THE

KITCHEN BUILDING

AND ASSOCIATED

CHIMNEY STRUCTURE

AT

HAMPTON PLANTATION STATE PARK

McCLELLANVILLE, SOUTH CAROLINA

BUILDING SURVEY AND DOCUMENTATION
SEPTEMBER / OCTOBER 1998

WILLIAM R. JUDD

CONTENTS

Introduction 1

Site 3

Mill Stone 4

Building's Exterior (General Description) 5

Building's Interior (General Description) 9

Foundation Walls 11

Well / Drain Trough 14

Framing 19

Chimney Structure 27

Conclusion 46

LIST OF FIGURES

Figure 1 – Site Location 3

Figure 2 – Mill Stone 4

Figure 3 – South and East Elevation 6

Figure 4 – North Elevation 7

Figure 5 – West Elevation 7

Figure 6 – Kitchen Portico 8

Figure 7 – Mansion Portico 8

Figure 8 – Kitchen Floor Plan 10

LIST OF FIGURES - CONTINUED

Figure 9 – Vents in North and West Foundation Walls 13

Figure 10 – Floor of Drain Trough 15

Figure 11 – Remains of Brick Arch Over Drain 15

Figure 12 – Partially Excavated Well 16

Figure 13 – Section Through Well 16

Figure 14 – Hypothetical Method of Retrieving and Expelling Water From the Well 18

Figure 15 – Sill Half Lap Joint 20

Figure 16 – Sill corner Butt Joint 20

Figure 17 – Joint Detail - Floor Joist to Header Joist 22

Figure 18 – Wall Purlin 22

Figure 19 – Building's Corner Diagonal Bracing 26

Figure 20 – East Mid-Wall Diagonal Bracing 26

Figure 21 – Main Kitchen Fireplace and Oven 30

Figure 22 – Lintel End Embedded in Mortar Joint 30

Figure 23 – View Inside Domed Oven 31

Figure 24 – Stone Hearth of Main Kitchen Fireplace 31

Figure 25 – Arched Opening for Wood Storage 33

Figure 26 – Hearth Excavation Revealed the Remains of "Tabby" Wall 33

Figure 27 – Side by Side Fireplaces in the Secondary Kitchen Area 35

Figure 28 – End View of a Suspended Hearth 36

LIST OF FIGURES - CONTINUED

Figure 29 – Suspended Hearth Design 36

Figure 30 – Stucco Finished Fireplace in Living Quarters - Room "D" 39

Figure 31 – Collapsed Hearth 39

Figure 32 – Elevations 40

Figure 33 – Floor Plan / Wall Sections 41

Figure 34 – Foundation Plan 42

Figure 35 – Hearth Details 43

Figure 36 – Chimney Structure - South Elevation / Sections 44

Figure 37 – Chimney Structure - North and West Elevation /Sections 45

Figure 38 – Suggested Kitchen Building
Interpretative Layout / Traffic Flow 48

INTRODUCTION

This report is the result of a visual survey of the kitchen building at Hampton Plantation State Park conducted by William Judd for Donnie B. Barker, chief archaeologist with the South Carolina State Park Service. As part of a grant financed by the Friends of Hampton Plantation this study is intended to provide a synopsis of that survey with accompanying architectural drawings of the buildings features and its chimney structure.

The building's chimney structure and the lower portion of its brick foundation walls are believed to be the remains of an earlier building shown at this location on the 1809 McCrady plat map. Previous archaeological investigations suggest the original building was destroyed by fire. No information has yet surfaced pertaining to the construction date of either the original or present building. Hopefully, this report and the on-going archaeological investigations will shed some light in this area.

There are numerous plantations dotting the Lowcountry of South Carolina. Some have stately houses reflecting an earlier era of wealth and aristocracy. Over the years the smaller, less elegant outbuildings that once was an important part of the plantation lifestyle have all but disappeared. Of these outbuildings none was more essential to the functioning of the household than the kitchen building. This building was usually a small structure having a large open fireplace. It was set apart from, but in close proximity to, the main house. The meals were prepared in these buildings then hand-carried to the dining area within the main house. Some plantations had two kitchen buildings, side by side, like those located at Hopsewee Plantation approximately four miles north of Hampton Plantation.

Kitchen fireplace designs varied from plantation to plantation. One design may have only a large fireplace opening where as another may have incorporated a domed oven to

complement the fireplace. Another popular design was a "walk-around" centrally located fireplace structure, which in affect created two rooms within the building. The front room was serviced by a large fireplace opening while the rear room was serviced by two smaller, side by side, fireplace openings. These fireplaces were constructed back to back with each flue sharing the same chimney stack. This design allowed many functions to be performed simultaneously.

The chimney structure design within the kitchen building at Hampton Plantation incorporates all of the above mentioned features plus an additional fireplace opening which serviced an area used as a living quarters. Hampton Plantation is fortunate to have such a building still standing. Especially one that, if interpreted correctly, can complement its stately mansion and provide tourist with a better understanding of colonial and postbellum life at Hampton Plantation.

SITE LOCATION

The mansion at Hampton Plantation began as a modest six-room farmhouse with its entrance facing the Hampton Creek. A separate kitchen building would have serviced the house. It was probably a small building erected near the farmhouse, possibly, where the present kitchen building is now situated.

When the farmhouse was enlarged its entrance was relocated to the south side of the structure and defined by a large elaborate portico. At some point in the mansion's history a larger, more substantial kitchen with a brick foundation and massive chimney structure was constructed 75 feet north of the mansion. Its entrance faces south.

Archeological investigations and features within the foundation walls suggest that the present kitchen building may not be the first to utilize this foundation and chimney structure. The object of this survey, in part, was to investigate this theory.

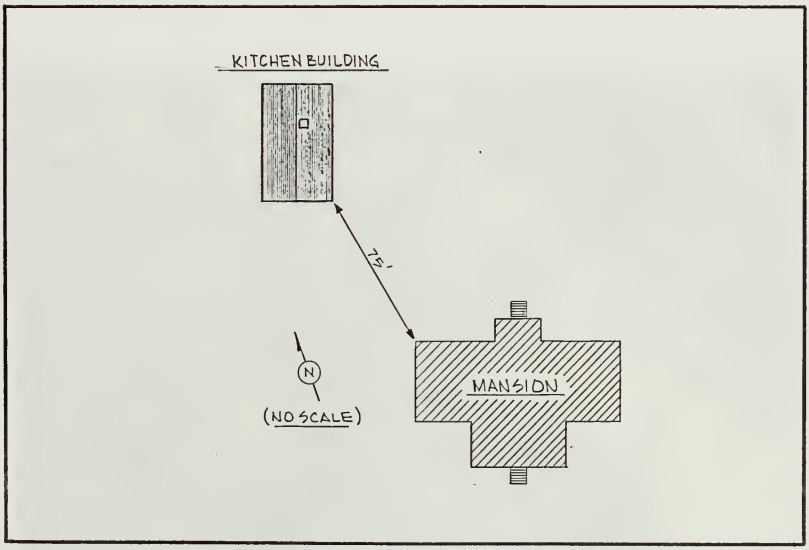


Figure 1 – Site Location

MILL STONE

Located in front of the kitchen building is a mill stone buried flush with the ground surface. (Figure 2) Its outer edge is broken away in places reducing its original diameter of six feet. This stone was used in unison with a similar stone for milling rice.

While Hampton Plantation produced a large amount of rice, there is no evidence that a mill was ever erected on the plantation. Many rice plantations did not possess their own mill therefore they sought out neighboring mills that offered their services for a fee. One such mill did exist only a short distance up river from Hampton Plantation and may well have been the one that processed its rice.

The presence of this mill stone near the kitchen building is thought to be more of a decorative symbol of a past aristocracy created by the wealth obtained from the cultivation of rice rather than a remnant of the plantation's machinery. The lawns of many Lowcountry plantations are decorated with similar type stones.

Figure 2 – Mill Stone

BUILDING'S EXTERIOR (GENERAL DESCRIPTION)

The building is a rectangular shaped wood framed structure having a gable roof design with a 7/12 roof pitch. (Figures 3 through 5) This roof extends pass the front of the building to create a high portico supported by four square wooden columns, each resting on a brick pedestal. The surface area beneath is leveled earth, which drops off sharply on the west side. This portico seems to simulate the mansion's front portico, only much simpler in design. (Figures 6 and 7)

The ceiling of the portico is tongue and grooved bead boards running east to west. The Roof's overhang is a boxed cornice projecting 12" on the south, east and west sides of the building. The north side (rear) is finished flush with a trim board.

The south gable end has a shingled horizontal cornice. Both gable ends are vented with a large rectangular wood louvered vent.

A large chimney stack rises 4'-3" above and to the east of the roof's ridge cap. The roof was re-shingled in 1996 with pressure treated pine shingles replacing the now outlawed asbestos shingles.

The building's sides and gable ends are sheathed with 5/8" x 10" siding boards applied clapboard fashion and fastened with wire nails. The ends of the siding at each corner on the north and south end of the building are finished with a 1" x 4-1/2" vertical trim board. All of the exterior's wood is painted white.

The building's foundation is, for the most part, a continuous brick wall. (See section on foundation) The grade level surrounding the building varies in height as the land slopes to the northwest.

A 1900s photograph in the book "Home by the River" by Archibald Rutledge reveals wooden steps under the portico leading up to the two entry doors. It can be assumed that all the building's steps were built of wood. Presently, the only steps that exist lead up to the main kitchen entrance and are represented by a temporary stack of concrete blocks.

The exterior doors are board and batten design. The door proper is made of 3/4" x 5" tongue and grooved bead boards like those of the portico's ceiling. A batten board is fastened horizontally across the top and bottom of the assembled bead boards on the interior side of the door. Another batten board is fastened diagonally between the upper and lower batten.

The original windows have mostly been replaced with a mix-match of window sashes and pieces of plywood. This replacement was probably the result of vandalism or deterioration from neglect during the time the plantation was idle and unmanaged.

The 1900s photograph mentioned earlier reveals a single window located between the two entry doors in the south wall rather than the present double window. Also no window is shown on the west side of the entrance door leading to the living quarters. These evidently were a later addition. The timbers used to frame these windows appear to be of the same material used throughout the building. Had the photograph not been available the existing windows would have appeared to be part of the present building's original design.

Figure 3 – South and East Elevation

Figure 4 – North Elevation
Structure at Left is a "Bat" House

Figure 5 – West Elevation

Figure 6 – Kitchen Portico

Figure 7 – Mansion Portico

BUILDING'S INTERIOR (GENERAL DESCRIPTION)

The building is believed to have originally had four rooms - possibly five, designed around a large chimney structure consisting of four fireplaces and an oven. (See section on chimney) The floor plan depicts six rooms. (Figure 8) They are designated as room "A" through room "F" for reference only.

The north and south walls of room "B" may be a later addition as some of the wall's uprights or studs are pressure treated timbers. A single wall may have separated the two kitchen areas at or about the middle of room "B". The ceiling in this room has an attic access. The smallness of the room suggests it may have been used as a storage area.

Room "E" may also be an addition but the wall studs appear to be of the same construction era as the rest of the timbers in the building. The presence of these similar type timbers may be mis-leading as the double window in the main kitchen, which was added at a later date, is also framed with timbers similar to the other window and door timbers.

Room "E" was used as a bath area at one time. A member of the Rutledge family took up residence within the building in the 1900s. (Personal conversation with park personnel) It is probable that at this time the above changes were made. The presence of an abandoned power meter on the outside west wall, galvanized water pipes under the flooring, and a cast iron sewer pipe running north from under room "D" is evidence that electricity and indoor plumbing was installed at some point.

The building appears to have originally had a double function. The rooms on the east side were kitchen areas. The main kitchen was in the front with a secondary kitchen in the rear. The rooms on the west side were living quarters, possible for the cook's family.

Many changes have occurred within the building over the years. Much of the wall's covering in each room has been removed leaving most of the wall studs exposed. The presence of some molding along the ceiling and a 1" x 7" beaded base molding along the west wall of the main kitchen suggest the walls were originally paneled and trimmed out very neatly. The material used to cover the walls was 3/4" thick boards of varying widths fastened horizontally to the wall studs. Those boards remaining on the walls measured 5" to 13" in width.

A partial area of flooring boards remains in the rear kitchen area, room "C". They are 3/4" x 3-1/2" wide tongue and grooved pine boards running east to west. This flooring was typical for all rooms.

