.30 78.30 77.24 77.24
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT FLAT PAINT	0.9 PAPER 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44	76.20 75.50 72.50 63.40 63.40 63.20 60.00 55.30		0 0.81 0.06 0.91 0.32 0 0	84.17 84.17 81.50 81.30 78.30 77.24 77.24 77.24 77.24
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR	0.9 PAPER 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44	76.20 75.50 72.50 63.40 63.40 63.20 60.00 55.30		0 0.81 0.06 0.91 0.32 0 0 0.68	84.17 84.17 81.50 81.30 78.30 77.24 77.24 77.24 75.00 75.00 50 %RH
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG	0.9 PAPER 0.31 0.12 UST	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	137.20 134.08 120.94 87.83 87.83 87.84 77.71 65.44 65.44	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30		0 0.81 0.06 0.91 0.32 0 0 0.68	84.17 84.17 81.50 81.30 78.30 77.24 77.24 77.24 77.24 75.00 75.00 50 %RH
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER	0.9 PAPER 0.31 0.12 UST RESISTANCE/IN	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 MOISTURE RATIO	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30	R	0 0,81 0.06 0.91 0.32 0 0 0.68	84.17 84.17 81.50 81.30 77.24 77.24 77.24 77.24 75.00 75.00 50 %RH
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR	0.9 O.31 0.31 0.12 UST RESISTANCE/IN	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	137.20 134.08 120.94 87.83 87.83 87.83 87.44 77.71 65.44 65.44 65.44 MOISTURE RATIO 145.60	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30	R	0 0,81 0.06 0.91 0.32 0 0 0.68	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 50 %RH
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION	0.9 PAPER 0.31 0.12 UST RESISTANCE/IN	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 <b>MOISTURE RATIO</b> 145.60	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 <b>DEW POINT</b> 77.90	R	0 0 0.81 0.06 0.91 0.32 0 0.68 T 0.25	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 75.00 86.00 % WB
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT	0.9 0.31 0.12 UST RESISTANCE/IN	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630 RESISTANCE 0.180	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 145.60 141.87	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 <b>DEW POINT</b> 77.90 77.10	R	0 0 0.81 0.06 0.91 0.32 0 0.68 T 0.25 0	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 50 %RH EMPERATURE 86.00 80 WB 85.09
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION EXTERIOR CONDITION EXTERIOR CONDITION EXTERIOR CONDITION EXTERIOR CONDITION	0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630 RESISTANCE 0.180 0.160	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 145.60 141.87 138.55	76.20 75.50 72.50 63.40 63.20 63.20 60.00 55.30 55.30 55.30 <b>DEW POINT</b> 77.90 77.10 76.40	R	0 0,81 0.06 0.91 0.32 0 0,68 T 0.25 0 0	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 50 %RH EMPERATURE 86.00 80 WB 85.09 85.09
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS	0.9 0.31 0.12 UST RESISTANCE/IN	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630 RESISTANCE 0.180 0.160 0.675	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 145.60 141.87 138.55 124 55	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 55.30 55.30 77.10 77.10 76.40 73.30	R	0 0.81 0.06 0.91 0.32 0 0.68 T 0.25 0 0.81	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 75.00 75.00 86.00 % WB 85.09 85.09 82.15
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VP F	0.9 0.31 0.12 UST RESISTANCE/IN	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630 RESISTANCE 0.180 0.160 0.675 1.700	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 145.60 141.87 138.55 124.55 89.20	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 <b>DEW POINT</b> 77.90 77.10 76.40 73.30 63.80	R	0 0.81 0.06 0.91 0.32 0 0.68 T T 0.25 0 0.81 0.06	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 75.00 50 %RH EMPERATURE 86.00 80 WB 85.09 85.09 85.09 82.15 81 93
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIP SOACE	0.9 0.31 0.12 UST RESISTANCE/IN 0.9 0.9	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630 <b>RESISTANCE</b> 0.180 0.180 0.160 0.675 1.700	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 145.60 141.87 138.55 124.55 89.29 89.29	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 <b>DEW POINT</b> 77.90 77.10 76.40 73.30 63.80 63.80	R	0 0.81 0.06 0.91 0.32 0 0.68 T 0.068 T 0.025 0 0.81	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 50 %RH EMPERATURE 86.00 80 WB 85.09 85.09 85.09 85.09 85.09 82.15 81.93 78 63
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE	0.9 0.31 0.12 UST RESISTANCE/IN 0.9 PAPER 0.31 0.2	0.180 0.160 0.675 1.700 0.000 0.500 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.020	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 145.60 141.87 138.55 124.55 89.29 89.29 89.29 88.29	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 55.30 <b>DEW POINT</b> 77.90 77.10 76.40 73.30 63.80 63.80 63.80	R	0 0.81 0.06 0.91 0.32 0 0.0.68 T 0.25 0 0.81 0.06 0.91	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 50 %RH EMPERATURE 86.00 80 WB 85.09 85.09 85.09 85.09 85.19 85.19 85.09 85.09
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG UTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL DDWERD CEALED	0.9 0.31 0.12 UST RESISTANCE/IN PAPER 0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.220 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.000 0.020	137.20 134.08 120.94 87.83 87.83 87.84 77.71 65.44 65.44 65.44 65.44 141.87 138.55 124.55 89.29 88.29 88.88 79.54	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 <b>DEW POINT</b> 77.90 77.10 76.40 73.30 63.80 63.80 63.70 9.20	R	0 0.81 0.06 0.91 0.32 0 0.68 T T 0.25 0 0.81 0.06 0.91 0.32	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 50 %RH EMPERATURE 86.00 80 WB 85.09 85.09 85.09 85.09 85.09 85.09 85.09 78.63 77.47 72.47
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER	0.9 0.31 0.12 UST RESISTANCE/IN PAPER 0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.020 0.620	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 145.60 141.87 138.55 124.55 89.29 89.29 88.29 88.29 88.29 88.29 88.29	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 55.30 77.10 77.90 77.10 76.40 73.30 63.80 63.80 63.70 60.30 55.20	R	0 0.81 0.066 0.91 0.32 0 0.68 T 0.25 0 0.81 0.06 0.91 0.32 0 0.91	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 75.00 50 %RH EMPERATURE 86.00 80 WB 85.09 85.09 85.09 85.09 82.15 81.93 77.47 77.47 77.47
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR WALL SECTION 1 AUG LAYER OUTSIDE AIR EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT	0.9 0.31 0.12 UST RESISTANCE/IN PAPER 0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 145.60 141.87 138.55 124.55 89.29 88.29 88.29 88.88 78.51 65.44	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 <b>DEW POINT</b> 77.90 77.10 76.40 73.30 63.80 63.80 63.70 60.30 55.30	R	0 0.81 0.066 0.91 0.32 0 0.68 T 0.068 0.088 0.081 0.081 0.091 0.32 0 0 0.32	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 75.00 75.00 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 78.63 77.47 77.47 77.47
ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION INSIDE AIR EXTERIOR CONDITION EXTERIOR CONDITION EXTERIOR CONDITION ENAMEL PAINT PRIMER/SEALER 3/4" LAP BOARDS ASPHALT SATURATED VB F 7" AIR SPACE 5/8" DRYWALL PRIMER SEALER FLAT PAINT INTERIOR CONDITION	0.9 0.31 0.12 UST RESISTANCE/IN PAPER 0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.675 1.700 0.000 0.020 0.550	137.20 134.08 120.94 87.83 87.83 87.44 77.71 65.44 65.44 65.44 65.44 141.87 138.55 124.55 89.29 89.29 89.29 88.88 78.51 65.44	76.20 75.50 72.50 63.40 63.20 60.00 55.30 55.30 55.30 <b>DEW POINT</b> 77.90 77.10 76.40 73.30 63.80 63.80 63.70 60.30 55.30	R	0 0.81 0.06 0.91 0.32 0 0.68 T 0.25 0 0 0.81 0.32 0 0.81 0.32 0 0.068	84.17 84.17 81.50 81.30 77.24 77.24 77.24 75.00 75.00 50 %RH EMPERATURE 86.00 80 WB 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 85.09 77.47 77.47 77.47 77.47

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#### WALL SECTION 1 SEPTEMBER

