

## Introduction

Archaeological and architectural investigations at the Sturgis Library were carried out in the spring and summer of 2014. The initial purpose of the investigation was to evaluate the potential for any archaeological remains relating to the Reverend John Lothrop occupation being present beneath or to the immediate east or north of the oldest part of the library. As a way of understanding what was being found under the house, the investigation was extended to include an architectural analysis of the substructure and the attic. Subsequent excavations were carried out on the south lawn of the library. Architectural investigations found extensive evidence of reuse of older architectural elements in renovations that had been made to the building during its life as well as the discovery of previously unknown architectural elements and details. Archaeological investigation found evidence of late seventeenth to nineteenth century refuse disposal and architectural demolition beneath the building and limited, but significant, deposits of earlier seventeenth century refuse disposal on the south lawn.

## Environmental Setting

The Sturgis library is located on Main Street in the center of Barnstable, Massachusetts (**Figure 1**). The topography of the library property is flat with a significant up slope being present to the immediate east of the property line. The northern and eastern yards of the library appear to have been seriously disturbed by previous earth moving activity.

Initially it was believed that only two soils are present in the project area: Carver coarse sand and Plymouth loamy coarse sand (**Figure 2**). The Carver coarse sand is present in the east, west and north yards while the Plymouth loamy coarse sand is present in the south yard. Carver coarse sand is glaciofluvial (deposited by water coming off of the glaciers) and is commonly present on outwash plains and moraines. These soils are excessively well-drained and probably supported forests of white and scrub pine in the past. The soil profile is as follows:

0-8 cm	A0/ Duff
8-18 cm	A1 black (10YR2/1) coarse sand with little gravel
18-25 cm	A2 dark gray (10YR4/1) coarse sand with little gravel
25-38 cm	B1 strong brown (7.5YR5/6) coarse sand with little gravel
38-71 cm	B2 yellowish brown (10YR5/8 to 10YR5/6) coarse sand with a moderate amount of gravel
71-81 cm	B2/ C1 transition brownish yellow (10YR6/6) coarse sand with a moderate amount of gravel
81-170 cm	C1 light yellowish brown (2.5Y6/4) coarse sand with little gravel

Plymouth loamy coarse sand is a very deep, excessively drained sandy soil that was formed in glaciofluvial or deltaic deposits. Like the carver coarse sand, these soils are present on outwash plains and moraine locations. They are better suited to woodland development and tend to support a wider range of tree species than the carver soils. The generic soil profile is as follows:

0-10 cm	A1 very dark grayish brown (10YR 3/2) loamy sand with a low
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	amount of gravel
10-43 cm	B1 yellowish brown (10YR 5/4) loamy sand with a low amount of gravel
43-69 cm	B2 brown (7.5YR 5/4) loamy sand with a moderate amount of gravel
69-178 cm	C1 yellowish brown (10YR 5/6) gravelly coarse sand with a high amount of gravel

A third soil type was identified during the course of archaeological fieldwork: Boxford silty loam. This soil was previously mapped as being to the immediate north of the library with a small finger extending to the south. As a result of the field work, it appears that much of the library property actually is situated on this soil type.

Boxford silty loams are moderately well drained due to the presence of high percentages of clay in the soil. These soils are well suited to woodland, hay, pasture and crops, but can be wet in the spring due to a slow runoff caused by the clay. The generic soil profile is as follows:

0-10 cm	A1 dark grayish brown silty loam
10-38 cm	B1 brown silty loam
38-43 cm	B2 grayish brown silty clay loam
43-165 cm	C1 mottled grayish brown firm, silty clay loam

The project area is located at the base of a fairly significant rise to the east of the present property line. The soils along the eastern edge of this line have been extensively excavated to the C1 horizon to a depth of up to 1.5 meters (5 feet) below the grade on the slope. This can clearly be seen on the topographic map of the property (**Figure 3**). When this house was being occupied in the 17<sup>th</sup> century, it may have been subjected to significant run off along the western slope of the hill, making for a wet cellar and possibly shortening the life of any timbers located near the ground surface. The placement of the house at the base of this slope is odd, given what is known about 17<sup>th</sup> century preferences for homesites, which were more commonly placed on the tops of rises in close proximity to potable water. Investigations beneath and around the house indicate that it remains on its original site though.