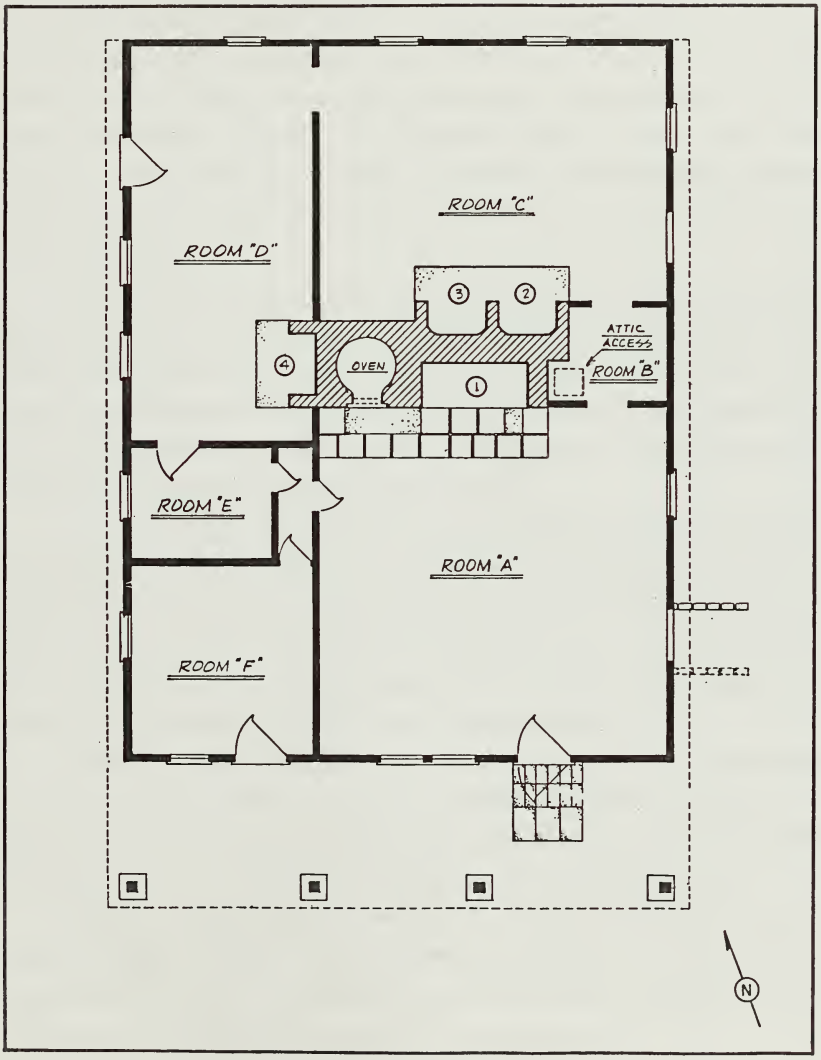


Figure 8 – Kitchen Floor Plan

FOUNDATION WALLS

The present building rests on a continuous brick foundation wall of varying widths. The overall measurement of the foundation is 42'-3" long (north/south) by 32'-5" (east/west). The term "continuous" is loosely used here as the north and west foundation walls have vertical openings from top to bottom ranging in widths from eleven to sixteen inches. (Figure 9) In reality, these openings create individual piers roughly measuring four feet in length. The thickness of the north wall is twenty-three inches. The west wall is fifteen inches thick. (See Foundation Plan - Figure 34) The location of these openings suggest their function was to vent the under side of the building and also allow access to the crawl space below the floor joists.

The grade level outside of the foundation walls varies in height. The top of the present foundation wall is four inches above the grade level at the southeast corner of the building while the grade level is thirty inches from the top at the northwest corner. The minimal exposed brickwork above the grade level along the south and east foundation wall did not allow enough room for vent openings. The height of the outer foundation walls measures forty and three quarter inches from top to bottom.

A continuous interior foundation wall, nine inches wide, is located 11'-2" east of the outer edge of the west wall. This wall runs north to south and supports the framed wall separating the living areas from the kitchen areas. It is intersected about mid-point by the base of the chimney. The total height of this wall is thirty-two inches; eight and three quarter inches less than that of the outer foundation walls. This wall does not "tie-in" to the brickwork of the north and south wall but merely butts against them.

Another short interior foundation wall, nine inches wide, runs from the east exterior wall to the base of the chimney. (Figure 35) Some bricks are missing along its top. Its purpose is unknown and presently has no function. It is possible that a framed wall separated the two kitchen areas at this location but would not have required a foundation wall.

The bottom of all the foundation walls have no "stepping" or projected footing. The width of the original foundation walls was the same at the bottom as at the top. The brick used to construct the walls of the foundation, as well as the chimney, measured 9" x 3-1/2" x 4-1/2" wide and are locally called "Charleston" or "Old English" brick.

The brick pattern used throughout the foundation walls is something similar to an offset Flemish bond. Each coarse has a stretcher, header, stretcher, header, etc. but the header of one coarse does not center on the stretcher of the upper and lower coarses. To further confuse the pattern a "rowlock" coarse or two is thrown in as well as a "shiner" brick now and then. This pattern is similar in both the original and added brickwork of the foundation walls. (Figure 9)

Archaeological investigations suggest the original building that sat upon this foundation was destroyed by fire. The foundation and chimney structure survived. Prior to erecting the present building, three brick coarsed were added to the top of the foundation increasing its height

The brickwork of the original walls and chimney structure was of good workmanship. The bricks were bonded together with historic or "lime-shell" mortar struck flush with the face of the brick. The three additional brick coarses were bonded with portland cement, also struck flush, but the workmanship does not measure up to the original work.

No historic data is available as to when the original building was built or destroyed. Also, no building date exist on the present structure.

One feature that may shed some light on dating the present building is the presents of the aforementioned portland cement. Historic cement was generally quite soft and consisted primarily of lime, sand, and other additives such as crushed oyster shells, partially burned lime, animal hair or particles of clay similar to that used in the original brickwork. Portland cement didn't make its introduction until the 1870s. Still, most historic mortar did not contain portland cement until after 1880 when it was used in combination with the newly available, harder extruded bricks.

The presence of portland cement within the additional brickwork placed atop the foundation walls suggest a construction date somewhere around 1890 or 1900. This suggested dated is allowing for a transition period from a known product to a new one, while also taking into consideration the remote area in which Hampton Plantation was located at the time the present building was built.

Figure 9 – Vents in North and West Foundation Walls
Also Notice Irregular Brick Pattern

WELL / DRAIN TROUGH

When the flooring was removed to facilitate an archaeological survey of the sub-soil beneath the building a partially arched covered brick trough was visible under the southwest room adjacent to the main kitchen area. This trough was a sloping drain intended to expel waste water from the main kitchen area to the ground surface outside of the west foundation wall. (See Foundation Plan - Figure 34)

The inside height of this drain, from its floor to the under side of the bricked arch was, roughly, twelve inches. Its floor was nine inches wide or the length of a single brick. Each brick of the floor was laid flat, on grade, side by side. They were cemented together, in place, the full length of the drain. (Figure 10) The whole drain structure slopes approximately eight degrees toward an arched opening in the west outer foundation wall. Approximately four feet of the arched brick top that once covered the length of the drain is still intact on the west end. (Figure 11)

The east end ran through the mid-foundation wall and into the area beneath the main kitchen floor for an undetermined distance. The drain beneath the kitchen area is distinguishable only by a few floor bricks still in place. Other loose bricks and a cemented cluster of bricks littered this area.

This elaborate drainage system to just expel kitchen waste water, when no indoor plumbing existed, was very baffling until an archaeological dig beneath the main kitchen floor in 1995 revealed the remains of a earth filled brick lined well or cistern. (Figures 12 and 13)

The term "well" is defined here as a sunken or deep enclosed space such as a shaft extending vertically into the earth to tap a spring or natural source of water which can be retrieved upon demand.

The term "cistern" is defined as being similar in design and purpose with the exception that it is a reservoir for storing water procured from diverted rainwater.

It is unknown which of these water supply systems applied to the feature found beneath the kitchen area. Normally, both systems were located outside of a building. In reference to this report the term "well" will be used when referring to this feature since the cistern would require some type of guttering from outside the building to capture the water.

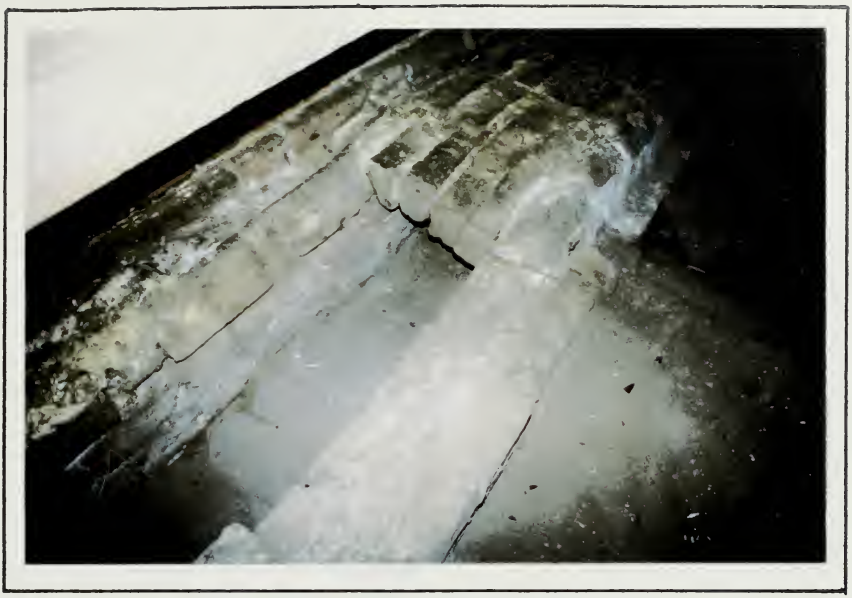


Figure 10 – Floor of Drain Trough

Figure 11 –Remains of Brick Arch Over Drain

Figure 12 –Partially Excavated Well
Notice Drain Opening in Wall Above

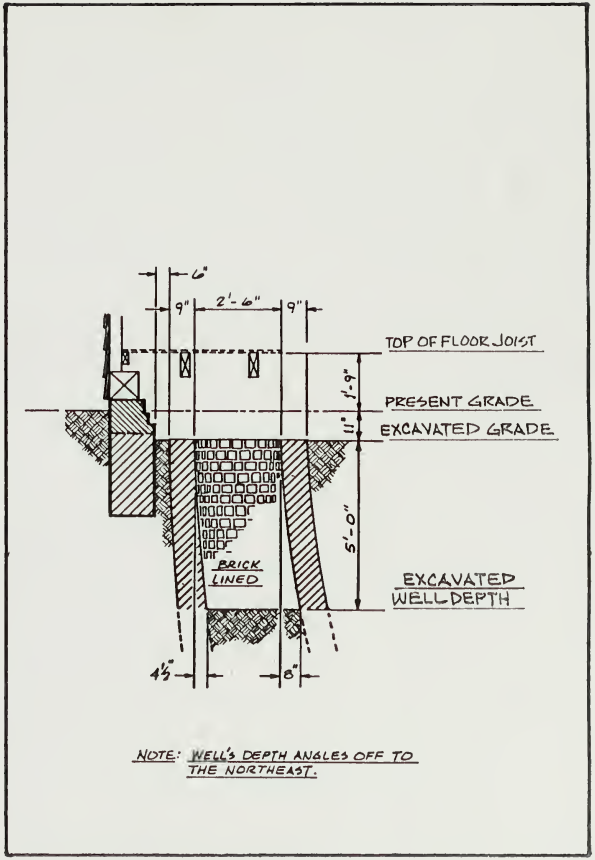


Figure 13 –Section Through Well
Notice angle as Well Descends

The well's inside diameter is thirty inches. Its center is located thirty inches from the south foundation wall and five feet from the mid-foundation wall. Five feet of earth fill has been excavated from within the well. Its original depth is unknown at this time.

The wall of the well has shifted approximately eight inches toward the northeast at the five foot excavated level. (Figure 13) This may possibly have been the results of an earthquake or simply ground movement over the years. A shift such as this could contribute to the loss of the water supply and the abandonment of the well.

The well and drain trough probably dates to the original building that is believed to have been destroyed by fire. Prior to erecting the present building the height of the foundation walls were increased three brick coarses or approximately twelve inches. The grade level beneath the present building was also increased and the well filled in.

With the extra height added to the foundation walls the brick drain beneath the southwest room was, basically, left intact. A portion of its top at the east end has been removed to accommodate the nine by ten sill which rests on the mid-foundation wall.

It has been suggested that possibly the well pre-dates the original building. Having been abandoned for one reason or another the well was filled in and the original building built over it. The presence of the drain in proximity to the well dispels this theory. The construction of a masonry drain would warrant the removal of a large amount of water such as that supplied by a well.

The device used to retrieve the water from the well is also unknown. It may have simply been a bucket lowered and then lifted up for use, or possible a hand operated pitcher pump installed at counter height as shown in the hypothetical sketch shown in Figure 14. In either case, the waste water was expelled from a container or sink to the brick drain trough were it flowed downhill and exited on to the ground surface outside the building.

Regardless of which method, if either, was used, the presence of a well and drainage system within a kitchen building is an unusual feature and this one may possibly be the first forerunner of indoor plumbing within the Lowcountry. If the date of the original kitchen building, which would include the well and drain, could be ascertained this "indoor plumbing" could very well be the first in the state of South Carolina.