0.9 0.31 0.12 STANCE/IN 0.9 0.31 0.12	RESISTANCE 0.180 0.675 1.700 0.020 0.500 0.630  RESISTANCE 0.180 0.160 0.675 1.700 0.000 0.620 0.500 0.630	MOISTURE RATIO 143.80 140.15 136.91 123.22 88.76 88.76 88.35 78.21 65.44 65.44 65.44 65.44 65.44 65.44 48.65 33.49 35.38 39.12 48.55 48.55 48.55 48.55 48.55 48.55 48.55 48.55 48.55	DEW POINT 77.50 76.80 76.10 73.00 63.70 63.70 63.50 60.10 55.30 55.30 55.30 DEW POINT 37.90 38.60 39.30 41.80 47.30 47.30 47.30 47.40 48.40 50.60	R	T 0.25 0 0.81 0.06 0.91 0.32 0 0.68 0 0.68 0 0.81 0.06 0.91 0.32 0 0.32 0 0.032 0 0.032	TEMPERATURE 83.00 79 WB 82.34 80.20 80.04 77.64 76.80 76.80 76.80 75.00 75.00 50 %RH TEMPERATURE 51.00 29 WB 52.82 52.82 53.70 59.13 65.74 66.06 68.06 68.06
0.9 0.31 0.12 STANCE/IN 0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.000 0.630	143.80 140.15 136.91 123.22 88.76 88.36 88.35 78.21 65.44 65.44 65.44 65.44 48.55 33.49 34.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93	77.50 76.80 76.10 73.00 63.70 63.70 63.50 60.10 55.30 55.30 55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.30 47.30 50.60	R	0.25 0 0.81 0.06 0.91 0.32 0 0.68 1 0.06 0.81 0.06 0.081 0.06 0.91 0.32 0 0.088	83.00 79 WB 82.34 82.34 82.00 80.04 77.64 76.80 76.80 75.00 50 %RH 75.00 50 %RH 75.00 50 %RH 52.82 52.82 52.82 53.70 59.13 65.74 66.06 68.06 68.06
0.9 0.31 0.12 STANCE/IN 0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.020 0.500 0.500 0.500	140.15 136.91 123.22 88.76 88.76 88.35 78.21 65.44 65.44 65.44 65.44 33.49 34.49 35.38 39.12 48.55 48.55 48.55 48.55 48.55 48.66 51.44 54.93	76.80 76.10 73.00 63.70 63.70 63.50 55.30 55.30 55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60	R	0.25 0 0.81 0.06 0.91 0.32 0 0.68 1 0.25 0 0.81 0.32 0 0.68 1 0.32 0 0.81 0.32 0 0.68 0 0 0 0 0 0 0 0 0 0 0 0 0	82.34 82.34 80.20 80.04 77.64 76.80 76.80 76.80 75.00 50 %RH 51.00 29 WB 52.82 52.82 52.82 53.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12 STANCE/IN 0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.020 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	140,15 136,91 123,22 88,76 88,76 88,35 78,21 65,44 65,44 65,44 65,44 48,49 35,38 39,12 48,55 48,55 48,55 48,66 51,44 54,93 54,93	76.80 76.10 73.00 63.70 63.70 63.50 60.10 55.30 55.30 55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60	R	0 0.81 0.06 0.91 0.32 0 0.68 0.68 0.068 0.81 0.06 0.91 0.32 0 0.068	82.34 82.34 80.20 80.04 77.64 76.80 75.000
0.9 0.31 0.12 STANCE/IN 0.9 0.31 0.12	0.160 0.675 1.700 0.000 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.000 0.620 0.500 0.500 0.630	136.91 123.22 88.76 88.76 88.35 78.21 65.44 65.44 65.44 65.44 33.49 34.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93	76.10 73.00 63.70 63.70 63.50 60.10 55.30 55.30 55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.30 47.30 50.60	R	0 0.81 0.06 0.91 0.32 0 0.68 0.68 0.81 0.06 0.91 0.32 0 0.06 0.06	82.34 80.20 80.04 77.64 76.80 76.80 75.00 75.00 75.00 50 %RH 52.82 52.82 52.82 52.82 53.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12 STANCE/IN 0.9 0.31 0.12	0.675 1.700 0.000 0.500 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	123.22 88.76 88.76 88.35 78.21 65.44 65.44 65.44 33.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93 54.93	73.00 63.70 63.70 63.50 60.10 55.30 55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60	R	0.81 0.06 0.91 0.32 0 0.68 0.68 0.68 0.81 0.06 0.91 0.32 0 0.06 0.06	80.20 80.04 77.64 76.80 76.80 75.00 75.00 75.00 50 %RH FEMPERATURE 51.00 29 WB 52.82 52.82 53.70 59.13 65.74 68.06 68.06 68.06
0.31 0.12 STANCE/IN 0.9 0.31 0.12	1.700 0.000 0.500 0.630 RESISTANCE 0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	88.76 88.35 78.21 65.44 65.44 65.44 <b>MOISTURE RATIO</b> 33.49 34.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93	63,70 63,70 63,50 60,10 55,30 55,30 <b>DEW POINT</b> 37,90 38,60 39,30 41,80 47,30 47,30 47,30 47,40 48,40 50,60	R	0.06 0.91 0.32 0 0.68 0.68 0.68 0.08 0.06 0.81 0.06 0.91 0.32 0 0.08	80.04 77.54 76.80 75.00 75.00 75.00 75.00 75.00 50 %RH FEMPERATURE 51.00 52.82 52.82 52.82 52.82 53.70 53.13 65.74 68.06 68.06 68.06
0.31 0.12 STANCE/IN 0.9 0.31 0.12	0.000 0.020 0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.020 0.500 0.630	88.76 88.35 78.21 65.44 65.44 <b>MOISTURE RATIO</b> 33.49 34.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93 54.93	63.70 63.50 60.10 55.30 55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.30 47.30 47.60 50.60	R	0.91 0.32 0 0.68 0.68 0.06 0.81 0.06 0.91 0.32 0 0.08	77.64 76.80 76.80 75.00 75.00 50 %RH 75.00 50 %RH 51.00 29 WB 52.82 52.82 52.82 53.70 59.13 65.74 68.06 68.06 68.06
0.12 STANCE/IN 0.9 0.31 0.12	0.020 0.500 0.630 RESISTANCE 0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	88.35 78.21 65.44 65.44 <b>MOISTURE RATIO</b> 33.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93 54.93	63.50 60.10 55.30 55.30 DEW POINT 37.90 38.60 39.30 41.80 47.30 47.30 47.30 47.40 48.40 50.60	R	0.32 0 0.68 0.68 0 0.81 0.06 0.91 0.32 0 0.68	76.80 76.80 75.00 75.00 50 %RH 75.00 29 WB 52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	0.500 0.630 RESISTANCE 0.180 0.160 0.675 1.700 0.020 0.500 0.630	78.21 65.44 65.44 <b>MOISTURE RATIO</b> 33.49 34.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93 54.93	60.10 55.30 55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.30 47.30 47.60 50.60	R	0.68 0.68 0.68 0.06 0.81 0.06 0.91 0.32 0 0.68	76.80 76.80 75.00 75.00 50 %RH 51.00 52.82 52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	0.630 <b>RESISTANCE</b> 0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	65.44 65.44 <b>MOISTURE RATIO</b> 33.49 34.49 35.38 39.12 48.55 48.65 51.44 54.93 54.93	55.30 55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.30 47.30 47.30 50.60	R	0.68 0.68 0.25 0 0.81 0.06 0.91 0.32 0 0.68	76.80 75.00 75.00 50 %RH 75.00 29 WB 52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06 68.06
0.9 0.31 0.12	0.180 0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	65.44 65.44 MOISTURE RATIO 33.49 34.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93 54.93	55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60 50.60	R	0.68 0.25 0 0.81 0.06 0.91 0.32 0 0.68	75.00 75.00 50 %RH FEMPERATURE 51.00 29 WB 52.82 52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06 68.06
0.9 0.31 0.12	<b>RESISTANCE</b> 0.160 0.675 1.700 0.020 0.500 0.630	65.44 MOISTURE RATIO 33.49 34.49 35.38 39.12 48.55 48.55 48.55 48.66 51.44 54.93 54.93	55.30 <b>DEW POINT</b> 37.90 38.60 39.30 41.80 47.30 47.30 47.30 47.40 48.40 50.60 50.60	R	0.25 0 0.81 0.06 0.91 0.32 0 0 0.68	75.00 50 %RH TEMPERATURE 51.00 29 WB 52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	<b>RESISTANCE</b> 0.160 0.675 1.700 0.000 0.020 0.500 0.630	MOISTURE RATIO 33.49 35.38 39.12 48.55 48.55 48.66 51.44 54.93 54.93	DEW POINT 37.90 38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60 50.60	R	0.25 0 0.81 0.06 0.91 0.32 0 0 0.68	IEMPERATURE 51.00 29 WB 52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	<b>RESISTANCE</b> 0.160 0.675 1.700 0.000 0.020 0.500 0.630	MOISTURE RATIO 33.49 35.38 39.12 48.55 48.55 48.66 51.44 54.93 54.93	DEW POINT 37.90 38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60 50.60	R	0.25 0 0.81 0.06 0.91 0.32 0 0 0.68	TEMPERATURE 51.00 29 WB 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	MOISTURE RATIO 33.49 35.38 39.12 48.55 48.55 48.66 51.44 54.93 54.93	DEW POINT 37.90 38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60 50.60	R	1 0.25 0 0.81 0.06 0.91 0.32 0 0 0.68	TEMPERATURE 51.00 29 WB 52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	0.180 0.675 1.700 0.000 0.020 0.500 0.630	33.49 34.49 35.38 39.12 48.55 48.55 48.66 51.44 54.93 54.93	37.90 38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60 50.60		0.25 0 0.81 0.06 0.91 0.32 0 0 0.68	51.00 29 WB 52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	34.49 35.38 39.12 48.55 48.55 48.66 51.44 54.93 54.93	38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60 50.60		0.25 0 0.81 0.06 0.91 0.32 0 0 0.68	52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	0.180 0.160 0.675 1.700 0.000 0.020 0.500 0.630	34.49 35.38 39.12 48.55 48.55 48.66 51.44 54.93 54.93	38.60 39.30 41.80 47.30 47.30 47.40 48.40 50.60 50.60		0 0.81 0.06 0.91 0.32 0 0 0 0.68	52.82 52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	0.160 0.675 1.700 0.000 0.020 0.500 0.630	35.38 39.12 48.55 48.55 48.66 51.44 54.93 54.93	39.30 41.80 47.30 47.30 47.40 48.40 50.60		0 0.81 0.06 0.91 0.32 0 0 0 0.68	52.82 58.70 59.13 65.74 68.06 68.06 68.06
0.9 0.31 0.12	0.675 1.700 0.000 0.020 0.500 0.630	39.12 48.55 48.66 51.44 54.93 54.93	41.80 47.30 47.30 47.40 48.40 50.60		0.81 0.06 0.91 0.32 0 0 0 0.68	58.70 59.13 65.74 68.06 68.06 68.06
0.31 0.12	1.700 0.000 0.020 0.500 0.630	48.55 48.55 48.66 51.44 54.93 54.93	47.30 47.30 47.40 48.40 50.60		0.06 0.91 0.32 0 0 0 0.68	59.13 65.74 68.06 68.06 68.06
0.31 0.12	0.000 0.020 0.500 0.630	48.55 48.66 51.44 54.93 54.93	47.30 47.40 48.40 50.60		0.91 0.32 0 0 0.68	65.74 68.06 68.06 68.06
0.12	0.020 0.500 0.630	48.66 51.44 54.93 54.93	47.40 48.40 50.60 50.60		0.32 0 0 0.68	68.06 68.06 68.06
	0.500 0.630	51.44 54.93 54.93	48.40 50.60 50.60		0 0 0.68	68.06 68.06
	0.630	54.93 54.93	50.60 50.60		0	68.06
	0.000	54.93	50.60		0.68	
		54.93	50.60			73.00
		04.00	00.00			73.00 45 %RH
STANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	1	<b>TEMPERATURE</b>
		22.87	28.80			41.00 36 WB
					0.25	
	0.180	23.73	28.70		0	43.39
	0.160	24.49	30.30		0	43.39
0.9	0.675	27.69	33.20		0.81	51.15
	1.700	35.77	39.50		0.06	51.72
0.31	0.000	35.77	39.50		0.91	60.43
0.12	0.020	35.86	39.60		0.32	63.49
	0.500	38.24	41.20		0	63.49
	0.630	41.23	43.10		0	63.49
					0.68	70.00
		41.23	43.10			70.00 37.5 %RH
STANCE/IN	RESISTANCE	MOISTURE RATIO	DEW POINT	R	1	FEMPERATURE
		16.61	22.10			33.00 29 WB
		1			0.25	
	0.180	17.27	22.80		0	35.89
	0.160	17.85	23.50		0	35.89
0.9	0.675	20.32	26.30		0.81	45.24
	1.700	26.52	32.20		0.06	45.94
0.31	0.000	26.52	32.20		0.91	56.45
0.12	0.020	26.59	32.30		0.32	60.15
	0.500	28.42	33.90		0	60.15
	0.630	30.72	35.80		0	60.15
					0.68	68.00
			25 90			68 00 30 %RH
	0.9 0.31 0.12 STANCE/IN 0.9 0.31 0.12	STANCE/IN         RESISTANCE           0.180         0.160           0.9         0.675           0.31         0.000           0.12         0.020           0.630         0.630           STANCE/IN         RESISTANCE           0.180         0.160           0.9         0.675           1.700         0.630	STANCE/IN         RESISTANCE         MOISTURE RATIO 22.87           0.180         23.73           0.180         23.73           0.180         23.73           0.9         0.675           1.700         35.77           0.31         0.000           0.12         0.020           0.630         41.23           41.23         41.23           STANCE/IN         RESISTANCE         MOISTURE RATIO 16.61           0.180         17.27           0.160         17.85           0.9         0.675         20.32           1.700         26.52           0.31         0.000         26.52           0.31         0.000         26.52           0.31         0.000         26.52           0.31         0.000         26.52           0.31         0.000         26.52           0.500         28.42         0.630           0.630         30.72         20.72	STANCE/IN         RESISTANCE         MOISTURE RATIO 22.87         DEW POINT 28.80           0.180         23.73         28.70           0.9         0.675         27.69         33.20           0.170         35.77         39.50         39.60           0.12         0.020         35.86         39.60           0.630         41.23         43.10           41.23         43.10           41.23         43.10           STANCE/IN         RESISTANCE         MOISTURE RATIO 16.61         DEW POINT 22.10           0.180         17.27         22.80         3.50           0.160         17.27         22.80         3.20           0.160         17.27         22.80         3.20           0.160         17.25         23.50         3.20           0.31         0.000         26.52         32.20           0.31         0.000         26.52         32.20           0.12         0.630         24.42         3.390           0.630         30.72         35.80	STANCE/IN         RESISTANCE         MOISTURE RATIO 22.87         DEW POINT 28.80         R           0.180         23.73         28.70         28.80         28.70           0.180         23.73         28.70         28.80         28.70           0.9         0.675         27.69         33.20         33.20           0.11         0.000         35.77         39.50         39.60           0.12         0.020         35.86         39.60         34.10           0.12         0.0500         38.24         41.20         41.23         43.10           41.23         43.10         41.23         43.10         8         16.61         22.10         7         28.80         7         16.61         22.10         7         16.61         22.10         7         16.61         22.10         7         16.61         22.10         7         16.75         23.50         7         17.70         26.52         32.20         1.700         26.52         32.20         1.700         26.52         32.20         1.700         26.52         32.20         1.700         26.52         32.20         1.700         26.52         32.20         1.700         26.52         32.20         1.700	STANCE/IN         RESISTANCE         MOISTURE RATIO         DEW POINT         R         1           22.87         28.80         0.25           0.160         23.73         28.70         0           0.160         24.49         30.30         0           0.9         0.675         27.69         33.20         0.81           1.700         35.77         39.50         0.060           0.31         0.0020         35.86         39.60         0.32           0.630         41.23         43.10         0         0           0.630         41.23         43.10         0         0.68           41.23         43.10         0         0         0.68           0.160         17.27         22.80         0         0           0.160         17.27         22.80         0         0           0.9         0.675         20.32         26.30         0.81           0.700         26.52         32.20         0.91           0.160         17.85         23.20         0.91           0.160         17.27         22.80         0           0.160         17.85         32.30         0.32