### **History of the Property**

The property is believed to have been first occupied ca. 1644 when Reverend John Lothrop is believed to have built the first European house on the property. Lothrop's first house is believed to have been located to the east of the present site at what is now the Barnstable Tavern (3176 Main Street). This information is based on reports written of by nineteenth century local historian Amos Otis. Otis reported in the middle nineteenth century that the original grant was for 45 acres and that Lothrop's original house was near the Eldridge Hotel (what is now the Barnstable Tavern) (Otis 1890: 32, 335). The house identified by Otis as Lothrop's remained standing into the nineteenth century. It was described by Otis as:

“... a two story frame house, built in the ancient style, and about 22 feet by 26 on the ground. It was taken down in 1824. It had been enlarged and remodeled at least twice, a room had been added on the west, and a lean to on the rear. The frame was of large timber and covered with inch and a

quarter planks; but the walls not being plastered, or mulched, and the roof being covered with thatch..." (Otis 1890: 211).

Otis reported that the land in the immediate vicinity of Lothrop's original house was low and swampy and that the settlers, who had originally settled close to their reverend, desired a drier and more central location (Otis 1890: 207). As a result of the location, and the fact that his original house was small and his family large (making for cramped Sabbath meetings), as reported by Otis, the townspeople desired that he should have a larger house in a better location nearer the center of the growing settlement (Otis 1890: 207). They reportedly wanted the house to have "a room sufficiently large to accommodate the members of the church at their meetings, and with the other rooms so arranged that all the lower floor could be occupied on the Sabbath." (Otis 1890: 207). Unfortunately, there does not exist any documentation in the town records of this action so it is impossible to confirm Otis' account of the reasons why Lothrop built a second house.

Otis goes on to report that as a result of his architectural explorations of this new house,

"Mr. Lothrop's new house was 21 feet on the front or south side, and 29 feet on the east side. The chimney was on the west side, the oven projecting outside of the wall. The front posts were eleven feet high, and the rear five and one-half feet, between the sill and the plate. As the floors were laid even with the lower side of the sills, which were a foot square, the lower rooms were about 6 feet 6 inches in the clear, between the summer beam and the floor. The framing of the front room corresponded with the height of the rear posts, consequently the front posts extended about three and one-half feet above the chamber floor, making a half story in front.

The first alteration was made by adding a room on the west ; the second, by lengthening the front posts, making the building two full stories on the front; the third was made by the late Isaac Chipman, who raised the rear up to two stories; and the fourth or last by converting the west part of the house into a public library room. The original part of the house remains, excepting the finish, as it was when occupied by Mr. Lothrop. " (Otis 1890: 208).

If the original house was only 21 x 29', it does not seem that the town really wanted to use it as a Sabbath meetinghouse. The population of the town by 1644 numbered 41 families, perhaps 150-200 people, too many to have fit in to Lothrop's house at one time, no matter how the rooms were arranged.

There are no other records, town personal, or colonial, that record when Lothrop built a second house. Lothrop's will, dated August 10, 1653, gives his old house to his eldest son Thomas, and the house that he was the living in to his wife Anne Hammond/ Dimmock (**Appendix A**). The property was described as having marsh land lying to the east beside Rendezvous Creek. Based on this record, the only one we know of that describes where Lothrop's second house was, his house was to the west of the creek, probably within a reasonable distance. The Sturgis Library lies to the west of the creek, so the meager documentary information we have for the seventeenth century does not discount this as being Lothrop's second house. The location of his first house is given as having a marsh on the lower end of it that butts up to the creek to the north (presumably Rendezvous Creek). This location does fit with where Otis said that Lothrop's first house was located. As a side note, Thomas Lothrop did not even live in Barnstable when his father left him the house in 1653. Thomas

had moved to Watertown near where his wife, whom he had married in 1639, was living. It is not known who Thomas left his father's house to when he died in 1707. His will and probate are presumably on file at the Middlesex County probate office.