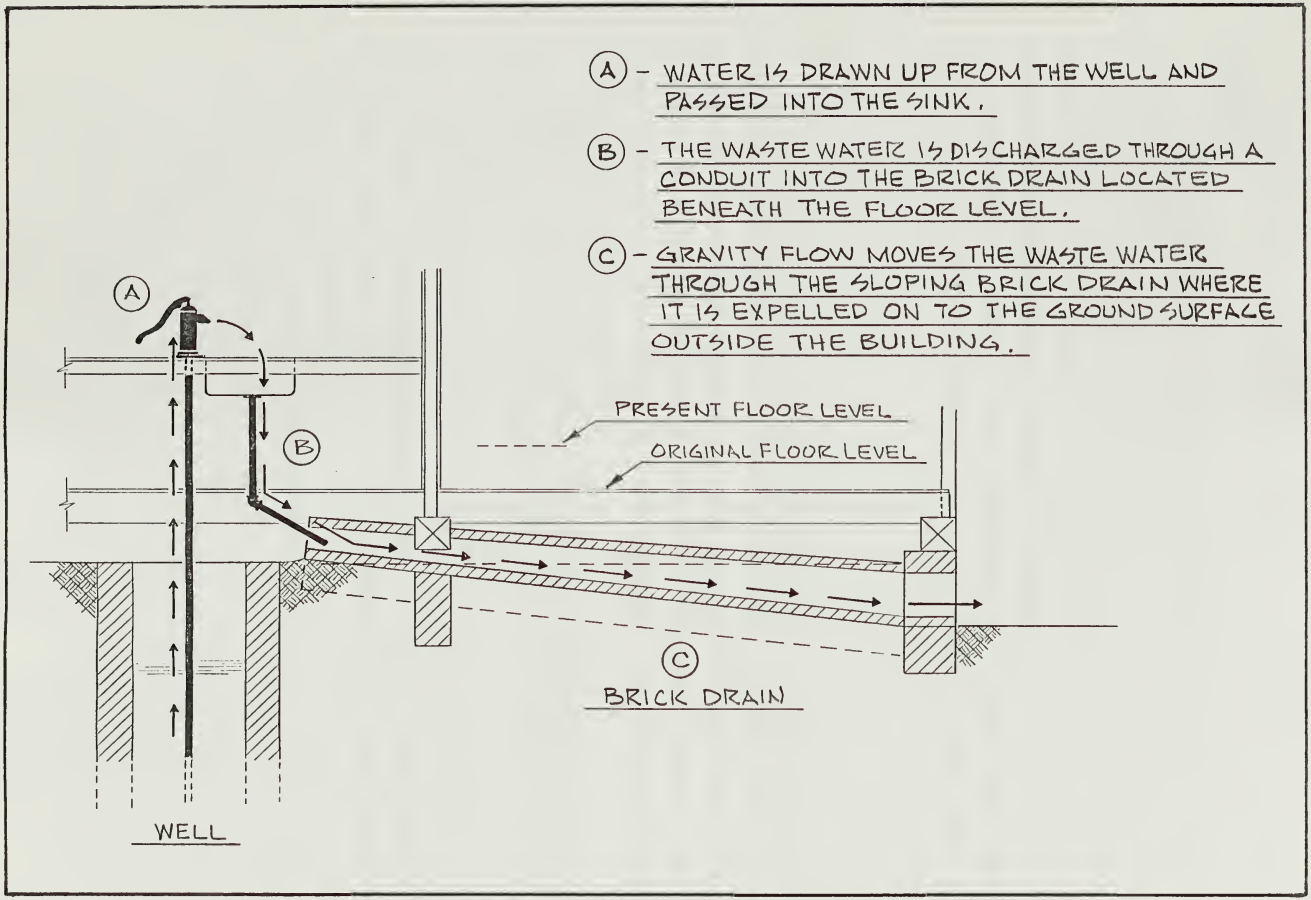


Figure 14 –Hypothetical Method of Retrieving and Expelling Water From the Well

FRAMING

As mentioned earlier, the original building is believed to have been destroyed by fire. Most of the framing material used to construct the present building is, at the least, a second generation use. There is an old rumor that a man of African-American descent familiar with Hampton Plantation stated the material was brought from a neighboring plantation. From his Gullah accent the plantation's name has emerged as "Montgomery". Its location is unknown but may have been in the vicinity of a small bridge spanning a stream called "Montgomery Creek" which flows under the roadway leading from Highway 17 to Hampton Plantation Park.

Sills

The one item that appears to have been new and not re-used at the time of construction is the building's pine sill timbers which set upon the foundation walls. The perimeter sills are ten inches square and aligned along the outer edge of the foundation walls. Each sill timber of each wall has three half lapped joints within its length. (Figure 15) The spacing of these joints vary in distance, some as short as three feet. The timbers are toenailed together at each half lap with 20d wire nails.

The corner joints of the sill timbers are all butt joints (Figure 16) with exception to the southeast corner. Here the sills are connected with an end lap joint. All corner joints are toenailed together.

There are two sill timbers along the top of the nine inch wide mid-foundation walls. They each measured nine inches high by ten inches wide. (An inch lower than the perimeter sill timbers.) Each of these sill timbers is unbroken for the length of each wall. This wall is intersected by the base of the chimney.

There are no ties securing the sill timbers to the foundation walls. Only the weight of the finished building holds them in place.

Figure 15 –Sill Half Lap Joint

Figure 16 –Sill corner Butt Joint

Floor Joist

The floor joist, three inches thick by nine inches high, run east to west and are spaced approximately twenty-four inches on center. Their outer bottom ends are rabbetted two inches deep by six to eight inches long to rest on the perimeter sills. Their inner bottom ends are rabbetted one inch and lapped against each other on the sill of the mid-foundation walls. This sill being an inch lower than the perimeter sills. Some floor joists show signs of decay and have been strengthened by sandwiching them between two modern sized 2" x 8" boards.

The floor joists are attached to the header joists at the chimney's base by means of a through mortise and tenon joint with a shoulder. (Figure 17) This probably was a keyed tenon joint but the original floor joists have been replaced by more modern sized two by eight inch lumber.

Wall Studs

All of the framing components with exception to the sill timbers are believed to be cut from cypress wood. The wall studs sizes vary in width and depth ranging from three to four inches in either direction. Their spacing also varies between sixteen inches and twenty-four inches.

Many wall studs show a previous application of white paint and nails that once held wood lath strips for securing the walls plaster. These markings appear on the side of the studs rather than their face further verifying their use as second generation timber components.

The bottom of the wall studs are cut square at ninety degree, set directly on top of the sill timber and toenailed in place. Their top ends are fastened to the top plate timber by mortise and tenon joints. Many of these joints are secured by means of a wooden peg. Some joints appear with a hole having no peg while others have neither feature. Some of these tenons may have been simply nailed from the siding side.

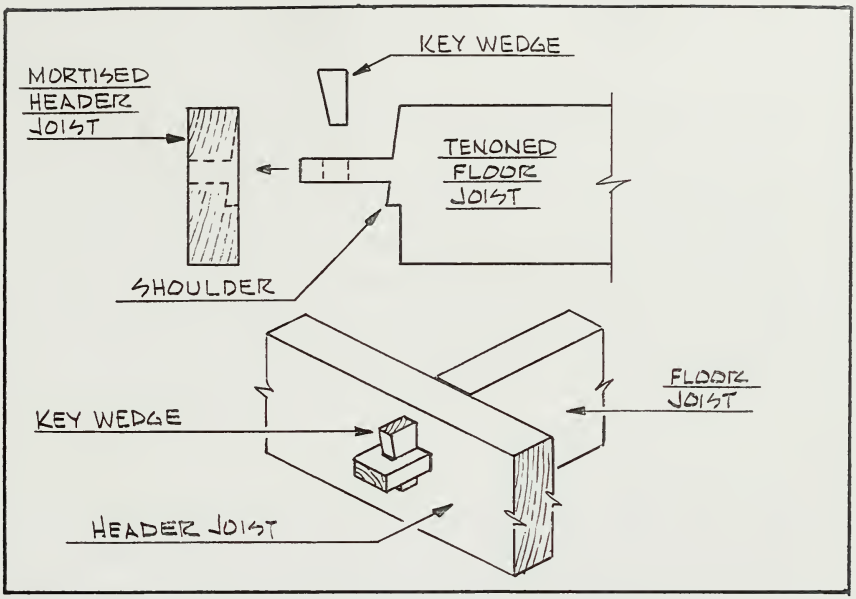


Figure 17 – Joint Detail - Floor Joist to Header Joist

Figure 18 –Wall Purlin - Notice Roman Numeral Marking IIIXXX From Former Application

Wall Purlins

Purlins do not appear between all of the studs of each wall. Those that do vary from forty to fifty inches from the floor level.

One wall purlin located in room "E" of the floor plan drawing bears a Roman numeral mark IIIXXX. This piece was cut from a length of timber to make the purlin. (Figure 18) The other timber components used throughout the building should also bear a Roman numeral marking. This type marking was a normal procedure of the time and usually appears on the side of the timber facing outward. If there are markings the clapboard siding on the exterior of the building would be hiding them from view.

Window Framing

The window studs measured four inched in depth and six inches across the face. They were originally dado cut to receive a three or four inch header timber and a three inch thick window sill set on a down and outward angle. The window openings were 32" wide by 49-1/2" high. The top of the window sills were 34-1/2" from floor level.

The headers and sills of the windows have been removed and some of the window openings have been filled with a mix-match of more modern type windows. Some have only one sash while others have a mix-match of sashes within the same window.

Evidently the original windows deteriorated due to neglect or were destroyed by vandalism and later replaced with whatever was available.

Door Framing

The door framing timbers in the exterior walls also measured four by six inches with a dado cut to receive a header timber and a three inches thick threshold. The door openings were 35" to 36" wide and seven feet high.

The interior door framing timbers were three inches by four inches. Their openings varied from 21" to 32" wide by six to seven feet high.

Corner Uprights

The four corner uprights are 6" x 8" timbers. Each wall of each corner is diagonally braced with a 4" x 6" timber mortised and tenoned into the upright corner timber. (Figure 19) The bottom of each diagonal brace sets on top of the building's sill and are toenailed in place.

An additional 6" x 8" upright timber, diagonally braced on one side only, is located approximately mid-point within the east exterior wall. (Figure 20) A similar feature is located within the west exterior wall. This upright timber measured 4' x 6".

Top Plate

Each top plate is one continuous 4" x 6" timber running the full length and width of the building. 2-1/2" x 8" ceiling joist is also one continuous length which spans the full width of the building (32'-5") plus a 12" projection at each end which allows for the boxed in cornice at the eaves.

Ceiling Joist

The ceiling joists run east to west on 21-1/2" centers. Each joist is notched on its bottom edge, one inch deep, to receive the top plate of the middle and outer walls. They are toenailed in place. (See Wall Section - Figure 33)

An iron pintle, of the type used to hinge a door or window shutter, can be seen projecting from the top edge of a ceiling joist in the attic. This is further evidence that the timber components are second generation material.

Portico Ceiling Joist

The ceiling joists over the portico run north to south and butt into the last ceiling joist running east to west on the south end of the building. The portico's ceiling is 3/4" x 5-1/2" double bead tongue and grooved pine boards fastened to the bottom of the ceiling joist.

Ceiling

The ceilings within the rooms are 12'-1" high from floor level. They were of the same type boards and fastened in the same manner as those of the portico's ceiling. The

exception is the kitchen ceiling at the rear of the building. The ceiling boards here were fastened from above exposing the ceiling joist to full view from below.

The ceiling boards in this area have been removed to address a bat problem. An endangered species of Rafinesque bats have moved into the attic which only adds to the deterioration of the existing ceiling while at the same time creating a health problem resulting from the bat feces and dead bat carcass' which litter the attic area.

Rafters

The rafters are 2-1/2" x 8" timbers set on 24' centers. Their angle creates a 7/12 roof pitch. The top ends of the rafters are nailed to a 1-1/4" x 10" ridge board. The rafter tails rest on a 1-1/4" x 10" rafter plate which runs across the tops of the ceiling joists at their outer ends.

Collar

The rafters on each side of the ridge board are tied together by a 1-1/4" x 7" collar board located 6'-3" above the ceiling joist. This collar board is omitted in the area where the chimney passes through the attic space.

Gable Ends

The gable ends are framed with 2-1/2" x 4" upright timbers placed roughly 24" on center. Their bottom end is square cut and nailed to the wall's top plate. Their upper ends have a half lap with an angled cut which created a seat for the end rafter.

A wood louvered vent is centered in the framework of each gable end.

Roof

The roof's sheathing is 3/4" x 9-1/2" pine boards laid ninety degrees to the rafters. It is unknown what roofing material was originally used to weatherproof the top of the building. Considering the suggested building date of the present building to be between 1890 and 1900, (see section on foundation) it probably was cedar shingles. The roofing material existing in 1996 was asbestos shingles. This was replaced with pressure treated shingles in that same year.

Figure 19 –Building's Corner Diagonal Bracing

Figure 20 –East Mid-Wall Diagonal Bracing . West Wall Similar

CHIMNEY STRUCTURE

The chimney structure is the most impressive feature of the building. It is centrally oriented to service three rooms - room "A", room "C" and room "D". (See Floor Plan - Figure 8)

The structure's walls are pierced with an oven, a wood storage area and four fireplace openings, three of which are back to back. The walls of the structure create a rectangular shaped box rising from its base and terminating at the ceiling level of each room. Within this "box" the pargetted brick flue of each fireplace converges inward to form a single square chimneystack with four 14-1/2" square flues. The upper area within this "box", not taken up by the angles of the flues is void of any brick.

The roof's ridge board is cut and offset three inches to the west to allow the chimney to pass through the roof. When the roof was re-shingled in 1996, the chimney was capped with a plywood cover then topped with cement. (Personal conversation with park personnel.)

When entering the main kitchen area the most imposing feature that catches the eye is the floor to ceiling brick wall surrounding a large arched fireplace opening and an accompanying brick oven. But the massiveness of the structure and its design is not truly realized until one surveys the number of fireplace openings within the whole structure that serviced the surrounding rooms.

The building of this chimney structure was no task for the inexperienced bricklayer. Its design is a study in multiple historic fireplaces grouped within a single structure. Considering the era in which the chimney was built there was most likely a white person supervising the work but in all probability the actual work was performed by black laborers having no more than a sketch as a reference to its design. Bricklaying in the south in years past, as it is today, was dominated by the black labor force and there are many brick structures around to attest to their excellent workmanship.

The features of the chimney structure are best described by a room to room look at their design and function.

Main Kitchen Area

The floor to ceiling brick wall mentioned above covers two-thirds of the north wall. Within this brickwork is a large fireplace on the right and a bricked, domed oven on the left.

(Figure 21) The fireplace opening is 74" wide by 51" high by 31-1/2" deep. The arch of the opening is supported by two-formed iron flat bar lintels, one set behind the other. The front lintel is 5/8" thick by 3-1/8" wide. The rear is 1/2" thick by 2-7/8" wide. The ends of both lintels are bent to lay horizontally within the mortar joint of the brickwork on each side. (Figure 22)

The side walls and back of the firebox are not splayed or angled to reflect the heat into the room as those of modern fireplaces designs, but are built straight, ninety degrees to each other. A historic type smoke shelf, 24" wide, was created near the top of the back wall of the firebox by recessing the brickwork four inches. The shelf of this recess is angled and the "channeled" area pargetted or plastered with cement to assure a smooth airflow. Unlike the smoke shelf of a modern fireplace, this type would allow the downward air current, at times, to force smoke into the room.

A large kitchen fireplace of this type usually is equipped with a crane or trammel bar from which pots were hung over the fire. No evidence was found that suggested a crane was ever installed. Near the top of the fireplace opening, in each side wall is a 3-1/2" square opening that once held an iron trammel bar. Further up within the smoke chamber a smaller 1-1/8" square iron trammel bar does exist. Possibly this bar was used to hang meat for smoking. The main function of this fireplace was to prepare meals.

When viewing up the flue from inside the fireplace, the pargetting or plastering is of excellent workmanship. This is typical of the other fireplace flues within the structure. Also within the flues one can see the offset adjustments made during construction to align the rising flues to pass through one square chimney stack.