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#### WINDOW 1 JANUARY

R		TEMP	DEW POINT
		29.00	18.10
(	0.17	36.29	
(	0.06	38.86	35.80
(	0.68	68.00	
		68.00	35.80 30% RH
	R	R 0.17 0.06 0.68	R TEMP 29.00 0.17 36.29 0.06 38.86 0.68 68.00 68.00

#### WINDOW 1 FEBRUARY

LAYER	R		TEMP	DEW POIN	г
OUTSIDE AIR			27.00	2.60	
EXTERIOR CONDITION	(	0.17	35.03		
GLASS	(	0.06	37.87	44.90	XX
INTERIOR BOUNDARY	(	0.68	70.00		
INSIDE AIR			70.00	44.90	37.5% RH

#### WINDOW 1 MARCH

LAYER	R	TEMP	DEW POINT
OUTSIDE AIR		30.00	10.80
EXTERIOR CONDITION	0.1	38.03	3
GLASS	0.0	40.87	50.60 XX
INTERIOR BOUNDARY	0.6	58 73.00	)
INSIDE AIR		73.00	50.60 45% RH

#### WINDOW 1 APRIL

LAYER	R	TEMP	DEW POINT
OUTSIDE AIR		74.00	69.90
EXTERIOR CONDITION	0.17	74.19	
GLASS	0.06	74.25	55.30
INTERIOR BOUNDARY	0.68	75.00	
INSIDE AIR		75.00	55.30 50% RH

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WINDOW 1 MAY						
LAYER	R	т	EMP	DEW POINT		
OUTSIDE AIR			83.00	72.90		
EXTERIOR CONDITION		0.17	81.51	EE 20		
INTERIOR BOUNDARY		0.68	75.00	33.30		
INSIDE AIR		0.00	75.00	55.30 50% RH		
WINDOW 1 JUNE						
LAYER	R	т	EMP	DEW POINT		
OUTSIDE AIR		0.17	83.00	75.90		
GLASS		0.17	80.98	55 30		
INTERIOR BOUNDARY		0.68	75.00	)		
INSIDE AIR			75.00	55.30 50% RH		

#### WINDOW 1 JULY

LAYER	R		TEMP	DEW POINT
OUTSIDE AIR			85.00	76.90
EXTERIOR CONDITION		0.17	83.13	
GLASS		0.06	82.47	55.30
INTERIOR BOUNDARY		0.68	75.00	
INSIDE AIR			75.00	55.30 50% RH

#### WINDOW 1 AUGUST

LAYER	R	TEMP	DEW POINT
OUTSIDE AIR		86.00	77.90
EXTERIOR CONDITION	0.1	7 83.95	5
GLASS	0.0	6 83.22	55.30
INTERIOR BOUNDARY	0.6	8 75.00	)
INSIDE AIR		75.00	55.30 50% RH

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#### WINDOW 1 SEPTEMBER

LAYER	R		TEMP	DEW POINT
OUTSIDE AIR			83.00	77.50
EXTERIOR CONDITION		0.17	81.51	
GLASS		0.06	80.98	55.30
INTERIOR BOUNDARY		0.68	75.00	
INSIDE AIR			75.00	55.30 50% RH

#### WINDOW 1 OCTOBER

LAYER	R		TEMP	DEW POINT
OUTSIDE AIR			51.00	37.90
EXTERIOR CONDITION		0.17	55.11	
GLASS		0.06	56.56	50.60
INTERIOR BOUNDARY		0.68	73.00	
INSIDE AIR			73.00	50.60 45% RH

#### WINDOW 1 NOVEMBER

LAYER	R		TEMP	DEW POINT
OUTSIDE AIR			41.00	28.80
EXTERIOR CONDITION		0.17	46.42	
GLASS		0.06	48.33	43.10
INTERIOR BOUNDARY		0.68	70.00	
INSIDE AIR			70.00	43.10 37% RH

#### WINDOW 1 DECEMBER

LAYER	R		TEMP	DEW POINT
OUTSIDE AIR			33.00	22.10
EXTERIOR CONDITION		0.17	39.54	
GLASS		0.06	41.85	35.80
INTERIOR BOUNDARY		0.68	68.00	
INSIDE AIR			68.00	35.80 30% RH