Ann died in 1688 and did not leave a probate or will. There is also no evidence that she ever moved out of the house. The question then becomes who did the house then go to. When she died, three of Reverend Lothrop's children were still living in Barnstable: Joseph (who dies in 1702), Barnabas (who dies in 1715) and John (who dies in 1727). Joseph, son of Reverend John and his first wife Hannah, married in 1650 and probably set up his own household in Barnstable at the time, as he is not mentioned as living in the family house when Reverend Lothrop died in 1653. Barnabas, a son of Reverend John and his second wife Anne, married his first wife in 1658 and his second in 1698. John, another son of the Reverend John and his second wife, married his first wife in 1671 and his second in 1695. Either of the two younger sons could have inherited or bought the house from their mother before she died. Unfortunately, so many Barnstable County records were destroyed in the 1827 fire that destroyed virtually all of the deeds up to that date, so if their mother had granted or sold it to one of them, as is probably the case, the records of that transaction are lost.

The most direct line between the Reverend John Lothrop household and the Sturgis household is through Barnabas Lothrop. Barnabas married Susannah Clark in 1658 and one of their children was Abigail Lothrop. She married Thomas Sturgis Sr., son of Edward Sturgis of Sandwich and later Yarmouth in 1687. From Thomas Sturgis it is a fairly direct line of descent to William Sturgis who created the Sturgis Library. The working hypothesis, one that may be blown out of the water by someone who has documentation regarding where Barnabas Lothrop lived, is that Anne Lothrop deeded the property to her son Barnabas around the time he was married in 1658, with the provision that she be allowed to continue to dwell in the house until her death. This hypothesized provision continually shows up in the wills of Sturgises and Lothrops (and probably a lot of other families) during the 18<sup>th</sup> century. When Barnabas' daughter Abigail married, she and her new husband may have been given the house by Barnabas Lothrop while Barnabas maintained his own household elsewhere. Barnabas died in 1715 (**Appendix B**).

Thomas Sturgis died in 1708 and he made a provision in his will that his wife Abigail would be allowed to continue to live in the house and use the barn, both of which were described as being above the highway, until her death (**Appendix C**). Upon her death in 1723, a dispute arose between brothers Edward and Thomas Sturgis, the later who was described as a seafarer (**Appendix C**). Edward claimed that Thomas had received the greatest part of the estate upon their father's death in 1708 and that now that their mother had died, the majority of the estate should go to Edward. In dispute were the house, outhousing, upland, swamp around it (valued at 200 lbs), marsh and upland adjoining to Captain Lothrop's marsh and at the foot of Thomas Sturgis upland (valued at 40 lbs). The court found for Edward and he was required to pay 29 pounds and 12 shillings to each of the other surviving out of the estate (**Appendix C**). It was recorded that on May 10, 1728, Thomas Sturgis was paid his due.

Thomas Sturgis married in 1721/22 and may have been living with his mother in the family house before that time, possibly with the idea that upon her death it would be his house. When his brother Edward challenged the division of their mother's estate, indicating that the majority was going to go

to Thomas again, Thomas may have had to buy the house from his brother. This would have been recorded in the records of deeds which were destroyed in 1827.

At the time of his death in 1764 he was identified as merchant and his son Thomas was named executor (**Appendix D**). His wife Martha Russell received a third of the real and personal estate, 14 lbs yearly, a clock, and two "Negroes", presumably slaves, named Fanney and Pompe, both of which were to be reckoned as real estate like the clock upon her death. Thomas's son Thomas was given the remainder of the real estate and his sister Hannah Bourne was given use of the northeast room.

Thomas Sturgis III married Sarah Paine in 1744 and she died in 1772. He died in 1785. In his will he left the use and improvement of the northwest part of the dwelling house for a lodging room (**Appendix E**). This included the use of storeroom that is usually locked and kitchen privileges. She was also granted the right to live in the easternmost lower room in the front of the house where Thomas's sister Hannah Bourne was living. She was also given permission to gather a bushel of winter apples and a bushel of pears yearly. His executors, his sons William, Russel, and Thomas, were charged with selling all the remaining personal and real estate, including the clock (presumably the one left to his mother in his father's will) in order to pay of the debts and funeral charges of the estate with the proceeds going to Elizabeth. It is not known when Elizabeth Sturgis died or married. Hannah Bourne, who was the widow of Capt. Silvanus Bourne, died in 1798.