A brick domed oven 42" in diameter and 21" high is built within the brick wall to the left of the large fireplace. (Figures 21 and 23) Its floor level is 17" above the present hearth. Its arched opening is supported by a 1/2" x 2-1/2" formed iron lintel. The brickwork at the front of the oven is stepped out 7-1/2" to create a 6" x 27" flue opening. As this flue rises, it angles back and to the right and vents into the flue of the large fireplace. When preparing the oven for use a fire would be built within the domed area to heat the brick. As the smoke from this fire bellowed outward the draft from the oven's flue would draw it up and into the flue of the fireplace. When the oven was ready for baking, a door of some fashion would have shut the opening to retain the radiating heat. No door or evidence of pintles to hinge a

door was found. Below the oven was a recessed arch rising eight inches above the hearth. This area will be discussed later in this text.

The lower face of the brick wall, which encompasses the oven and fireplace, is plastered with historic cement as well as patches of portland cement. The upper portion remains brick. The entire wall is painted white.

Secured to the brick wall at the plaster line above the fireplace is a flat iron bar 3/8" x 1-1/4" x 5'-4" long with a flat rounded arrowhead forged onto its right end. Along its length, projecting outward, are nine pointed hooks (originally ten) each resembling a large upturned claw. Utensils, small pots and herbs were possibly hung from these hooks.

The large hearth fronting the oven and fireplace area runs the length of the brick wall and projects 38-1/2" outward into the room at floor level. (Figure 24) Most of its surface is paved with 18-1/2" square slate colored flat stones 1-1/4" to 1-1/2" thick. They were laid in a bed of cement poured directly on top of the earth fill. Each flat stone was painted red.

A cemented area, 18-1/2" x 52" long, fronts the oven area. This was created by laying bricks on the earth fill and skimming the top with approximately 3/4" to 1" thick portland cement. The earth fill within the hearth area is contained by a crude brick wall laid header fashion from grade level to the underside of the floor joist and the header joist at the east end of the hearth. (Figure 24)

The low recessed arch mentioned earlier below the oven was thought to be the top portion of a wood storage area common to this type of oven design. Previous investigations of the brick foundation walls suggested that the present building might not have been the first erected on this foundation and to utilize this chimney structure. Archaeological surveys of the sub-soil also suggested the original building might have been destroyed by fire.

Prior to erecting the present building the height of the original foundation walls were increased approximately 12". This, in turn, raised the level of the new floor causing the arched wood storage area to be abandoned and walled up. If this proved true the brick floor of all the fireplaces would also have been raised to the level of the new floor.

To answer these questions the stone hearth in the main kitchen area (room "A") was dismantled and its earth bed excavated in two separate areas down to the bottom of the chimney's base. The first area excavated was in front of the oven from the left edge of the fireplace opening over to the mid-foundation wall and outward from the chimney to the floor

Figure 21 –Main Kitchen Fireplace and Oven

Figure 22 –Lintel End Embedded in Mortar Joint

Figure 23 –View Inside Domed Oven

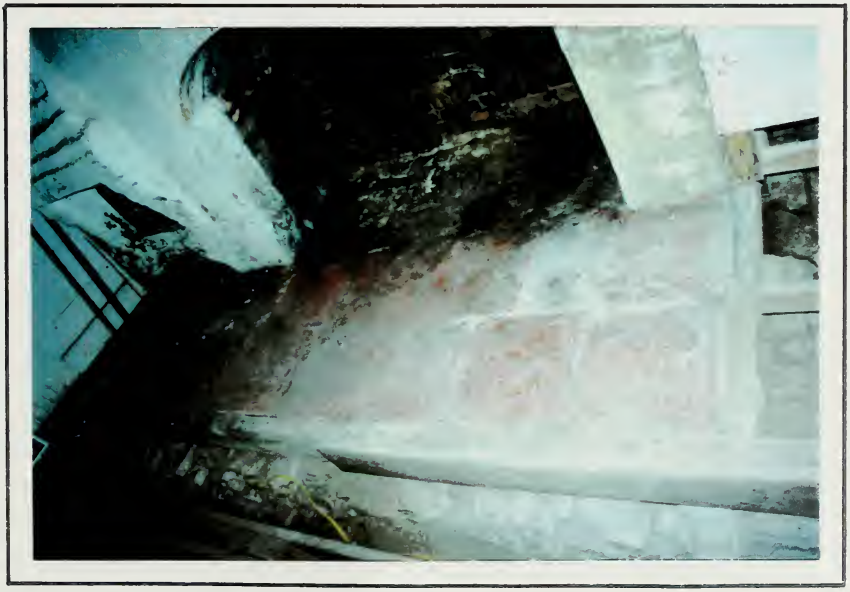


Figure 24 – Stone Hearth of Main Kitchen Fireplace
Notice Brick Retaining Wall Around Hearth

joist which retained the earth fill within the hearth area. Once the complete arched area was exposed the recessed wall closing its opening was removed revealing an arched cavity extending 51-1/2" back to the opposite brick wall of the chimney structure. The interior measured 42" wide by 18-1/4" high at the center of the arch. This arch supports the floor of the oven above. (Figure 25)

The completed excavation of this area revealed another bricked arch within the brickwork below the wood storage area. This brickwork was not removed but the area behind it was probed through an open mortar joint. The area within proved to be void of any obstruction and its depth was the same as the wood storage area above. The brick arch found here was a construction "jack" to support the floor of the wood storage area.

Also found in this area was the partial remains of a 6" wide tabby wall running north and south beneath the present grade level and hearth's retaining wall. (Figure 26) It is unknown as to what function this played in the original foundation.

The next area excavated was in front of the fireplace from its center to the east edge of the brick wall. The excavation revealed a second level of brick resting on an earth bed 16-1/2" below the present level of the brick floor of the fireplace. In fireplace terminology this brick floor is also referred to as a hearth or inner hearth.

When the new floor level was installed earth fill was packed on top of the original hearth to the desired level and a new brick hearth was laid similar to the original. The earth fill between these two excavated areas was left intact to stabilize both brick hearths and the earth fill beneath them. The excavation also revealed layers of different colored soil suggesting the fill for the hearth came from more than one location. A more important find was a layer of burnt wood ash near the bottom of the excavated area which suggest the original building was destroyed by fire. These findings will be covered more thoroughly in the archaeologist's report of September 19, 1998, published in the State Park Service Archaeological Research series.

Secondary Kitchen Fireplace

The next phase of the structure's analysis is of the large brick wall in the secondary kitchen area (room "C") located behind the main kitchen area (room "A"). Here, as in the main kitchen area this floor to ceiling brick wall is also painted white and covers two-thirds

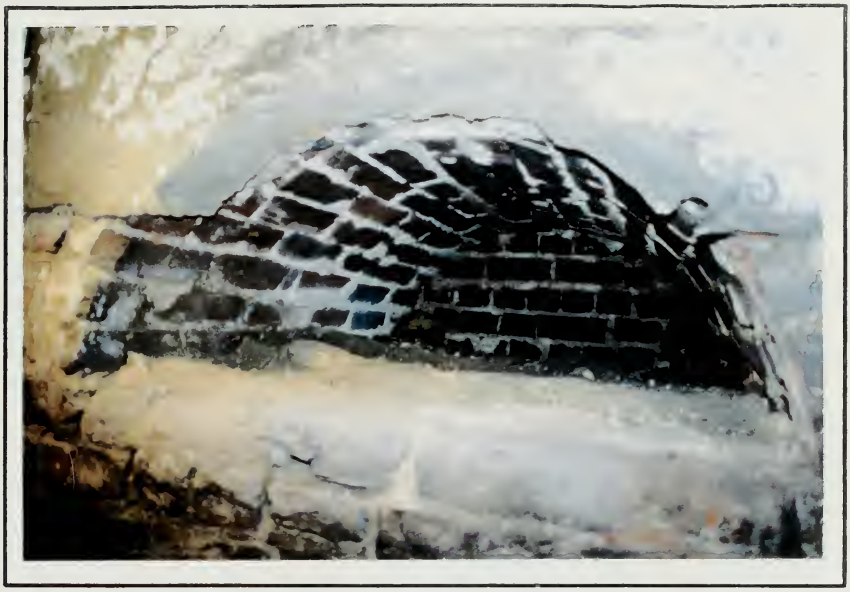


Figure 25 –Brick Wall Removal Revealed an Arched Opening for Storage of Firewood

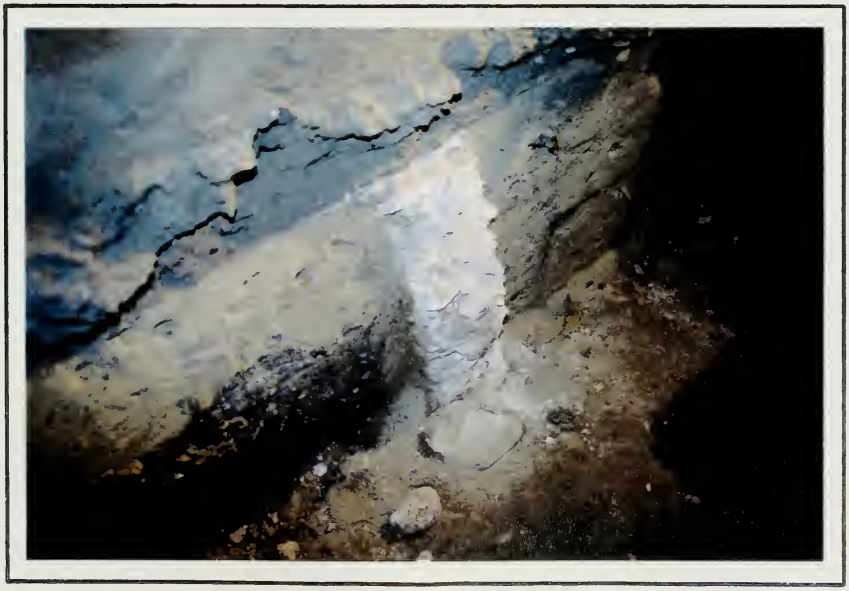


Figure 26 –Hearth Excavation Revealed the Remains of "Tabby" Wall

of the room's north wall. Two side by side fireplaces project out 12" into the room due to their proximity to the fireplace in the main kitchen area. They are offset 15-1/2" to the east of the chimney structure so as to center them within the room and also not to interfere with the placement of the oven and wood storage opening in the opposite room. (Figure 27)

The main function of these two side by side fireplaces is thought to be a continuation of the function performed by the large fireplace located in the main kitchen area. That function being preparing meals. While the use of three fireplaces and an oven to prepare meals suggest that there were a number of mouths to feed should not be dismissed. The history concerning the activities performed at Hampton Plantation over the years is vague at best.

Each fireplace has a different arch design. The face brick of each fireplace rises 69-1/2" above the hearth then are recessed back a short distance creating a sort of mantel. The brick are then stepped back toward the wall. The face of the fireplace on the left is plastered with cement from the bottom of the arched opening up to the ceiling level. The fireplace on the right and the wall above are brick. The wall to the right of the right fireplace shows signs of having been plastered from the floor level to a point two brick coarses above the height of the so called mantle.

The opening of the fireplace on the left measured 51" high at the center of its arch by 40-1/2" wide by 29" deep. It has a high arch supported by a 3/16" x 2" formed iron flat bar lintel with each end bent to lay within the mortar joint of each side wall. The opening of the fireplace on the right measured 47-1/2" high at the center of its arch by 40" wide by 24" deep. This low arch is of brick, rowlock fashion, having no iron lintel.

The back and side walls of each fire box are straight, ninety degrees to each other as in the fireplace in the main kitchen area with one exception. The inside rear corners were rounded similar to those in the Rutledge mansion fireplaces, only more crudely constructed.

The smoke shelves in both fireplaces are similar to that in the main kitchen fireplace. No evidence of a crane or trammel bar was found in either fireplace. The flue from each fireplace angles to the right, side by side, then turns to rise vertically up through the chimney's stack.

The floor or inner hearths of both fireplaces are brick cemented together. They lay directly on earth fill. The outer hearth or main hearth is also of brick, skimmed with cement,

Figure 27 –Side by Side Fireplaces in the Secondary Kitchen Area

Figure 28 –End View of a Suspended Hearth

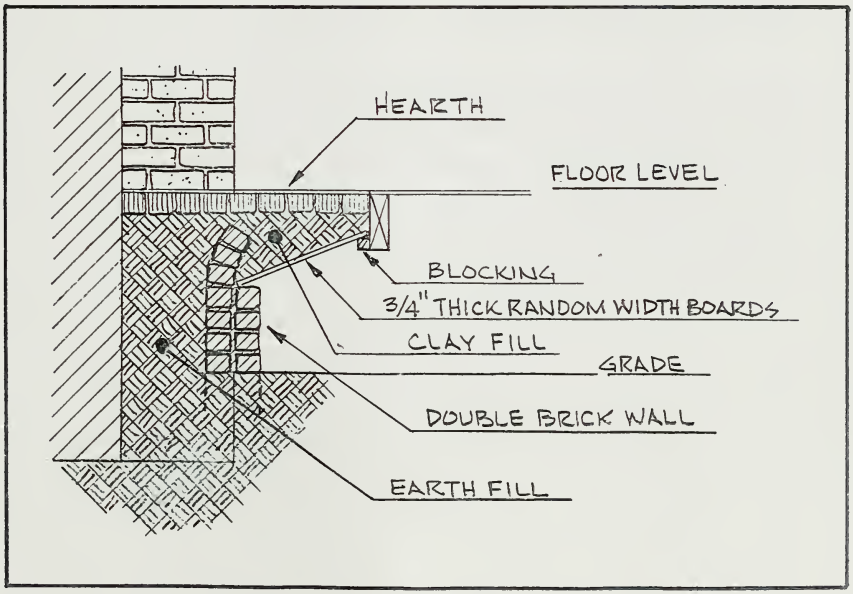


Figure 29 –Suspended Hearth Design

running the length of the two fireplaces only. It is an earth filled suspended hearth projecting 24" into room "C" at floor level. (Figures 28 and 29) This is a typical hearth design used in early slave houses with raised wooden floors and later, tenants houses, which in some cases were one in the same.