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### **APPENDIX H**

# **ARTIFACT INVENTORY**

HISTORIC STRUCTURE REPORT

**APPENDIX H** 

<u>Test</u> Unit Level	Feature	Provenience	Artifact Description	<u>Count</u>	<u>Weight</u> (g)
1		Base of Chimney, South wall of unit	Tar	2	1100
1		Profile Cleaning, west	Straight pin	1	
1		Profile Cleaning, west	Pearlware, miscellaneous colors u/g stippled tr. Pr.	1	
			SUBTOTAL	2	0
1	10	start base of level 5	Unidentified brick	2	11 7
1	10	start base of level 5	Window glass	5	0
1	10	start base of level 5	Unidentified nail	2	0
1	10	start base of level 5	Mortar	3	1.1
1	10	start base of level 5	Animal bone	5	1.6
1	10	start base of level 5	Shell	8	1.6
			SUBTOTAL	23	16.00
1	11	Buildore Tropph	Unidentified brick	6	11 0
1	11	Builders Trench	Window globa	50	11.0
1	11	Dulluers Trench	Window glass	10	
1	11	Builders Trench	Unidentined hair	13	111
1	11	Builders Trench	Plaster	9	14.1
1	11	Builders Trench	Mortar Dereclain blue bin	29	180.6
1	11	Builders Trench	Porceiain, blue n.p.	1	
1	11	Builders Trench	Porceiain	1	
1	11	Builders Trench	Stoneware, plain gray sait glazed	1	
1	11	Builders Trench	Stoneware, uid salt glazed	1	
1	11	Builders Trench	Creamware	6	
1	11	Builders Trench	Creamware	1	
1	11	Builders Trench	Pearlware	2	
1	11	Builders Trench	Pearlware, scalloped rim impressed curved edgeware	2	
1	11	Builders Trench	Polychrome painted, early	3	
1	11	Builders Trench	Pearlware, dark blue	1	
			underglaze transfer print		
1	11	Builders Trench	Pearlware, dark blue	1	
1	11	Builders Trench	underglaze transfer print Pearlware, dark blue underglaze transfer print	1	
1	11	Builders Trench	Simple stamped sherd	1	
1	11	Builders Trench	Uid stamped sherd	1	
1	11	Builders Trench	Animal hone	11	15 4
1	11	Builders Trench	Ovster shell	15	51 7
'				10	01.7

<u>Test</u> Unit Level	Feature	Provenience	Artifact Description	<u>Count</u>	<u>Weight</u> (a)
1	11	Builders Trench	Shell	1	3.2
1	11	Builders Trench	Bottle glass	7	
1	11	Builders Trench	Bottle glass	5	
1	11	Builders Trench	Bottle base	1	
1	11	Builders Trench	Charcoal	7	0.3
1	11	Builders Trench	Uid iron/steel	2	
1	11	Builders Trench	Uid slate	: 1	
1	11	Builders Trench	Lead ball	1	
1	11	Builders Trench	Debitage	3	1.8
			SUBTOTAL	184	278.9
1	9		Unidentified brick	8	240.3
1	9		Window glass	9	
1	9		Unidentified nail	4	
1	9		Mortar	· 126	1300.00
1	9		Creamware	• 1	
1	9		Pearlware	• 1	
1	9		Pearlware, dark blue	1	
	•		underglaze transfer print		
1	9		Uid stamped sherd	1	
1	9		Uid Indian sherd	1	
1	9		Oyster shell		2.00
1	9		Shell	1	0.30
1	9		Bottle glass	5 1	
1	9		Bottle glass	3	
1	9		Charcoal	3	1.30
			SUBTOTAL	161	1543.90
1 1	Ş	Special Sample, black coating on bricks in	Tar	· 1	109.6
1 2	2	Interface 5-7 cm below top of brick	Tar	<sup>.</sup> 1	6.3
1 2		floor Interface 5-7 cm below top of brick	Window glass	26	
1 2	!	floor Interface 5-7 cm below top of brick	Unidentified nail	3	
1 2	!	TIOOr Interface 5-7 cm	Plaster	· 2	23.5

1	<u>Fest</u> Unit Lev	<u>el</u>	Feature Provenience	Artif	act Description	<u>Count</u>	<u>Weight</u> (g)
_			below top of b	ck			
	1	2	fl Interface 5-7 below top of b	ior cm .ck	Morta	r 12	95.7
	1	2	ti Interface 5-7 below top of b	or ck	Uid stamped shere	1 1	
	1	2	Interface 5-7 below top of b	ck	Animal bone	e 0	5.8
	1	2	Interface 5-7 below top of b fl	ck or	Fish scales	s 9	0.1
	1	2	Interface 5-7 below top of b fl	ck or	Egg shel	l 1	0.1
	1	2	Interface 5-7 below top of b fl	ck or	Other seed	2	0.1
	1	2	Interface 5-7 below top of b fl	ck or	Bottle glass	s 1	
	1	2	Interface 5-7 below top of b fl	ck or	Bottle base	e 1	
	1	2	Interface 5-7	m	Wood	10	1.3
	1	2	Interface 5-7 below top of b	or ck	Uid iron/stee	I 1	
	1	2	Interface 5-7 below top of b	ck	Lead bal	l 1	
	1	2	Interface 5-7 below top of b fl	ck por	Uid kaolin pipe sterr	n 1	
					SUBTOTAL	. 71	132.9
	1 1 1	3 3 3	7-15 cr 7-15 cmbs 7-15 cmbs	bs	Unidentified brick Window glass Unidentified nai	x 33 s 48 l 25	1400.00
	1	3	7-15 cmbs		Plaster	r 4	8.7 0 272 0
	1	3	7-15 cmbs	Sł	nell button, 0.26-0.50	) 1	573.9

<u>Test</u> Unit	Level	Feature I	Provenience	Artifact Description	<u>Count</u>	<u>Weight</u> (a)
<u>o</u>	<u></u>	<u>r outuro</u>		(med.)		<u>197</u>
1	3	7-15	cmbs	Brass button, other	1	
1	3	7-15	cmbs	Straight pin	2	
1	3	7-15	cmbs	Creamware	5	
1	3	7-15	cmbs	Pearlware	2	
1	3	7-15	cmbs	Pearlware, underglaze blue	1	
				h.p.		
1	3	7-15	cmbs	Pearlware, underglaze blue	1	
				h.p.		
1	3	7-15	cmbs	Redware, plain clear glazed	1	
1	3	7-15	cmbs	Pearlware, dark blue	1	
				underglaze transfer print		
1	3	7-15	cmbs	Uid stamped sherd	4	
1	3	7-15	cmbs	Animal bone	<u>0</u>	
1	3	7-15	cmbs	Fish scales	6	0.10
1	3	7-15	cmbs	Egg shell	5	0.30
1	3	7-15	cmbs	Pecan	1	0.20
1	3	7-15	cmbs	Other seed	1	0.10
1	3	7-15	cmbs	Bottle glass	1	
1	3	7-15	cmbs	Bottle glass	1	
1	3	7-15	cmbs	Charcoal	8	0.60
1	3	7-15	cmbs	Wood	4	3.80
1	3	7-15	cmbs	Wood	2	0.50
1	3	7-15	cmbs	Uid iron/steel	1	
1	3	7-15	cmbs	Uid metal, non iron/steel	1	
1	3	7-15	cmbs	Uid slate	1	
1	3	7-15	cmbs	Debitage	3	
1	3	7-15	cmbs	Possible cultural material-	1	
4	2	7 4 5	amha		4	40.40
1	3	7-15	CINDS	Possible cultural material-	1	46.10
				SUBTOTAL	198	1834.30
1	4		15-20 cmbs, 5cm leve	n Unidentified brick	37	1450.00
1	4		15-20 cmbs, 5cm	n Tar 91	1	0.20
1	4		15-20 cmbs, 5cm	n Window glass	30	
1	4		15-20 cmbs, 5cm	n Unidentified nail	18	
1	4		15-20 cmbs, 5cm	n Plaster	3	0.40
1	4		15-20 cmbs, 5cn	n Mortar	26	356.20

<u>Test</u>	امريم ا	Feature	Prove	nience		Artifact Description	<u>Count</u>	Weight (a)
<u>om</u>		<u>r cature</u>			level			<u>(9)</u>
1	4		15-20	cmbs,	5cm level	Porcelair	า 1	
1	4		15-20	cmbs,	5cm	Stoneware, plain gray sal	t 1	
1	4		15-20	cmbs,	5cmSt	oneware, brown salt glazed	d 1	
1	4		15-20	cmbs,	5cm	Creamware	e 4	
1	4		15-20	cmbs,	5cm	Creamware	e 1	
1	4		15-20	cmbs,	5cm	Pearlware	e 1	
1	4		15-20	cmbs,	5cm	Pearlware, dark blue	e 1	
1	4		15-20	cmbs,	5cm	Simple stamped sherd, rin	เ า 7	
1	4		15-20	cmbs,	5cm	Animal bone	9	4.10
1	4		15-20	cmbs,	5cm	Fish scales	s 5	0.10
1	4		15-20	cmbs,	5cm	Oyster she	I 3	7.00
1	4		15-20	cmbs,	5cm	Clam she	I 2	24.10
1	4		15-20	cmbs,	5cm	Egg shel	I 4	0.10
1	4		15-20	cmbs,	5cm	Bottle glass	s 6	
1	4		15-20	cmbs,	5cm	Bottle base	e 2	
1	4		15-20	cmbs,	5cm	Charcoa	I 3	0.70
1	4		15-20	cmbs,	5cm	Wood	k	1.10
1	4		15-20	cmbs,	5cm	Debitage	e 2	
1	4		15-20	cmbs,	5cm	Possible cultural material	- 1	
1	4		15-20	cmbs,	5cm level	Possible cultural material lithic	- 1 c	
						SUBTOTAL	. 161	1844.00
1	5		20-25	cmbs,	5cm level	Unidentified brick	x 22	1799.7