William E. Sturgis must have purchased the family house from his father's estate after Thomas's death. William was a ship master and merchant who appears to have been seriously in debt upon his death in 1797. His widow was allotted the east room in the front of the house, the chamber above it, and the store room and buttry at the east end of the kitchen. She was also given the yard that at the front of the East Room with the fruit trees thereon with the privilege of coming up to the house in the alley that is at the front of the house. She also had the privilege of going into the kitchen and washroom to do what work she may need to do and the use of half the cellar. Finally, she received one quarter of the barn with a way to it. William's brother Russel Sturgis, a Boston merchant, was given custody of the young William F. Sturgis who was 14 at the time of his father's death in 1797 (**Appendix F**).

The amount left in the estate does not appear to have been enough to pay off the debts it owed (including a debt to Amos Otis). William's widow and her son Thomas sold various pieces of land between 1798 and 1799 and the family house was sold to Deacon Joseph Chipman by William F. after his mother's death in 1819.

The house passed to Joseph Chipman's son William who, in 1863, sold it back to Captain William F. Sturgis. He died in the same year and requested that the house be turned into a library. The Sturgis Library officially opened its doors on August 2, 1867.

None of the historic maps reviewed for this project (1781, 1795, 1831, 1844, 1861, 1865, 1880, and 1910) date to the occupation of the house by the Lothrop or Sturgis families. The earliest maps (1781, 1795, 1831, and 1844) do not show enough detail of the property to be useful. The 1860s maps show two outbuildings to the north of library (**Figure 4**). These are still present on the 1880s lithograph (**Figure 5**) but are not shown on the 1910 insurance map (**Figure 6**). The foundation for

one of these outbuildings is still present to the north of the norther parking lot at the library. The 1860s maps also show a driveway between the library and the property to the east. This driveway is still visible at the library today and is marked by a finished opening in the stonewall bordering the sidewalk. The creation of this driveway in the 19<sup>th</sup> century may have been responsible for the removal of the western portion of the hill and the construction of the stone wall along the eastern border of the property.

## Archaeological Testing

### 1970s Plimoth Plantation Investigation

Plimoth Plantation conducted an archaeological field investigation at the Sturgis Library September 3, and from September 8-10 in 1971. The only record of their work is a series of photographs on file at Plimoth Plantation. It appears from the photographs that they excavated a series of three foot by three foot or one meter by one meter squares on the east and west sides of the library (**Figures 7 and 8**). The project was called Colonial 19 (C19), the 19<sup>th</sup> colonial site at which the Plantation conducted archaeological investigations. The excavators appear to have dug at least six units during their investigation.

Units Test Pit 1 and 2 were located in the east yard of the library. TP1 was located just east of the library at the base of the slope that forms the property line with the adjacent lot. TP 2 was located at the top of the slope on the adjacent property. TP 1 was abandoned after deposits of what appeared to be redeposited clay were encountered just below a thin sod layer in the southwest quadrant. Neither units appear to have produced any significant findings.

Test Pit 3 (TP3) was located in the west yard adjacent to the west side of the library's northwestern extension. This unit encountered what appears to be a post hole and post mold set into the subsoil. This unit was subsequently extended by one unit to the south. No other features were encountered. TP 3 was subsequently renamed unit N1W1 and a eight square east to west by two square north to south grid was established in the area, presumably to search for other post holes. Subsequent excavations appear to have failed to encounter any other post holes. The post hole found is most probably related to either an out building or more likely a fenceline. No artifacts are on record as having been found and it is probable that nothing significant was found.

### 2012 Diggers

On October 5, 2012 the hosts of National Geographic Channel's *Diggers* Television show conducted a non-systematic metal detector survey around the library. The detectorists were interested only in metal artifacts and as a result, harvested a meager collection of relics from the property. Only one artifact (*Diggers* catalog Number 113-038), an 1827 copper large cent, was found in the south yard. This was found around the eastern Linden tree at a depth of 10.7 cm. The remaining artifacts were found in and around the foundation to the north of the north parking lot. A complete catalog of the artifacts recovered is presented in Appendix G. No locational information other than the general area where the artifact was found and, sporadically, the depth of the finds was recorded. No notes were kept by the shows "archaeologist" and no maps of find locations was made and no GPS coordinates were taken. As a result, the information yielded by this "treasure hunt" is very limited.

Essentially, the only thing that can be said that the material around the north foundation appears to date to the late 19<sup>th</sup> to early 20<sup>th</sup> century and that a chest of drawers, a stove, and rifle shells appear to have been stored in, used at, or disposed of near or within the building.