The fireplace opening below the floor level was walled up. The cavity was then earth filled creating a bed for the floor of the firebox or inner hearth. A second wall, shorter in height, was placed in front of the first wall creating a ledge the length of the hearth. From this ledge random width boards were placed, side by side, angling upward to the floor joist or header joist, which ever the case may be. The joist end of these boards rest on a ledger board fastened to the joist. Clay fill was packed on top of the suspended boards creating a bed for the bricks of the outer hearth. The skimming of cement over the hearth's bricks mentioned above was an effort to stabilize their movement. Although cemented together at their joints, the movement of the earth bed below caused the bricks to separate and become loose.

Living Quarters (Room "D")

A single fireplace located on the west side of the chimney structure projects 19-1/2" into the rear room of the living quarters (room "D"). Its function was solely to supply heat to the room and living areas. (Figure 30)

The face of the fireplace rises 62" and then is recessed back 10-1/4" creating a mantle. The brick are then stepped back towards the wall. The entire exterior surface of the fireplace, including the wall above, is plastered cement from floor level to approximately 11" below the ceiling line. It is painted white with a tint of sky blue on the face of the fireplace.

The fireplace opening measured 38-1/2" from the hearth to the center of its arch. It is 42" wide by 19-1/2" deep. The arch is supported by a 3/16" x 2" formed iron flat bar lintel with each end bent to lay within the mortar joint in each side wall.

The back and side walls of the firebox are straight, ninety degrees to each other. Its smoke shelf is typical of those found in the other fireplaces. The smoke chamber and flue rises straight back at an angle of sixty-five degrees until it meets the flue from the large fireplace in the main kitchen area. The two flues then turn and rise vertically, side by side, up through the chimney's stack.

The floor of the firebox and hearth is skimmed with cement. Their construction is typical of the suspended hearth design employed in the secondary kitchen area (room "C"), mentioned earlier. (Figures 28 and 29)

During the documentation of the fireplace in room "D", the front hearth and its header joist collapsed revealing its construction details. (Figure 31) The area was left as is and not cleared of this debris. This accident can provide an opportunity for further investigations of this area concerning the original floor level like that found in the main kitchen area.

Figure 30 –Stucco Finished Fireplace in Living Quarters - Room "D"

Figure 31 – Same Fireplace as Figure 30 Suspended Hearth Collapsed During Survey

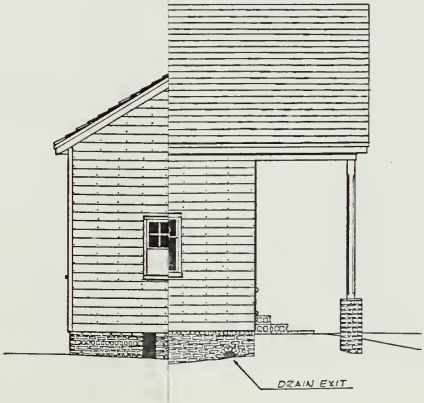
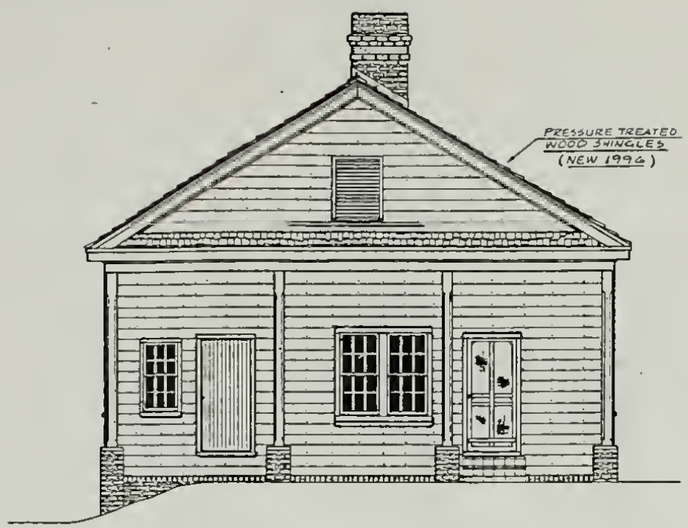
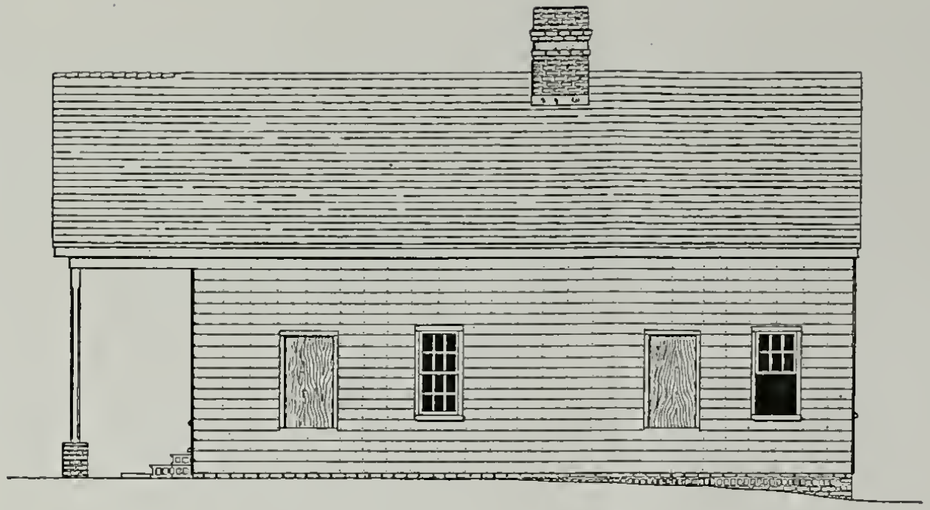


Figure 32 –Elevations



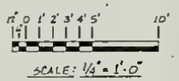
SOUTH ELEVATION



EAST ELEVATION

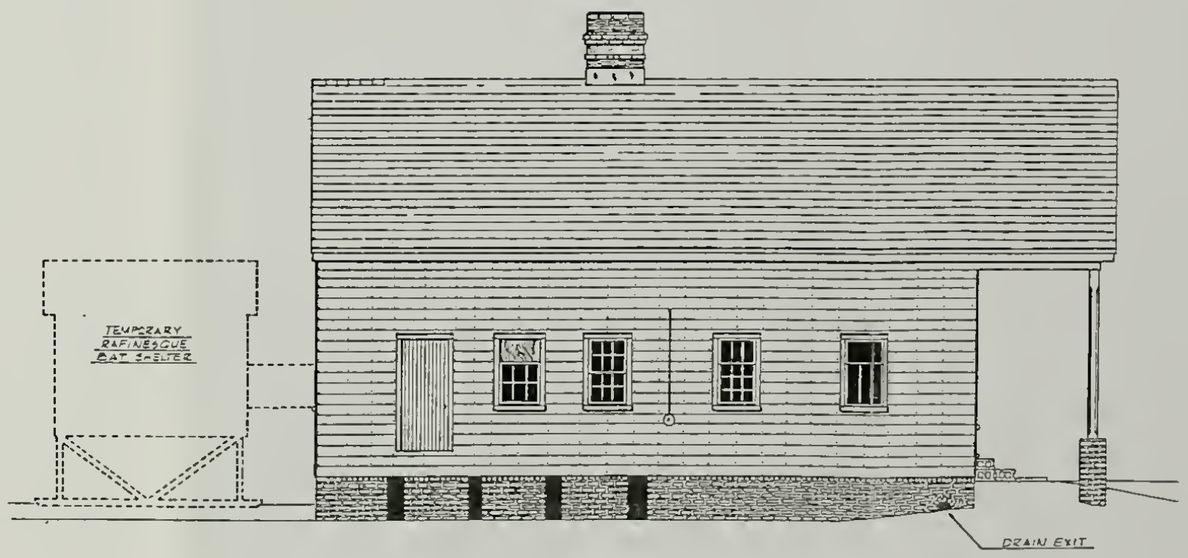
NOTE: TWO WINDOW OPENINGS APPEAR TO HAVE BEEN ALTERED AT AN EARLIER TIME INTO DOOR OPENINGS. THESE ARE PRESENTLY BOARDED SHUT.

GENERAL NOTES:
1- DOORS - BOARD AND BATTEN CONSTRUCTION
2- WINDOWS - MIS-MATCHED - NOT ORIGINAL. EVEN SOME SASHES ARE MIS-MATCHED WITHIN THE SAME WINDOW.



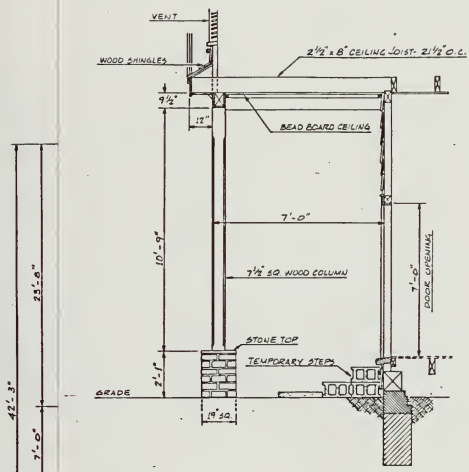
SCALE: 1/4" = 1'-0"

NORTH ELEVATION



WEST ELEVATION

Figure 32 –Elevations



— SECTION THRU PORTICO —

DETAIL - "B"

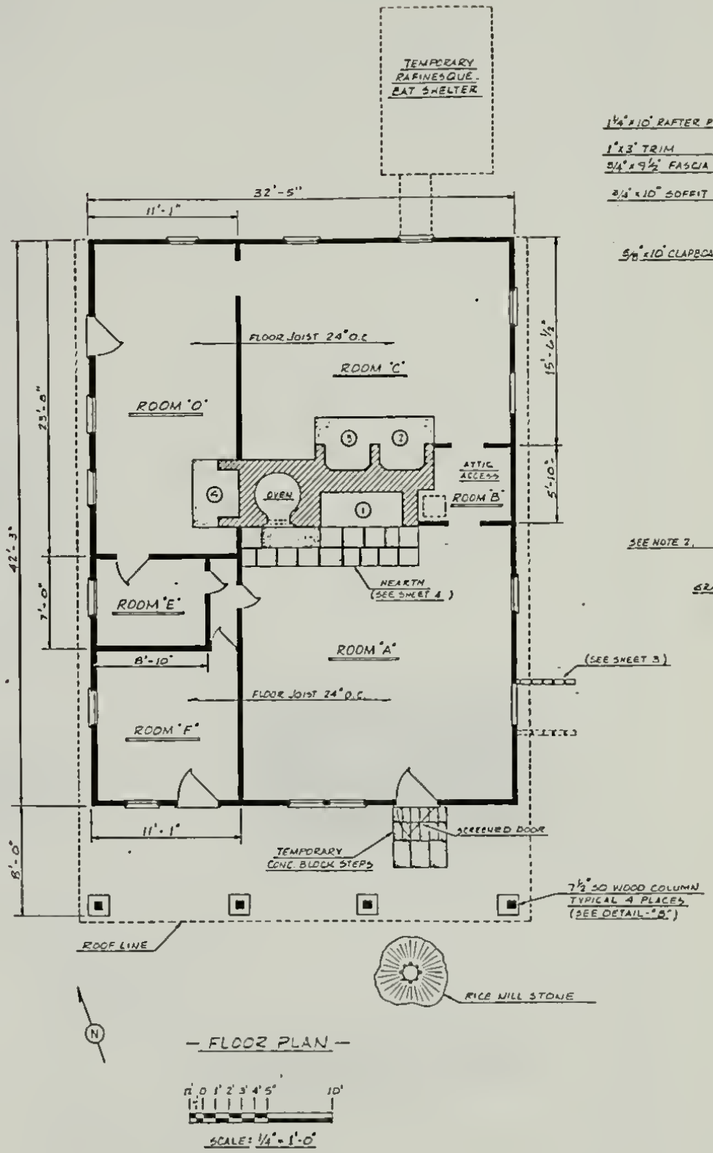
NOTES:

1- THE WALL STUD SIZES VARY IN WIDTH AND DEPTH. THEIR SPACING ALSO VARIES FROM 16" O.C. TO 24" O.C. THE EXTERIOR DOOR FRAME STUDS ARE 4" x 6". THE TOP OF THE STUDS ARE MORTISED INTO THE TOP PLATE. THEIR BOTTOM END SITS UPON THE SILL AND IS TOE-NAILED IN PLACE WITH WIRE TYPE NAILS.

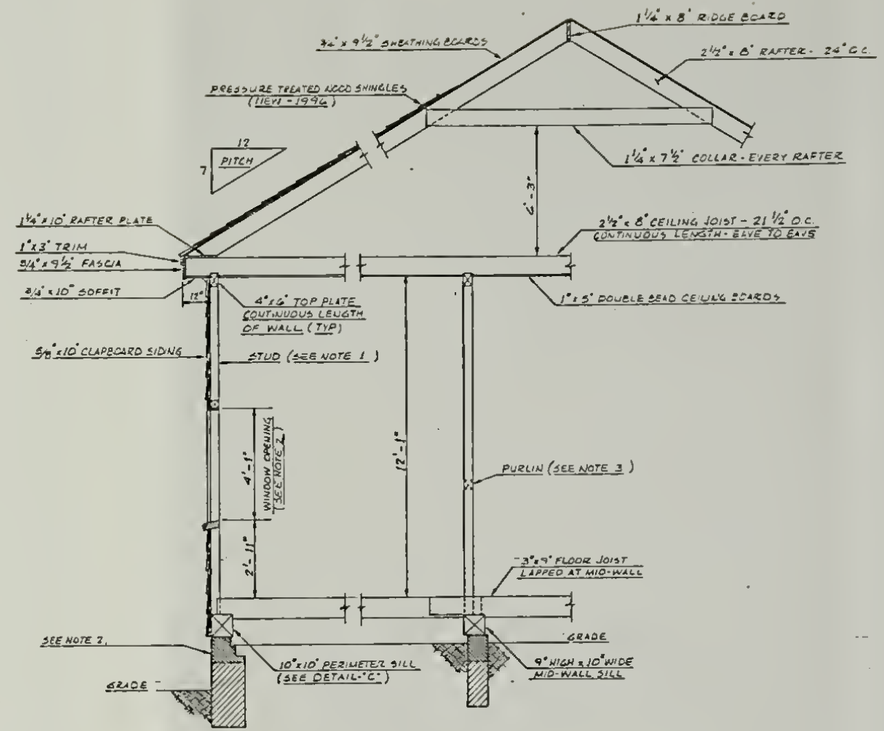
2- THE WINDOW STUDS WERE ORIGINALLY NOTCHED TO RECEIVE A HEADER AND SILL PIECE. THESE HAVE BEEN REPLACED WITH MIS-MATCHED WINDOWS AT SOME LATER DATE.