<u>Test</u> Unit	Level	Feature	Prover	nience	Artifact Description	<u>Count</u>	<u>Weight</u> (a)
1	5	<u>. oaturo</u>	20-25	cmbs, 5cm	Window glass	3 21	191
1	5		20-25	cmbs, 5cm	Unidentified nai	l 18	
1	5		20-25	cmbs, 5cm	Plaste	r 2	3
1	5		20-25	cmbs, 5cm	Morta	r 26	453.4
1	5		20-25	cmbs, 5cm	Straight pir	า 1	
1	5		20-25	cmbs, 5cm	Creamware	<b>)</b> 2	
1	5		20-25	cmbs, 5cm	Creamware	÷ 1	
1	5		20-25	cmbs, 5cm	Creamware	<b>)</b> 3	
1	5		20-25	cmbs, 5cm	Pearlware, underglazed blue edgeware	) -	
1	5		20-25	cmbs, 5cm	Redware, Jackfield	ý 1	
1	5		20-25	cmbs, 5cm	Polychrome painted, early	/ 1	
1	5		20-25	cmbs, 5cm	Pearlware, handpainted (No	t 1	
1	5		20-25	cmbs, 5cm level	Pearlware, dark blue underglaze transfer prin	ý 1 t	
1	5		20-25	cmbs, 5cm level	Simple stamped shere	1 2	
1	5		20-25	cmbs, 5cm level	Cordmarked shere	1 1	
1	5		20-25	cmbs, 5cm level	Animal bone	<b>)</b> 10	4
1	5		20-25	cmbs, 5cm level	Fish scales	3	0.1
1	5		20-25	cmbs, 5cm level	Oyster shel	I 5	5.8
1	5		20-25	cmbs, 5cm level	Bottle glass	\$5	
1	5		20-25	cmbs, 5cm level	Bottle glass	s 5	
1	5		20-25	cmbs, 5cm level	Charcoa	l 11	1
1	5		20-25	cmbs, 5cm level	Uid brass	s 1	
1	5		20-25	cmbs, 5cm level	Debitage	<del>)</del> 2	

<u>Test</u> <u>Unit</u> 1	Level 5	<u>Feature</u>	<u>Provenience</u> 20-25 cmbs, 5cm leve	Artifact Description Possible cultural material I lithic	<u>Count</u> - 1	<u>Weight</u> (g)
				SUBTOTAL	. 147	2267
1	6		25-30 cmbs, 5cm	n Unidentified brick	<b>6</b>	464.60
1	6		25-30 cmbs, 5cm	Window glass	3 23	
1	6		25-30 cmbs, 5cm	u Unidentified nai	l 10	
1	6		25-30 cmbs, 5cm	n Mortai	r 42	1004.50
1	6		25-30 cmbs, 5cm	Stoneware, uid salt glazed	1 I	
1	6		25-30 cmbs, 5cm	Stoneware, uid domestic	; 1	
1	6		25-30 cmbs, 5cm	n Creamware	» 1	
1	6		25-30 cmbs, 5cm	Creamware	<del>)</del> 4	
1	6		25-30 cmbs, 5cm leve	n Creamware	ə 1	
1	6		25-30 cmbs, 5cm leve	n Pearlware I	<b>;</b> 2	
1	6		25-30 cmbs, 5cm leve	<ul> <li>Creamware, hand painted</li> </ul>	1 1	
1	6		25-30 cmbs, 5cm leve	n Pearlware, dark blue I underglaze transfer prim	ə 1 t	
1	6		25-30 cmbs, 5cm leve	n Uid decorated shere	1 1	
1	6		25-30 cmbs, 5cm leve	n Net-impressed sherc	1 3	
1	6		25-30 cmbs, 5cm leve	n Animal bone I	÷ 7	0.80
1	6		25-30 cmbs, 5cm leve	n Shel I	I 8	30.40
1	6		25-30 cmbs, 5cm leve	n Bottle glass I	3	
1	6		25-30 cmbs, 5cm leve	n Bottle base	<b>)</b> 1	
1	6		25-30 cmbs, 5cm	n Charcoa I	I 8	0.10
1	6		25-30 cmbs, 5cm	n Uid iron/stee	I 1	
1	6		25-30 cmbs, 5cm	n French (honey) chert gunflin	t 1	

<u>Test</u> Unit	Level	Feature P	rovenience	Artifact Description	<u>Count</u>	<u>Weight</u> (q)
1	6		level 25-30 cmbs, 5cm	fragment Uid kaolin pipe stem	1	—
1	6	2	25-30 cmbs, 5cm level	Debitage	5	
				SUBTOTAL	132	1500.40
1	7	Matrix Trch	c btn builder's	Unidentified brick	4	1.40
1	7	M	atrix btn builder's	Window glass	4	
1	7	Matrix Trob	btn builder's	Unidentified nail	2	
1	7	Matrix	th builder's	Plaster	4	3.90
1	7	Matrix	c btn builder's	Mortar	11	10.40
1	7	Matrix	c btn builder's	Upholstery tack, brass	1	
1	7	Matrix	th builder's	Creamware	2	
1	7	Matrix	th builder's	Pearlware, dark blue	1	
1	7	Matrix	th builder's	Uid decorated sherd	1	
1	7	Matrix	th builder's	Fiber tempered sherd	2	
1	7	Matrix	th builder's	Uid Indian sherd	2	
1	7	Matrix	th builder's	Oyster shell	25	14.70
1	7	Matrix	th builder's	Bottle glass	1	
1	7	Matrix	th builder's	Charcoal	17	6.30
1	7	Matrix	th builder's	Uid worked bone	1	0.10
1	7	Matrix	th builder's	Pencil, slate	1	
1	7	Matrix	c btn builder's	Debitage	1	
1	7	Trch Matrix Trch	th builder's	Debitage	3	0.50
				SUBTOTAL	83	37.30

<u>Test</u> <u>Unit</u>	Level	Feature Provenience	Artifact Description	<u>Count</u>	<u>Weight</u> (g)
2	2	Matrix btn builder's	Unidentified brick	2	12.00
2	2	Matrix btn builder's Trch	Window glass	1	
2	2	Matrix btn builder's Trch	Mortar	3	27.40
2	2	Matrix btn builder's Trch	Oyster shell	3	6.50
2	2		Other seed	1	0.10
2	2		Bottle glass	1	
2	2		Charcoal	1	0.10
2	2		Wood	2	0.40
1			SUBTOTAL	14	46.50
2	3	5cm lovel	Unidentified brick	30	1056 20
2	3	Som level		32	1050.20
2	3	Som level		2	
2	3	Scm level	Unidentined hair	49	0.0
2	3	5cm level	Plaster	2	2.2
2	3	5cm level	Mortar	31	426.1
2	3	5cm level	Plain Indian sherd	1	
2	3	5cm level	Cordmarked sherd	1	
2	3	5cm level	Animal bone	1	0.3
2	3	5cm level	Fish scales	1	0.1
2	3	5cm level	Oyster shell	25	115.3
2	3	5cm level	Shell	1	8.1
2	3	5cm level	Other seed	21	1.1
2	3	5cm level	Other seed	3	
2	3	5cm level	Bottle glass	2	
2	3	5cm level	Charcoal	41	17.1
2	3	5cm level	Wood		1.4
2	3	5cm level	Wood	67	117.8
2	3	5cm level	Debitage	1	0.3
			SUBTOTAL	213	1746
		East Wall at Window,	Unidentified brick	11	477.7
		East Wall at Window,	Mortar	2	6
		East Wall at Window,	Oyster shell	15	53.5
		East Wall at Window,	Unidentified nail	3	

HISTORIC STRUCTURE REPORT

**APPENDIX H** 

## **APPENDIX I**

# **ARTIFACT IMAGES**

HISTORIC STRUCTURE REPORT



Faunal Remains

HISTORIC STRUCTURE REPORT



Seeds and Wood Shavings

HISTORIC STRUCTURE REPORT



Plaster and Glass

HISTORIC STRUCTURE REPORT



Personal Items

HISTORIC STRUCTURE REPORT



Ceramics and Bottle Glass



Native American Pottery and Chipped Stone

HISTORIC STRUCTURE REPORT



Pearlware Plate and Maker's Mark



HISTORIC STRUCTURE REPORT

### Key to Artifact Images

### **Faunal Remains:**

All from Test Unit1, Level 3

- a. Animal Bone
- b. Fish Scale
- c. American Cockroach Wing
- d. Egg Shell

### Seeds and Wood Shavings

All FromTest Unit 2, Level 3

- a. Peanut Shell
- b. Other Seed
- c. Wood Shavings

### **Plaster and Glass:**

- a. Painted Plaster Test Unit 1, Level 2
- b. Window Glass Test Unit 1, Level 3

#### **Personal Items:**

a. French Chert Gunflint Fragment Test Unit 1, Level 6
b. Lead ball Test Unit 1, Feature 11, Builder's Trench
c. Brass Upholstery Tack Test Unit 1, Level 7
d. Slate Pencil Test Unit 1, Level 7
e. Kaolin Tobacco Pipe Stem, molded Test Unit 1, Level 2
f. Kaolin Tobacco Pipe Stem Test Unit 1, Level 6
g. Straight Pins Test Unit 1, Level 3
h. Brass Button
Test Unit 1, Level 3 i. Shell Button Test Unit 1, Level 3