### 2014 Yard Survey

Archaeologists excavated 32 50-cm-square test pits in the south, east and north yards around the library. Archaeological testing was commenced with the excavation of one 50 cm square test pit adjacent to the east side of the house, just north of the bulkhead entrance to the cellar 2.9 meters (9.5 feet) south of the northeast corner of the house (**Figure 9**). The excavators encountered four stratigraphic layers in this unit:

0-3 cm	A0/ duff
3-6 cm	Fill 1 Dark olive brown (2.5y3/3) clayey loamy sand
6-10 cm	B2 Light olive brown (2.5y5/6) clayey sandy silt with a moderate amount of gravel
10-30 cm	C1 Mottled dark olive brown (2.5y3/3) and dark yellowish brown (10YR4/6) silty sand with a heavy concentration of gravel and rock

The present foundation that is visible on the east side of the house was found to be shallow, extending only to 20 cmbs. Artifacts recovered consisted of whiteware (1820-1900+), hand wrought nails (pre 1820), machine cut nails (post 1820), a possible hinge fragment, two fragments of flat window glass, and a piece of Albany slipped stoneware (post 1840). The majority of the artifacts appear to date to after 1820 which indicates that the disturbance on this side of the house happened after that time. Overall, the area immediately adjacent to the east of the house appears to have been heavily disturbed in the past (probably during the 19<sup>th</sup> century).

A second 50 cm square test unit was placed 1.8 meters north and 1.9 meters west of the northeast corner of the house (**Figure 9**). Testing here encountered the following stratigraphy:

0-10 cm	Fill 1 dark brown (10YR3/3) silty loam
10-40 cm	B2? Light olive brown (2.5Y5/6) loamy sand
40-65 cm	B2/ C1 gray (2.5Y5/1) clay
65-75 cm	C1 Mottled strong brown (7.5YR4/6) and gray (2.5Y5/1) clay

The only artifact recovered was one piece of white ironstone with a molded floral decoration. This piece dates to the middle 19<sup>th</sup> century. This find indicates that this portion of the property was probably disturbed during renovations when the building was converted from a private home to the library. The clay encountered in this unit is very similar to the clay encountered beneath the northeastern portion of house.

The remaining 30 test pits were located in the south yard. The south yard test test pits were laid out in a 5-meter grid pattern across the south lawn (**Figure 10**). A total of eight transects, each containing between two and five test pits, were labeled A through H. Transect A was located at the southeast corner of the property and Transect H was located at the southwest corner. The test pits in

Transect A paralleled the eastern wall of the property. A gas utility line was located to the immediate west of this transect between it and Transect B. Transect B was located to the immediate west of the eastern Linden tree. Transect C was located to the immediate east of the pathway from the sidewalk to the front door of the library. Transect D was located on the west side of the pathway. Transect E intersected the western Linden and the maple tree. Transect F was located to the immediate east of the stonewall that parallel's the parking lot. Transect G was to the immediate east of the mulberry tree and Transect H was to the immediate west of it.

All five of the test pits along Transect A contained dense roots and what appeared to be disturbed subsoil. The present ground surface was found to be approximately two meters below the top of the ground surface in the yard to the immediate east. This may be the result of the removal of the western slope of the hill that the adjacent house sits on.

Four of the five test pits on Transect B contained dense clayey loam soils that appear to have been subjected to stripping with only test pit B-2 containing what appeared to be undisturbed soils. This test pit was located south of the Linden tree. The stratigraphy in this test pit consisted of an 18 cm deep gray brown A1 very compact sandy loam that overlaid a yellow brown silty sand B1 horizon. These soils appeared to be Carver coarse sand versus the Boxford silty loam encountered elsewhere. The position of this unit to the south of the tree may indicate that the topsoil in the yard had been stripped at some point but the soil around the trees had been left intact. Test pit B-5 was located two meters south of the library's south wall. It appears to have encountered soils that had been disturbed by the installation of the drain running across the yard.