3- THE PURLINS THAT EXIST VARY IN HEIGHT FROM 7'-10" TO 8'-0" FROM THE FLOOR.

Figure 33 –Floor Plan / Wall Sections

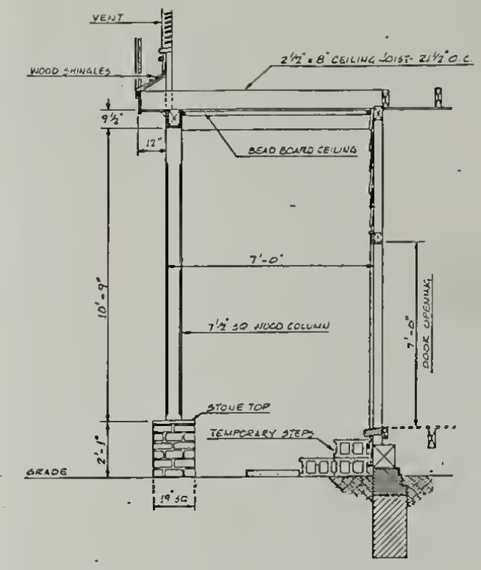


— FLOOR PLAN —



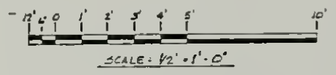
— TYPICAL WALL SECTION —

DETAIL - "A"



— SECTION THRU PORTICO —

DETAIL - "B"



— TYPICAL SILL LAPPED JOINT —

NOTE: THREE (3") LAPPED JOINTS PER PERIMETER WALL - RANDOMLY SPACED. SECURED WITH 20d NAILS.

DETAIL - "C"

NOTES:

1. THE WALL STUD SIZES VARY IN WIDTH AND DEPTH. THEIR SPACING ALSO VARIES FROM 16" O.C. TO 24" O.C. THE EXTERIOR DOOR FRAME STUDS ARE 4" x 6". THE TOP OF THE STUDS ARE MORTISED INTO THE TOP PLATE. THEIR BOTTOM END SITS UPON THE SILL AND IS TOE-NAILED IN PLACE WITH WIRE TYPE NAILS.
2. THE WINDOW STUDS WERE ORIGINALLY NOTCHED TO RECEIVE A HEADER AND SILL PIECE. THESE HAVE BEEN REPLACED WITH MISMATCHED WINDOWS AT SOME LATER DATE.
3. THE PURLINS THAT RESTS VARY IN HEIGHT FROM 7' 10" TO 10" FROM THE FLOOR.

Figure 33 –Floor Plan / Wall Sections

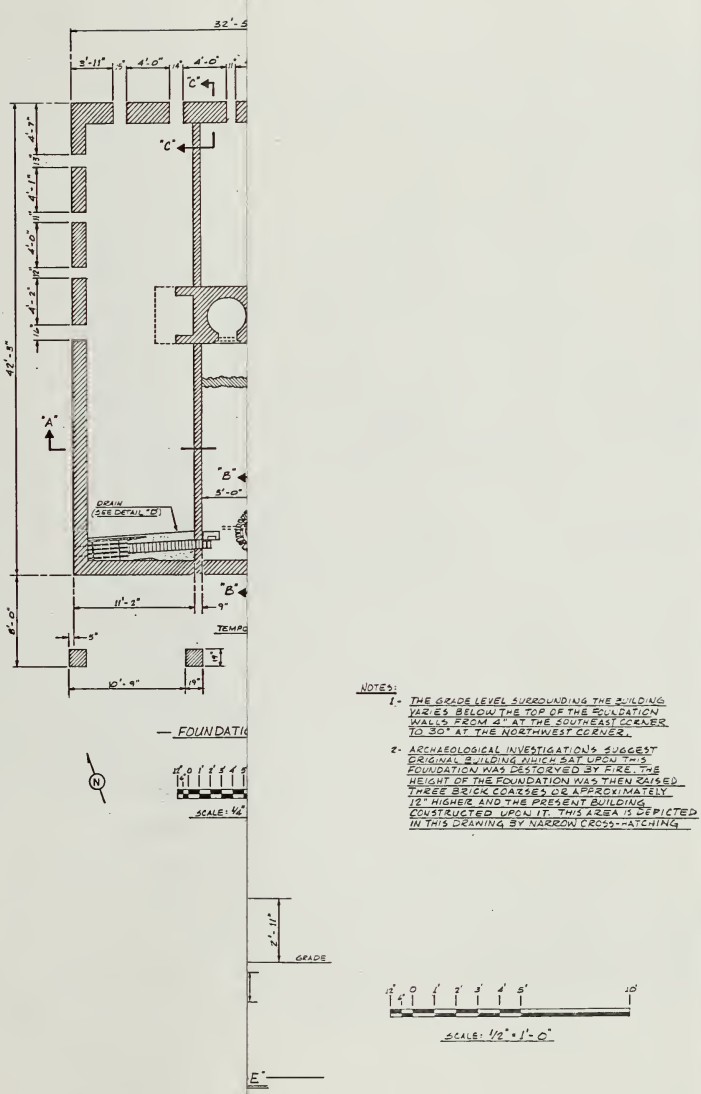
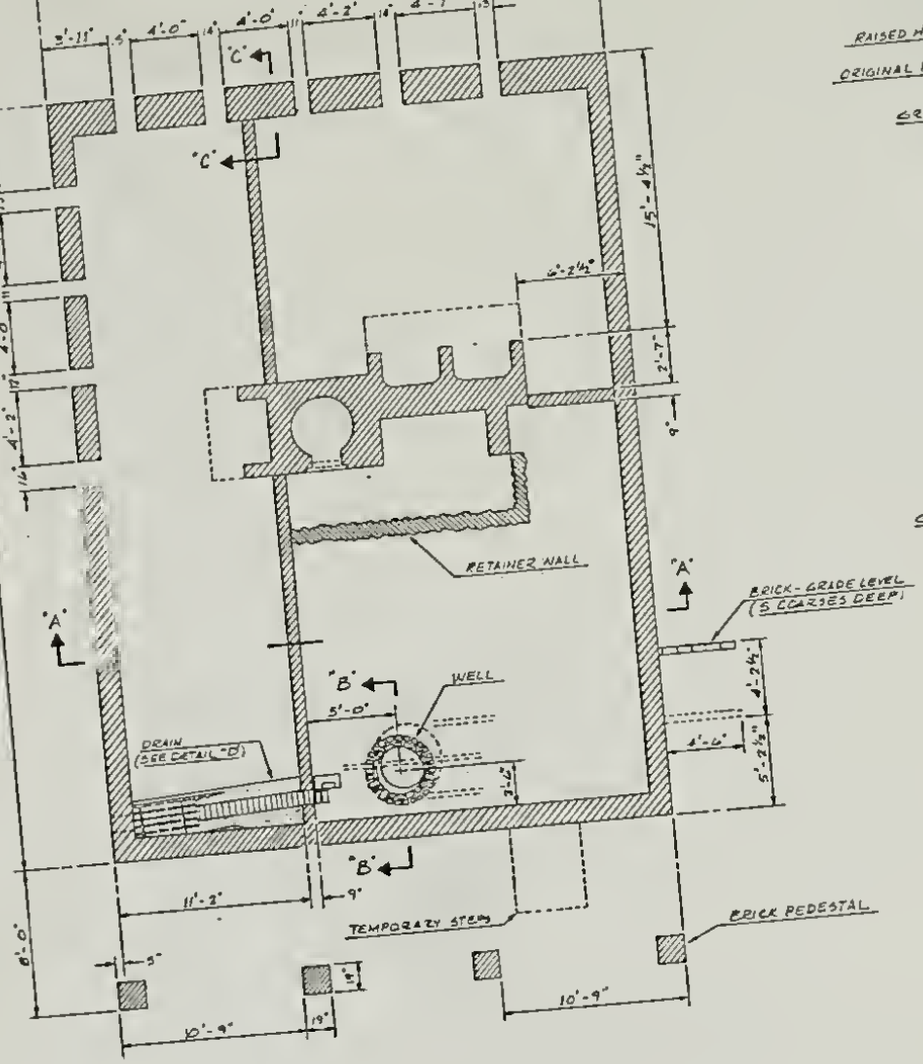
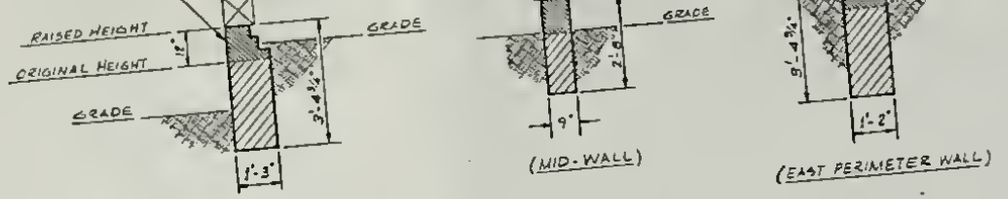


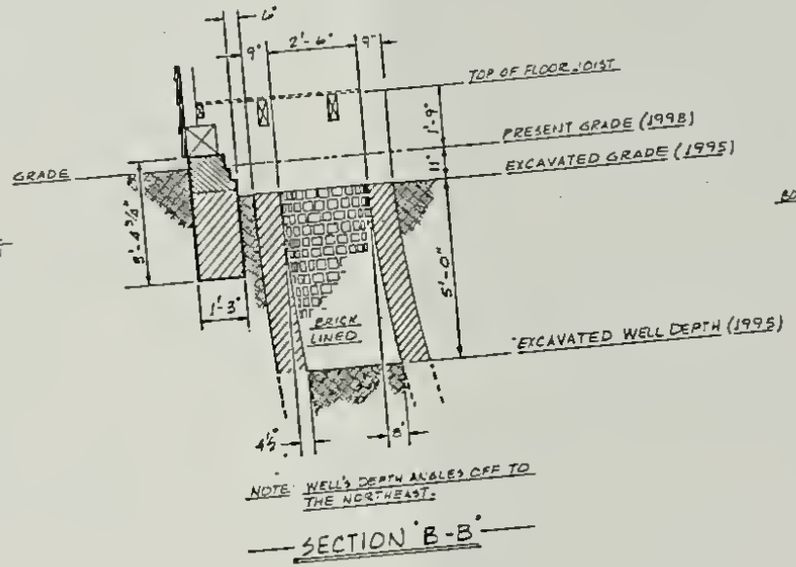
Figure 34 –Foundation Plan



FOUNDATION PLAN

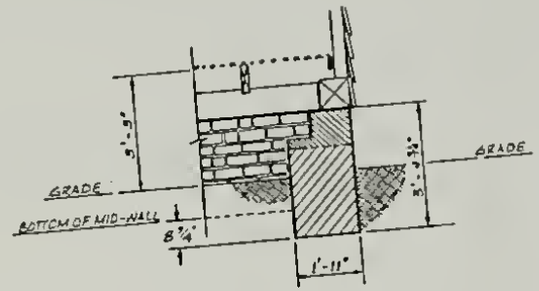


SECTION "A-A"

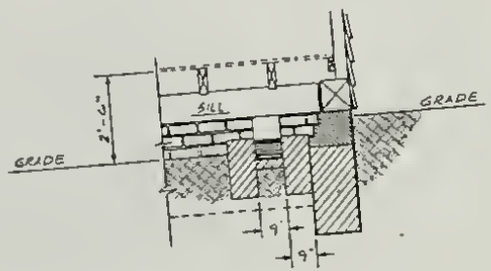


NOTE: WELL'S DEPTH ANGLES OFF TO THE NORTHEAST.

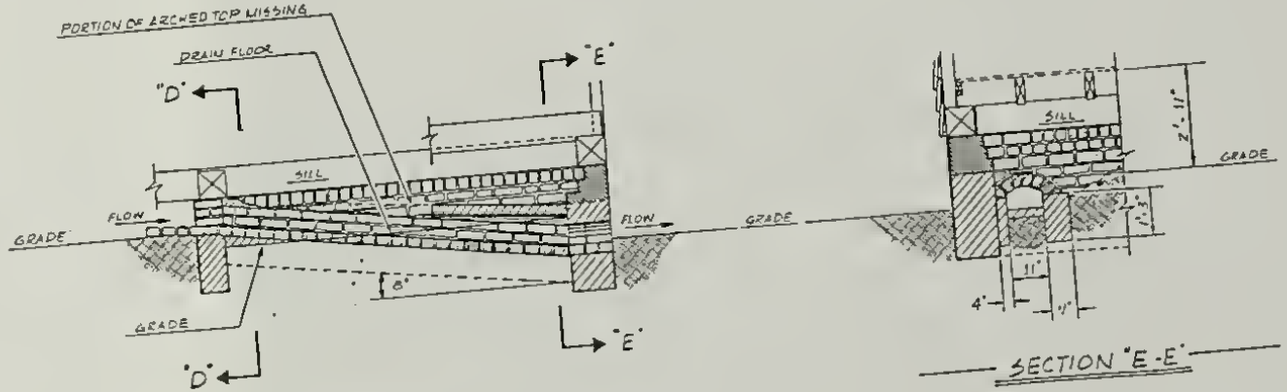
SECTION "B-B"



SECTION "C-C"



SECTION "D-D"



SECTION THRU LENGTH OF DRAIN (LOOKING SOUTH)

DETAIL "D"

SECTION "E-E"

NOTES:
1- THE GR... VARIES ... WALLS ... TO 30...
2- ARCHA... ORIGIN... FOUND... HEIGH... THRE... 12" H... CONS... III TH...