### **Ceramics and Bottle Glass:**

- a. Redware, plain clear glazed Test Unit 1, Level 3
- b. Stoneware, brown salt glazed Test Unit 1, Level 4
- c. Stoneware, plain gray salt glazed Test Unit 1, Feature 11, Builder's Trench
- d. Porcelain, Blue Handpainted Test Unit 1, Feature 11, Builder's Trenche. Polychrome Handpainted Creamware
- Test Unit 1, Level 6
- f. Pearlware, Scalloped Rim Impressed Curved Edgeware Test Unit 1, Feature 11, Builder's Trench
- g. Pearlware, Dark Blue Transfer Printed, Rim Test Unit 1, Feature 11, Builder's Trench
- h. Pearlware, Dark Blue Transfer Printed Body Test Unit 1, Feature 11, Builder's Trench
- i. Olive Green Bottle Glass Test Unit 1, Level 4
- j. Olive Green Bottle Glass, Base Test Unit 1, Level 6

## Native American Pottery and Chipped Stone:

- a. Cordmarked Aboriginal Ceramic Test Unit 2, Level 3
- b. Net Impressed Aboriginal Ceramic Test Unit 1, Level 6
- c. Simple Stamped Aboriginal Ceramic Test Unit 1, Level 4
- d. Check Stamped Aboriginal Ceramic LAS TU
- e. Coastal Plains Chert Debitage Test Unit 1, Level 3

### **Pearlware Plate and Makers Mark:**

Ash Pit, excavated 1975

## **APPENDIX J**

# LIST OF PLANT MATERIALS APPROPRIATE TO THE ANTEBELLUM PERIOD

HISTORIC STRUCTURE REPORT

**APPENDIX J** 

There is a variety of plant materials that would have been available to inhabitants of coastal Georgia during the late antebellum period. Of the plants listed below, some are currently established in the landscape at Orange Hall, and others have been identified in historic photographs of the property. The list that follows is a non-comprehensive list of plant materials that would be appropriate within an overall landscape design at Orange Hall. *An excellent resource for more information regarding antebellum plants is Gardens and Historic Plants of the Antebellum South by James R. Cothran.* 

<u>Trees &amp; Shrubs</u>	Flowers
Adam's Needle / Yucca	Ageratum
Azalea	Asters
Bay	Calendula
Camellia	Dianthus
Caper	Hollyhock
Camphor Tree	Larkspur
Cedar / Eastern Red Cedar	Marigold
Chinaberry Tree	Morning Glory
Citrus Trees – Orange, Lemon, Lime	Petunia
Coffee	Phlox
Common Fig	Рорру
Clove Tree	Snapdragon
Crape Myrtles	Verbena
Date Palm	Violet
Dogwood	Zinnia
Dwarf Boxwood	
Fruit Trees – Apple, Plum, Pear, Peach	Kitchen Garden
Live Oak Tree	
Magnolia	Basil
Oleander	Bean
Olive Tree	Cabbage
Palm	Carrot
Palmetto	Chive
Quince	Corn
Redbud Tree	Fennel
Rose	Ginger
Sago Palm	Grape
Sour Orange Tree	Lettuce
Tea Olive / Sweet Olive Tree	Melon
Water Oak Tree	Pea
Yaupon Holly	Potato
	Rosemary
	Sage
	Squash
	Tarragon
	Thyme

# **APPENDIX K**

# FIRE MARSHALL LETTER AND RESPONSE

HISTORIC STRUCTURE REPORT

### ST. MARYS FIRE DEPARTMENT MEMORANDUM

TO:	MR. BILL SHANAHAN, CITY MANAGER
FROM:	ROBBY HORTON, FIRE CHIEF
SUBJECT:	ORANGE HALL
DATE:	12/30/2004
CC:	FILE

I have been reviewing the situation regarding the fire and life safety problems at Orange Hall and would like to identify several problems. They are as follows:

- The Fire Department was recently called to Orange Hall for an electrical problem. Upon arrival, it was found that the light switches had been replaced with dimmer switches. The dimmer switches were producing excessive heat and making an arching noise. The dimmer switch was secured and the on duty employee was instructed not to use the light until the switch was replaced. (While we are not sure how old the electrical wiring is in the building, we believe that it is not of enough amperage to support current electrical components (i.e. light dimmers)).
- While discussing the situation with the on duty employee, she briefed us that Orange Hall had other electrical problems. I.e. She had been instructed not to use the chandelier on the second floor because when the switch was turned on sparks flew from the fixture. (The bulbs have since been removed from the fixture.)
- The on duty employee also stated they had not used lights on the Christmas Trees, this year, because when they were plugged them in sparks came from the receptacles.

The above problems are considered indicators of sever electrical problems. In addition, based on the type of construction used to build Orange Hall this problem is amplified. Orange Hall is a balloon type construction, which means that the main support walls and exterior walls are open from the bottom to the attic space. These openings will serve, as chimneys if a fire were to get into a wall. In addition, the building was constructed out of heart pine that becomes Fat Lighter. Therefore, to put it simply the walls of Orange Hall are Fat Lighter chimneys. With this in mind, you can see the condition of the electrical system is critical to the well being of Orange Hall.

While conducting a walk through of Orange Hall, several other problems were identified. These problems are described below:

- Many extension cords are being used to run power to electronic equipment in other rooms. This is considered a fire hazard according to the Fire Prevention Code.
- The on duty employee informed us the lighting to the fountain was also "fried" when Cumberland Harbor held their anniversary event.
- The kitchen area has a commercial hood over the commercial stove that is used on a regular bases. The problem is that there is no fire suppression system in the hood system. If this were a new construction, the City of St. Marys would not have permitted a Certificate of Occupancy.

HISTORIC STRUCTURE REPORT

- The hood, in the kitchen, is wrapped with pine shingles. The Fire Code states that there is not suppose to be any combustible materials within 18 inches of the hood.
- The walls of the kitchen are covered with pine wallboard. Due to the use of this area, the walls should be of a more fire resistive material. (They can also be covered with fire resistive coating that allows the natural wood to show through.)
- The basement is used as a place of assembly. We have some real concerns with ensuring that the floor is not a trip hazard for the elderly.
- There are rooms being used for storage purposes. We are not sure if this is permitted, as we were not able to enter these areas to see what was being stored. (Due to the amount of storage items within these rooms.)

We understand there is some critical tourism events coming up in the near future and believe the following recommendations may help:

- 1) Cease all assembly type events inside the actual structure until completion of necessary repairs.
- 2) The house can still be used as a museum allowing its daily tours to continue.
- Begin a total evaluation of the entire structure as outlined in the National Fire Protection Association Standard 914 "Code for Fire Protection of Historic Structures." (This standard provides a guideline for review of Historic Structures)
- 4) Close the Kitchen until corrections are made to the Hood system and to the wall coverings.
- 5) The use of electrical equipment should be held to a minimum until the Electrical system can be completely evaluated.

Orange Hall is the City of St. Marys show piece and while we want to maintain the historic value of this building, if a fire were to occur in Orange Hall, we do not believe that the St. Marys Fire Department or any fire department could stop it.

HISTORIC STRUCTURE REPORT

### **Creative Engineering Design**

### MEMORANDUM

CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS 2240 Camp Lane, SW Loganville, GA 30052 · 770 554-3837

TO:	Mr. Rob Yallop – Lord-Aeck-Sargent
FROM:	Robert P. Ellington, Jr., Creative Engineering Design, Inc.
	Telephone (770) 554-3837
DATE:	May 12, 2005
RE:	Orange Hall
	Fire Chief Letter dated 12/30/2005
PAGES:	3
ENCLOSURES:	None
COPIES TO:	File

Prepared by Robert P. Ellington, JR. PE, Mechanical Engineer Charles D. Booth, PE, Electrical Engineer

We have reviewed the Fire Chief's letter following our site visit and have the following observations, comments and recommendations about his list of recommendations as they pertain to mechanical, plumbing, fire protection and electrical systems:

- 1 Cease all assembly type events inside the actual structure until completion of necessary repairs.
  - a The information obtained at the site indicated that assembly operations were also stopped because there was too much wear caused by the wedding parties and other renters. The outside toilets were constructed so that the interior toilets would not have to be used by the rental parties, reducing potential water damage to the facility. The rental parties are currently required to provide their own power generator for all activities outside the facility, even though there are power outlets available on the outside of the facility. Until the entire power system is evaluated as part of the HSR, and loads determined, the renters should continue to provide their own power. Outside lighting circuits have been damaged when renters installed tents. The city public works is in the process of trouble shooting these systems and placing them back in operation. Outside lights should not be used until these circuits are repaired.
- 2 The house can still be used as a museum allowing its daily tours to continue.
  - a The house should be able to be safely used as a museum with daily tours continuing with two recommendations. First, lighting fixtures that are faulty wiring should not be used

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HISTORIC STRUCTURE REPORT

Mr. Rob Yallop May 12, 2005

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and precaution taken to prevent inadvertent use. The wiring to the fixtures should be disconnected at the switch and made secure.

- b Second, extension cords should only be used when protected by an outlet strip with circuit breaker located ahead of any outlets. Use should be limited to the office area until new outlets can be permanently installed.
- 3 Begin a total evaluation of the entire structure as outlined in the National Fire Protection Association Standard 914 "Code for Fire Protection of Historic Structures." (This standard provides a guideline for review of Historic Structures.)
  - a NFPA 914 includes fire safety requirements for the protection of historic structures and requirements for those who operate, use or visit them. The recommendations of the HSR will be consistent with the requirements. NFPA 914 also includes such items as computer-generated evaluations of the systems, precautions during construction, inspections, maintenance, special events and management operational systems, all of which are outside the scope of a HSR but should be undertaken by the owners.
- 4 Close the kitchen until corrections are made to the hood system and to the wall coverings.
  - a The existing kitchen hood does not meet current fire code requirements. There is no fire suppression system with interlocks to stop the cooking and the exhaust fan. The exhaust duct and fan are not rated to handle air with grease. There are combustible materials used in the construction too close to the cooking surfaces. In addition, the kitchen does not include a properly installed grease trap, and the plumbing system does not meet code as there is not a properly installed vent on the waste lines. The kitchen should continue to be closed until the proper repairs can be made.
- 5 The use of the electrical equipment should be held to a minimum until the electrical system can be completely evaluated.
  - a Initial evaluation of the electrical system indicates that it can be safely operated with two precautions:
    - i) Lighting fixtures that have been faulty should not be used and precautions taken to prevent inadvertent use of those fixtures.
    - ii) Extension cords be protected by an outlet strip with circuit breaker ahead of all outlets being used.