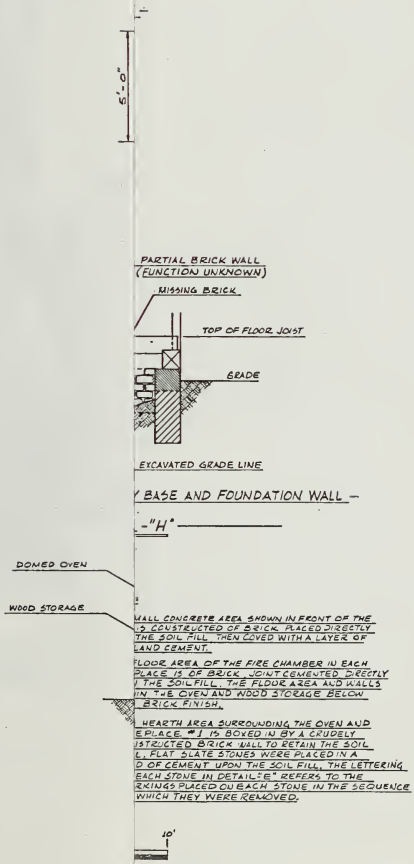
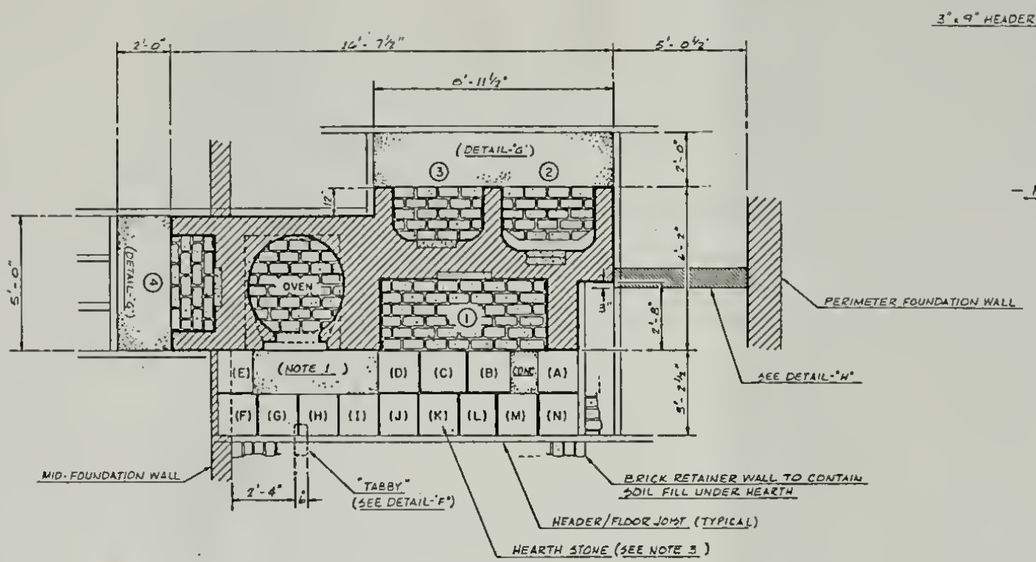


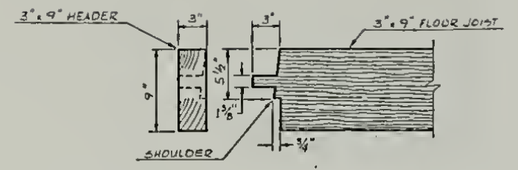
Figure 35 –Hearth Details



-PLAN VIEW-

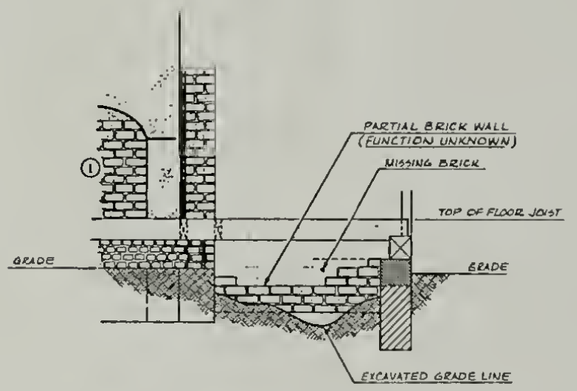
-FIREPLACE DETAILS-

DETAIL-'E'



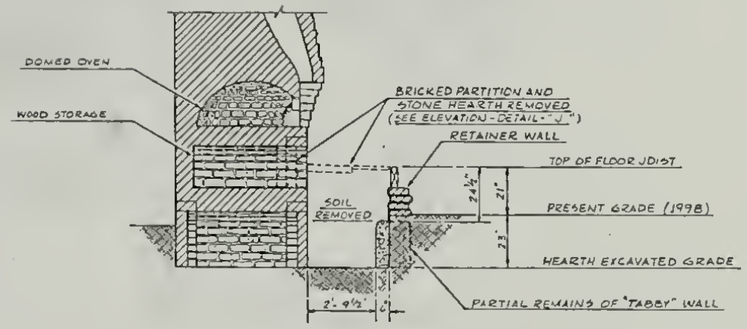
- FLOOR JOIST TO HEADER MORTISE & TENON JOINT -

DETAIL - "I"



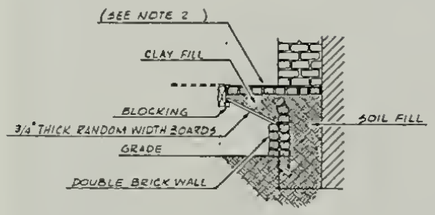
- PARTIAL WALL BETWEEN CHIMNEY BASE AND FOUNDATION WALL -

DETAIL-"H"



- SECTION THRU HEARTH AT OVEN -

DETAIL-"F"



- TYPICAL HEARTH DETAIL FOR FIREPLACE ②,③ & ④ -

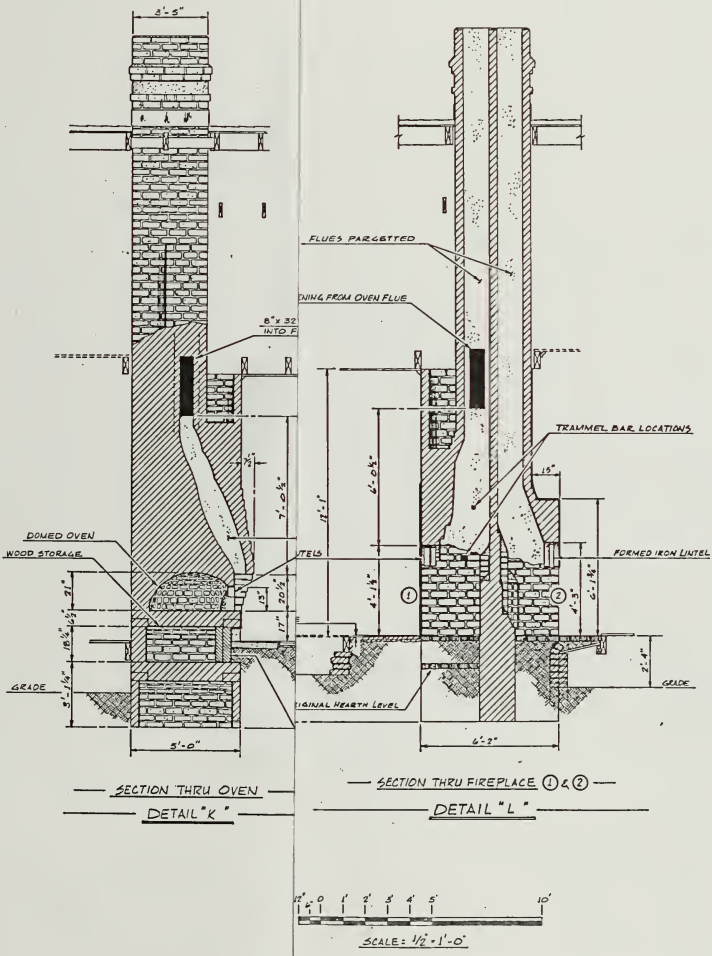
DETAIL-'G'

NOTES:

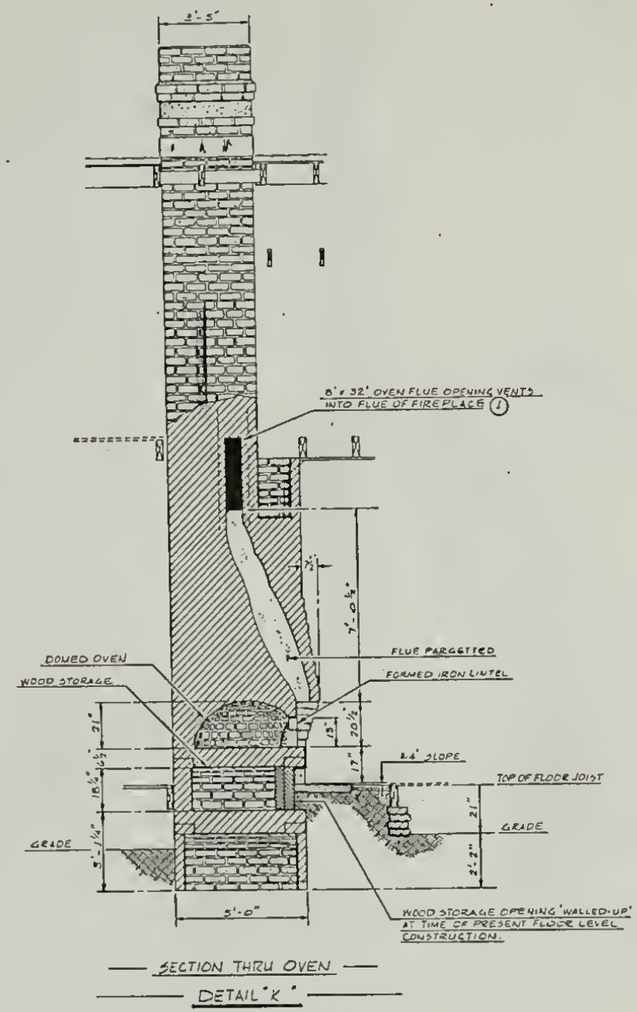
1. THE SMALL CONCRETE AREA SHOWN IN FRONT OF THE OVEN IS CONSTRUCTED OF BRICK PLACED DIRECTLY UPON THE SOIL FILL, THEN COVED WITH A LAYER OF PORTLAND CEMENT.
2. THE FLOOR AREA OF THE FIRE CHAMBER IN EACH FIREPLACE IS OF BRICK JOINT CEMENTED DIRECTLY UPON THE SOIL FILL. THE FLOOR AREA AND WALLS WITHIN THE OVEN AND WOOD STORAGE BELOW ARE BRICK FINISH.
3. THE HEARTH AREA SURROUNDING THE OVEN AND FIREPLACE #1 IS BOXED IN BY A CRUDELY CONSTRUCTED BRICK WALL TO RETAIN THE SOIL FILL. FLAT SLATE STONES WERE PLACED IN A BED OF CEMENT UPON THE SOIL FILL. THE LETTERING ON EACH STONE IN DETAIL-'E' REFERS TO THE MARKINGS PLACED ON EACH STONE IN THE SEQUENCE IN WHICH THEY WERE REMOVED.

SCALE: ½" = 1'-0"

Figure 35 –Hearth Details

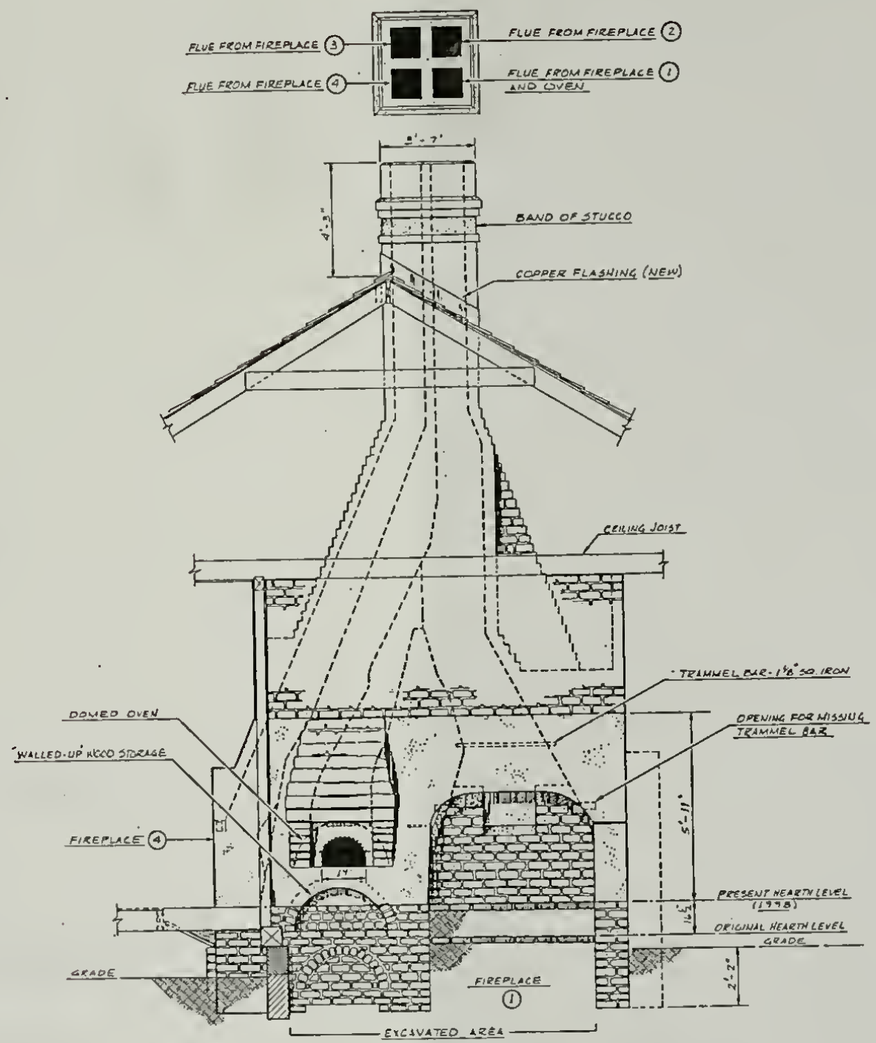


6 –Chimney Structure - South Elevation / Sections



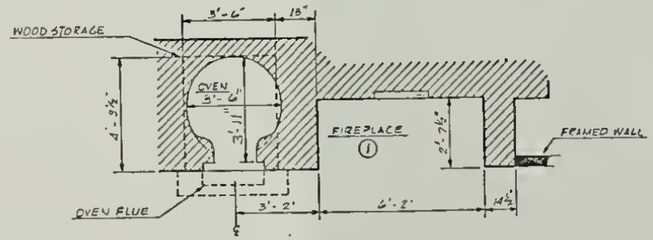
SECTION THRU OVEN

DETAIL "K"