The HSR will include a section indicating immediate repairs to these conditions to make them permanent.

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HISTORIC STRUCTURE REPORT

Mr. Rob Yallop May 12, 2005

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Please call if you have any questions.

Bob Ellington 770-554-3837

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HISTORIC STRUCTURE REPORT

# **APPENDIX L**

# **COST ESTIMATE BACK-UP**

HISTORIC STRUCTURE REPORT

APPENDIX L

## LORD AECK SARGENT

## **Orange Hall**

Total Project Budget					St.	Marys, GA
Prepared: September 7, 2005 Item				\$/GSF	Revised:	Total
Construction				\$398.67	100.0%	\$3,780,186
Equipment				\$0.00	0.0%	\$0
Furnishings & Interpreta	tion			\$52.73	13.2%	\$500,000
Communications				\$0.00	0.0%	\$0
Design, Testing & Related	l Costs			\$47.84	12.0%	\$453,622
Development Costs				\$0.00	0.0%	\$0
Other Owner's Costs	Archaeological Investigation			\$66.23 \$0.00	16.6% 6.6%	\$628,019 \$250,000
	Owner's contingency			\$0.00	10.0%	\$378,019
	Total Project Budget	9,482	GSF	\$565.47	141.84%	\$5,361,827
	Funds Available			\$0.00		\$0
	Variance			\$565.47	0.00%	\$5,361,827

Notes:

Tpb25014 00.xls\Summary

9/9/2005 @ 8:53 AM

### LORD AECK SARGENT

LORD AECK SARGENT						<b>Orange Hall</b>
Construction Budget						St. Marys, GA
Prepared: September 7, 2005					Revised	k
Item	Reference	Qty	U/M	U/C	Subtotal	Total
Selective Demolition				\$5.19	2.0%	\$49,206
Site Preparation				\$4.82	1.9%	\$45,692
Site Civil/Mechanical Utilities				\$0.79	0.3%	\$7,500
Site Electrical Utilities				\$17.67	7.0%	\$167,500
Other Site Construction				\$0.00	0.0%	\$0
Site Improvements				\$11.53	4.5%	\$109,370
Foundations				\$3.05	1.2%	\$28,940
<b>Basement Construction</b>				\$1.40	0.5%	\$13,236
Superstructure				\$13.94	5.5%	\$132,199
Exterior Enclosure				\$65.55	25.8%	\$621,569
Roofing				\$10.31	4.1%	\$97,713
Interior Construction				\$10.40	4.1%	\$98,570
Stairs				\$0.00	0.0%	\$0
Interior Finishes				\$25.19	9.9%	\$238,855
Equipment				\$0.00	0.0%	\$0
Furnishings				\$1.48	0.6%	\$13,987
Special Construction				\$0.00	0.0%	\$0
Conveying Systems				\$7.91	3.1%	\$75,000
Fire Protection Systems				\$5.68	2.2%	\$53,830
Plumbing Systems				\$2.35	0.9%	\$22,298
HVAC Systems				\$33.90	13.3%	\$321,400
Electrical Systems				\$32.96	13.0%	\$312,560
	Subtotal			\$254.11	63.74%	\$2,409,425
	General Requirements			15 00%	2 400 425	\$361.414
	Bidding & Contract Requirements			2.50%	2,770,839	\$69,271
	General Contractor's Fee			10.00%	2,840,110	\$284,011
	Inflation to Bid Day	0	MOS	0.00%	3,124,121	\$0
	Design Contingency			10.00%	3,124,121	\$312,412
	Estimating/Bidding Contingency			10.00%	3,436,533	\$343,653
	Stated Construction Cost Limitation			\$398.67	100.00%	\$3,780,186
	Construction Contingency			0.00%	3,780,186	\$0
	Owner's Contingency			0.00%	3,780,186	\$0
	Construction Budget	9.482	GSF	\$398.67	/GSF	\$3,780,186

#### Notes:

1. Items referenced as an "Allowance" are applicable to the project and included in this budget although their scope is currently undefined.

2. Items referenced as "NIC" may be applicable to the project but are not included in this budget.

3. Items referenced as "NA" are not applicable to the project and are not included in this budget.

4. Inflation, if included, is from the date of this budget to the date of the bid at a rate of 6% annually.

5. Construction budget is based on specifications and drawings dated .....

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### LORD AECK SARGENT

Construction Budget					St.	Marys, GA
Prepared: September 7, 2005					Revised:	
Item	Reference	Qty	U/M	U/C	Subtotal	Total
Selective Demolition		9482.0	gsf	0.00	\$0	\$49,206
building elements demolition	elevator demolition	400.0	sf	10.00	\$4,000	
	single door & frame B10	1.0	ea	75.00	\$75	
	basement	2973.0	gsf	6.00	\$17,838	
	first floor	2534.0	gsf	2.00	\$5,068	
	second floor	2528.0	gsf	4.00	\$10,112	
haul off debris		484.5	cy	25.00	\$12,113	
hazardous components abatement	NIC	0.0	ls	0.00	\$0	
Site Preparation		9482.0	gsf	0.00	\$0	\$45,692
subsurface investigation		0.0	ls	0.00	\$0	
site clearing	clearing & grubbing	1.0	acr	3500.00	\$3,500	
site demolition & relocation	concrete paving	1340.0	sf	3.00	\$4,020	
	brick paving	850.0	sf	3.00	\$2,550	
	fountain & concrete benches	1.0	ls	5000.00	\$5,000	
	corrective pruning	1.0	ls	3500.00	\$3,500	
	trees - large	3.0	ea	1500.00	\$4,500	
	trees - small	52.0	ea	350.00	\$18,200	
·	lawn	3372.0	sf	1.00	\$3,372	
site earthwork	site preparation / fine grading	.30.0	cy	35.00	\$1,050	
nazardous waste remediation	MC	0.0	IS	0.00	20	
Site Civil/Mechanical Utilities		9482.0	gsf	0.00	\$0	\$7,500
site water supply & distribution systems	meter relocation allowance	1.0	ls	5000.00	\$5,000	
site sanitary sewer systems		0.0	ls	0.00	\$0	
site storm sewer systems		0.0	ls	0.00	\$0	
site fuel distribution systems	meter relocation allowance	1.0	ls	2500.00	\$2,500	
site special plumbing systems		0.0	1s	0.00	\$0	
site steam distribution systems		0.0	ls	0.00	\$0	
site hydronic distribution systems		0.0	ls	0.00	\$0	
Site Electrical Utilities		9482.0	gsf	0.00	\$0	\$167,500
site electrical distribution	ug electrical service allowance	1.0	ls	150000.00	\$150,000	
	service entrance relocation allowance	1.0	ls	2500.00	\$2,500	
site lighting systems	lighting system improvements	1.0	ls	15000.00	\$15,000	
site communication & security systems		0.0	ls	0.00	\$0	
other site electrical utilities		0.0	ls	0.00	\$0	
Other Site Construction		9482.0	gsf	0.00	\$0	\$0
service tunnels		0.0	ls	0.00	\$0	
other site systems & equipment		0.0	ls	0.00	\$0	
Site Improvements		9482.0	gsf	0.00	\$0	\$109,370
roadways		0.0	sy	0.00	\$0	
parking lots		0.0	sy	0.00	\$0	
pedestrian paving	service court - brick	546.0	sf	8.00	\$4,368	
	intersecting rear yard paths - brick	1845.0	sf	8.00	\$14,760	
	paths in front yard - sand	984.0	sf	3.00	\$2,952	
12 12 12	paths - concrete	800.0	sf	5.00	\$4,000	
site development	orientation kiosk w/site maps	1.0	ea	7500.00	\$7,500	
	interpretive signs	3.0	ea	5000.00	\$15,000	
	site identification signs	2.0	ea	1500.00	\$3,000	
	Jootprinting of outbuildings	200.0	lf 16	8.00	\$1,600	
	additional picket fencing	395.0	If	60.00	\$23,700	