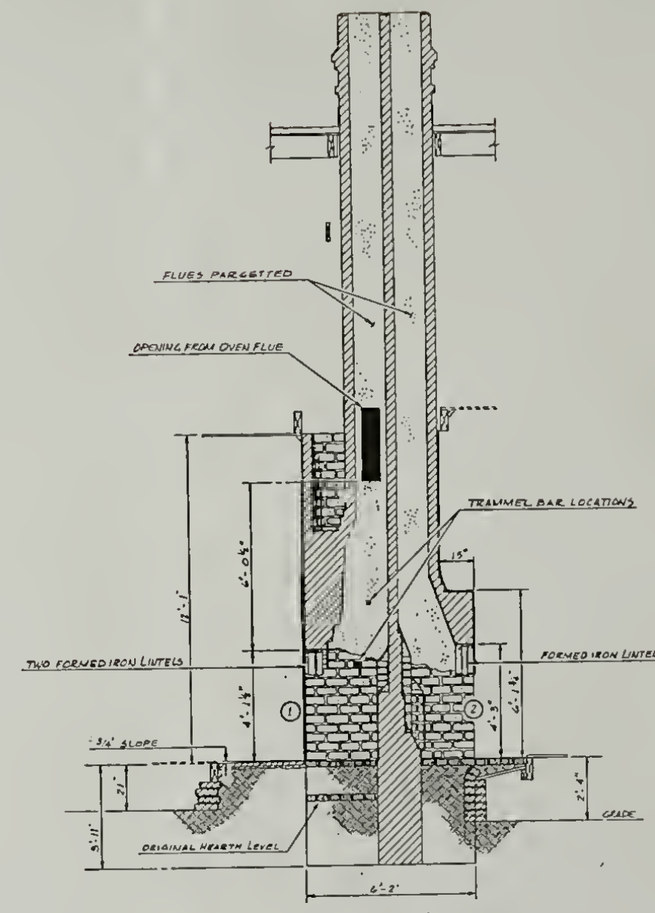
SOUTH ELEVATION

DETAIL "J"



PLAN VIEW

(SEE SHEET 4)

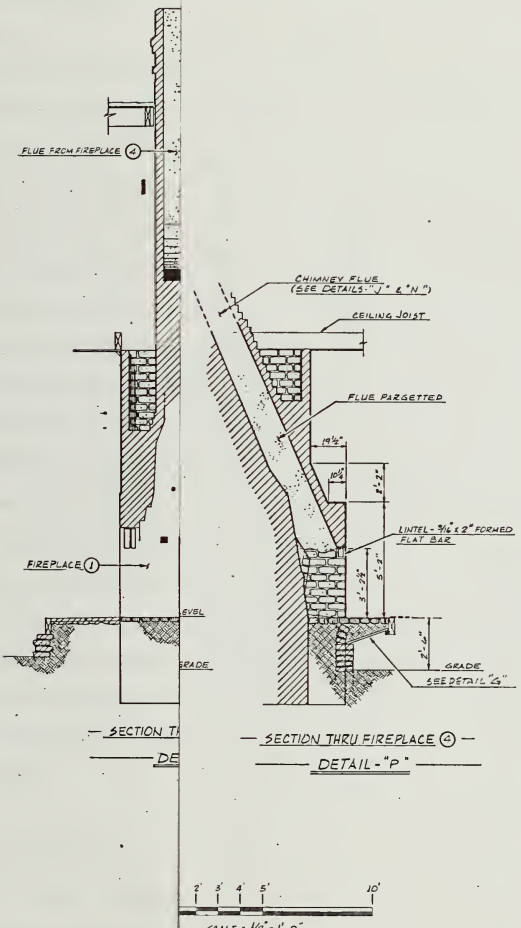


SECTION THRU FIREPLACE (1) & (2)

DETAIL "L"

SCALE: ½" = 1'-0"

Figure 36 –Chimney Structure - South Elevation / Sections



ney Structure - North and West Elevation /Sections

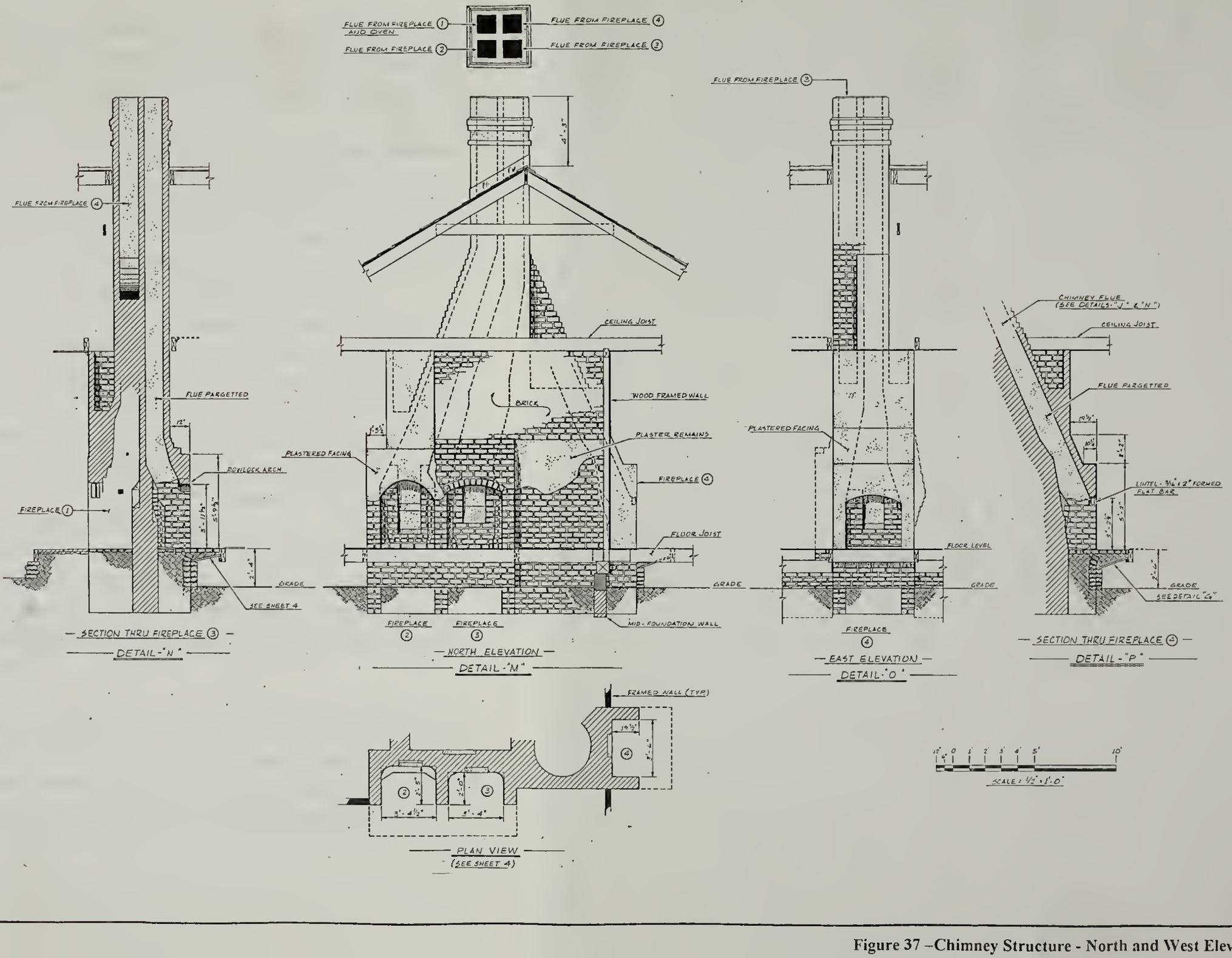


Figure 37 –Chimney Structure - North and West Elevation /Sections

CONCLUSION

A great deal of management attention has been paid to the plantations of the Lowcountry. Many of their mansions or simpler country houses have been restored and their grounds landscaped to reflect an era when wealth and a lavish lifestyle was common place for many who settled here.

The tourism industry has also focused primarily on the historical house architecture and its surrounding gardens with only a casual nod given to the less elegant outbuildings which supported them. Very little has actually been done to manage and utilize these secondary structures as an educational resource to promote a more complete program. Many become storage sheds or a gift shop which in either case, destroys many of their architectural features. Others are simply boarded shut and kept neatly painted for show only.

Very little attention has been given to their designs and construction details as an important architectural element of the colonial and postbellum plantations.

The kitchen building at Hampton Plantation has the potential to address this most forgotten aspect of plantation life. It offers an opportunity to develop an interpretative program aimed at explaining the construction methods of a past era through signage and visible details left exposed within the building. Drawings, photographs and artifact displays could help explain certain aspects of the building and its connection to the main house while also interpreting the lifeways of those who lived and labored in it.

While it is not the intent of this report to submit a proposal for an interpretative program, it is however; important to address certain areas for thought should such a program be considered. Figure 38 is submitted here as a train of thought in that direction and reflects the building's potential. Also listed below are areas of concern that should be addressed prior to developing a workable plan.

- The Rafinesque bats living in the building's attic should be removed by a professional bat handler and the building sealed to prevent their reoccurrence. The vent openings within the foundation walls should be sealed with framed wire or plexiglass inserts so as not to distract from the building's appearance.

- The floor structure should be repaired using the original type and sized lumber to afford an authentic appearance and meet safety requirements for public access.

- The jon-boats stored in the secondary kitchen area should be removed and its floored area possibly displayed with kitchen paraphernalia.

- The flooring should be 3/4" thick removable plywood (painted) and laid in such a manner as to show certain archaeological excavations and building construction details. These areas will require a handrail with a "closed" lower area for child safety. (Decorative wire or the like.) These handrails will also assist in directing the traffic of self guided tours from one room to another in a controlled fashion.

- The earth walls of the excavated hearth area in the main kitchen should be "shored-up" with thick plexiglass to prevent them from collapsing while at the same time allowing an unrestricted view of the archaeological findings. Also, a piece of 3/4" thick plexiglass should be installed as flooring over the brick drain structure beneath the southwest room to allow full view.

- The uncovered interior stud walls should be cleaned and left "as is" for construction interpretation.

- The building's exterior should be repaired and painted and new matching windows of their original size installed.

The above proposed work should be contracted to a professional or knowledgeable person and not installed or piecemealed by park personnel when time permits.

Recent studies have revealed that South Carolina is under-marketing its cultural heritage and Hampton Plantation surely falls in this category. Its mansion and kitchen building is situated on a large track of land presently isolated from rural development. The property overlooks Hampton Creek and a swamp area that once was cultivated for rice. Hampton Plantation park has all the necessary elements to interpret South Carolina's cultural

heritage yet it offers very little to the tourist in this respect. The tourist dollars flow up and down Highway 17 only a short distance away yet no real effort is made to capture part of this money flow.

An interpretative center building located on the property would enhance the Hampton Plantation tour immensely. From an interpretative point of view there are several heritage themes the park could address and integrate into their program which would offer more to the visiting tourist. These are:

1. Rice production in colonial and antebellum South Carolina. This could include reproductions of a rice trunk and/or rice barge, tools and other aspects of the culture represented by models.
2. Plantation life from management to labor and interpretation of the life of the plantation slave through reproduction slave cabin(s).
3. Wildlife, which abounds on the park property.

For the park to become more self-supporting, the park service should recognize the importance of heritage-based tourism and the importance of educating the public concerning South Carolina's heritage.

A survey by the National Tour Association revealed that 52% of travelers over the age of 50 favored touring to historical site over beaches and other warm weather destinations. Tourism is a $313 billion dollar industry and it is anticipated to be the number one industry by the year 2000. In South Carolina cultural activities (including museums, historic sites, libraries, arts and festivals) generate nearly $160 million dollars annually.

With the correct leadership and marketing Hampton Plantation has the potential to become a jewel in South Carolina's crown.

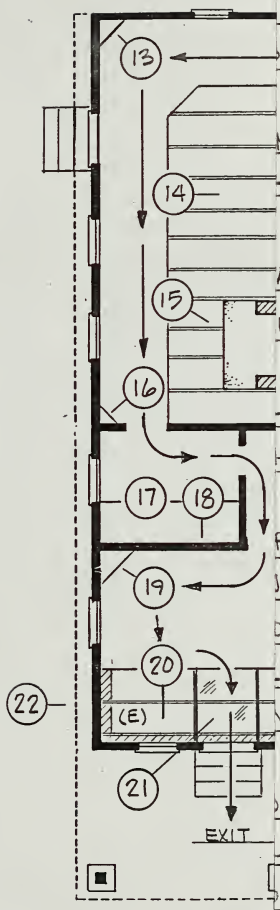


Figure 38 –Suggested Kitchen Building Interpretative Layout / Traffic Flow