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HISTORIC STRUCTURE REPORT

### **APPENDIX L**

### LORD AECK SARGENT

Construction Budget					St.	Marys, GA
Prepared: September 7, 2005					Revised:	
Item	Reference	Qty	U/M	U/C	Subtotal	Total
	urns on pedestals	2.0	ea	500.00	\$1,000	
landscaping	orange trees	50.0	ea	150.00	\$7,500	
	vegetable garden	1250.0	sf	7.00	\$8,750	
	lawn - seeded	2440.0	sf	1.00	\$2,440	
	evergreen screen plantings	9.0	ea	200.00	\$1,800	
	irrigation system improvements	1.0	ls	5000.00	\$5,000	
	maintenance - grounds care program	1.0	ls	5000.00	\$5,000	
	maintenance - tree monitoring (Arborguard)	1.0	ls	1000.00	\$1,000	
Foundations		9482.0	gsf	0.00	\$0	\$28,940
standard foundations	patching allowance	1.0	ls	20000.00	\$20,000	
special foundations		0.0	sf	0.00	\$0	
slabs on grade	50% patching allowance	1788.0	sf	5.00	\$8,940	
<b>Basement Construction</b>		9482.0	gsf	0.00	\$0	\$13,236
basement excavation	excavation x5'0	138.9	су	7.50	\$1,042	
	backfill & compaction	159.7	cy	20.00	\$3,194	
basement walls	subdrainage system	250.0	lf	15.00	\$3,750	
	vertical waterproofing	1500.0	$\mathbf{sf}$	3.50	\$5,250	
Superstructure		9482.0	gsf	0.00	\$0	\$132,199
floor construction	50% porch repair & restoration	641.5	sf	10.00	\$6,415	
	elevator structural modifications	400.0	sf	30.00	\$12,000	
	30% structural repair allowance	2844.6	sf	40.00	\$113,784	
roof construction		0.0	$\mathbf{sf}$	0.00	\$0	
Exterior Enclosure		9482.0	gsf	0.00	\$0	\$621,569
exterior walls	repair & clean masonry substrate	6940.0	sf	16.00	\$111,040	
	stucco treatment	6940.0	sf	12.50	\$86,750	
	scaffolding	8373.9	sf	4.50	\$37,683	
	50% porch cornice repair & restoration	36.5	lf	30.00	\$1,095	
	50% watertable repair & restoration	74.5	lf	20.00	\$1,490	
	50% cornice repair & restoration	200.0	lf	35.00	\$7,000	
	50% stringer repair & restoration	30.5	lf	15.00	\$458	
	vapor barrier	6940.0	sf	2.00	\$13,880	
	remove & reinstall wood siding	326.0	sf	7.00	\$2,282	
	remove non-historic column base	8.0	ea	90.00	\$720	
	repair & reconstruct column base	8.0	ea	300.00	\$2,400	
	prep & paint porch cornice	73.0	lf	3.00	\$219	
	prep & paint watertable	149.0	lf	1.50	\$224	
	prep & paint cornice	400.0	lf	3.00	\$1,200	
	prep & paint stringer	61.0	lf	1.50	\$92	
	prep & paint wood siding	326.0	sf	1.00	\$326	
	prep & paint column	2624.0	sf	1.50	\$3,936	
	prep & paint window surrounds	1246.6	lf	1.50	\$1,870	
	prep & paint exterior doors & trim	5.0	ea	2500.00	\$12,500	
	prep & paint porch railing	180.0	lf	30.00	\$5,400	
avterior windows	basement 1'10"x1'0	1.0	ea	274.50	\$275	
exterior windows						

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### **APPENDIX L**

### LORD AECK SARGENT

Prepared: September 7, 2005					Revised:	
Item	Reference	Qty	U/M	U/C	Subtotal	Total
	1st floor 3'11"x7'6"	14.0	ea	4410.00	\$61,740	
	1st floor 4'3"x7'8"	4.0	ea	4889.63	\$19,559	
	1st floor transom & lites	47.0	sf	150.00	\$7,050	
	2nd floor 3'11"x7'0	14.0	ea	4116.00	\$57,624	
	2nd floor 4'1"x6'10"	4.0	ea	4179.96	\$16,720	
	2nd floor 3'7"x6'10"	1.0	ea	3667.71	\$3,668	
	2nd floor 1'8"x6'10"	2.0	ea	1710.92	\$3,422	
	2nd floor transom & lites	16.0	$\mathbf{sf}$	150.00	\$2,400	
	repair & restore basement window surrounds	264.7	lf	30.00	\$7,940	
	repair & restore 50% window surrounds	491.0	lf	30.00	\$14,730	
	remove existing wood shutters	98.0	ea	22.50	\$2,205	
	new shutters 1'4"x7'0	62.0	ea	465.50	\$28,861	
	new shutters 1'4"x7'7"	28.0	ea	504.07	\$14,114	
	new shutters 1'4"x9'4"	8.0	ea	620.45	\$4,964	
	shutter hardware	98.0	ea	175.00	\$17,150	
	paint shutters	958.8	sf	1.00	\$959	
exterior doors	new non-historic entrance	1.0	ls	25000.00	\$25,000	
Roofing		9482.0	øsf	0.00	\$0	\$97,713
roof coverings	demo existing roof	3829.0	sf	2.00	\$7.658	\$77,715
oor coverings	TCSS standing seam	3829.0	sf	20.00	\$76,580	
	integral outler	132.0	lf	50.00	\$6,600	
	downspouts	275.0	lf	25.00	\$6,875	
roof openings	downspours	0.0	sf	0.00	\$0	
Interior Construction	L	2072.0	aaf	12.00	825 (7)	£00 570
Interior Construction	basement	2975.0	gsi	12.00	\$33,070	398,570
	first floor	2534.0	gst	5.00	\$12,670	
	secona Jioor	2528.0	gsr	8.00	\$20,224	
nterior partitions	land and the day	0.0	SI	0.00	\$0	
nterior doors	hardware replication	30.0	ea	1000.00	\$30,000	
interior specialties		0.0	ea	0.00	\$0	
Stairs		9482.0	gsf	0.00	\$0	\$0
stair construction		0.0	flt	0.00	\$0	
stair finishes		0.0	flt	0.00	\$0	
Interior Finishes	basement	2973.0	gsf	25.00	\$74,325	\$238,855
	first floor	2534.0	gsf	35.00	\$88,690	
	second floor	2528.0	gsf	30.00	\$75,840	
interior floor finishes		0.0	sf	0.00	\$0	
nterior wall finishes		0.0	sf	0.00	\$0	
interior ceiling finishes		0.0	sf	0.00	\$0	
Equipment		9482.0	gsf	0.00	\$0	\$0
commercial equipment		0.0	ls	0.00	\$0	
institutional equipment		0.0	ls	0.00	\$0	
vehicular equipment		0.0	ls	0.00	\$0	
other equipment		0.0	ls	0.00	\$0	
Furnishings		9482.0	gsf	0.00	\$0	\$13,987

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### **APPENDIX L**

## LORD AECK SARGENT

Construction Budget					St.	Marys, GA
Prepared: September 7, 2005					Revised:	
Item	Reference	Qty	U/M	U/C	Subtotal	Total
	first floor	2534.0	gsf	2.00	\$5,068	
	second floor	2528.0	gsf	0.00	\$0	
movable furnishings		0.0	gsf	0.00	\$0	
Special Construction		9482.0	gsf	0.00	\$0	\$0
special structures		0.0	ls	0.00	\$0	
integrated construction		0.0	ls	0.00	\$0	
special construction systems		0.0	ls	0.00	\$0	
special facilities		0.0	ls	0.00	\$0	
special controls & instrumentation		0.0	ls	0.00	\$0	
Conveying Systems		9482.0	gsf	0.00	\$0	\$75,000
vertical transportation systems	new elevator allowance	3.0	stop	25000.00	\$75,000	
other transportation systems		0.0	ls	0.00	\$0	
other conveying systems		0.0	ls	0.00	\$0	
Fire Protection Systems		9482.0	gsf	0.00	\$0	\$53,830
demolition		0.0	gsf	0.00	\$0	
fire protection sprinkler systems	basement	2973.0	gsf	5.00	\$14,865	
	first floor	2534.0	gsf	7.50	\$19,005	
	second floor	2528.0	gsf	7.50	\$18,960	
standpipe & hose systems		0.0	gsf	0.00	\$0	
fire protection specialties		4.0	ea	250.00	\$1,000	
special fire protection systems		0.0	gsf	0.00	\$0	
Plumbing Systems	basement	2973.0	gsf	7.50	\$22,298	\$22,298
	first floor	2534.0	gsf	0.00	\$0	
	second floor	2528.0	gsf	0.00	\$0	
demolition		0.0	gsf	0.00	\$0	
plumbing fixtures		0.0	ea	0.00	\$0	
domestic water distribution		0.0	gsf	0.00	\$0	
sanitary waste systems		0.0	gsf	0.00	\$0	
rain water drainage systems		0.0	gsf	0.00	\$0	
special plumbing systems		0.0	gsf	0.00	\$0	
HVAC Systems	basement	2973.0	gsf	40.00	\$118,920	\$321,400
	first floor	2534.0	gsf	40.00	\$101,360	
	second floor	2528.0	gsf	40.00	\$101,120	
demolition		0.0	gsf	0.00	\$0	
fuel supply systems		0.0	gsf	0.00	\$0	
heat generation systems		0.0	gsf	0.00	\$0	
heat rejection systems		0.0	gsf	0.00	\$0	
heat distribution systems		0.0	gsf	0.00	\$0	
heat transfer		0.0	gsf	0.00	\$0	
HVAC controls & instrumentation		0.0	gsf	0.00	\$0	
special HVAC systems & equipment		0.0	gsf	0.00	\$0	
HVAC testing & balancing		0.0	gsf	0.00	\$0	
HVAC commissioning		0.0	gsf	0.00	\$0	
Electrical Systems	basement	2973.0	gsf	20.00	\$59,460	\$312,560
	first floor	2534.0	gsf	50.00	\$126,700	
	second floor	2528.0	gsf	50.00	\$126,400	
demolition		0.0	gsf	0.00	\$0	
electrical service & distribution		0.0	gsf	0.00	\$0	

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HISTORIC STRUCTURE REPORT

### **APPENDIX L**

## LORD AECK SARGENT

LORD AECK SARGENT					(	Orange Hall
Construction Budget					St.	Marys, GA
Prepared: September 7, 2005					Revised:	
Item	Reference	Qty	U/M	U/C	Subtotal	Total
lighting & branch wiring		0.0	gsf	0.00	\$0	
communication & security systems		0.0	gsf	0.00	\$0	
special electrical systems		0.0	gsf	0.00	\$0	
electrical controls & instrumentation		0.0	gsf	0.00	\$0	
electrical testing		0.0	gsf	0.00	\$0	

Subtotal

\$2,409,425 \$2,409,425

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**APPENDIX L**