Transect C was the first transect to encounter what could be identified as intact archaeological horizons. Test pit C-1, located 1.4 m north of the stone wall bordering the sidewalk, revealed a 40 cm deep gray brown A1 horizon that overlaid a yellow brown B1 subsoil. A layer of larger rocks was found at the bottom of the A1 horizon. This is interpreted as possibly representing the base of an older wall predating the existing one. Test pits C-2 and 3 encountered probable intact horizons of dense clayey loam and test pit C-4, while revealing intact soil horizons, also encountered the large rotted roots of the mulberry tree that once stood in front of the library. Test pit C-5, located two meters south of the library building, encountered intact soil horizon and a 5 cm deep depression into the B1 horizon from 30-35 cmbs. Nineteenth century ceramics and a large quantity of window glass indicate that this feature probably dates from the middle 19<sup>th</sup> century when the house was converted to a library. The feature was circular in plan at 30 cmbs and extended into the northeast corner. In profile it was shallow and flat bottomed.

Transect D encountered disturbed soils in test pits D-2 and 4 with intact soils being present in the remaining three units. Test pit D-1, located 50 cm north of the wall bordering the sidewalk, revealed three centimeters of A0/ duff that overlaid 14-16 cm of gray brown sandy loam fill that sloped down from south to north. This layer was interpreted as a fill deposit placed here in the 18<sup>th</sup> century to support the stone wall. A mottled gray brown and yellow brown layer measuring 9-14 cm thick was encountered below the upper fill. This was interpreted as a second fill layer also associated with the wall. Below this second fill, a 35 cm deep buried A1 horizon was encountered. This horizon, a dark gray brown sandy loam, contained, almost exclusively, 17<sup>th</sup> century artifacts. A dark yellow brown clayey silty sand was encountered below the buried A1. The entire unit was excavated to a depth of 80 cmbs (31"). The artifacts recovered from the buried A1 horizon represent

a mixture of domestic hearth waste (charcoal, bone, burned bone, pottery, tobacco pipes) and a small amount of architectural demolition/ renovation material (window lead, nails, brick). The most dateable artifact recovered from this fill was a tobacco pipe stem embossed with lines and the initials LE. This is the maker's mark of Llewellyn Evans, a Bristol, England pipe maker who plied his trade between 1661 and 1689. While this artifact does not date from the Reverend John Lothrop period, it is an exciting find that shows the potential for earlier archaeological finds being possible in this area.

Another exciting find in the same test pit was a post hole measuring at least 50 cm (19") in diameter that appears to have been filled when the later fill was deposited here. This post may represent a fenceline that predates the stonewall marking the south boundary of the property and the county road. Further investigation of this post hole and any others that may exist along the southern edge of the property will help to establish a date of initial occupation at the site.

Transect E test pit 1 also encountered the buried A1 ground surface beneath fill layers near the stone wall. In this case, the buried A1 was 55 cm thick and also contained 17<sup>th</sup> century artifacts. Two of the remaining three test pits in this transect, test pits E-3 and 4) encountered dense roots associated with the linden and maple tree in the western portion of the lawn, while the third, test pit E-2, encountered fill soils associated with the manhole and drain line in this portion of the yard.

Transect F encountered fill soils associated with disturbance caused by the erection of the stone wall adjacent to the southwest parking lot in all units except test pit F-1. This test pit, located 60 cm north of the wall bordering the sidewalk, appears to have encountered intact A1-B2 soil horizons to a depth of 65 cm (26"). Test pit F-2 encountered fill soils to a depth of 40 cm, at which point the natural B1 horizon soils, a yellow brown silty sand, was found. An electrical line associated with the light located on the lawn, was also found. Test pits F-3 and 4 both encountered coarse sand fill layers associated with parking lot wall construction.

Transects G and H each contained two test pits and were located on a small extension of land south of southwest parking lot. Transect G test pit 1 was 30 cm north of the stone wall bordering the sidewalk. Archaeologists encountered 30 cm of gray brown sandy loam above a dense layer of brick and stone within a gray brown sandy loam matrix. This deposit may represent fill placed behind the stone wall. A layer of large rocks was encountered at 60 cm and excavation was stopped. Test pit G-2 encountered a dark gray brown clayey loam top dressing to a depth of 10 cm. This overlaid a gray brown compact clayey loam A1 horizon to a depth of 20 cm where dense roots from the mulberry tree made excavation impossible.

Transect H encountered fill layers in test pit H-1, which was located 60 cm north of the stone wall bordering the sidewalk. Two fill layers, a dark gray clayey loam from three to 30 cm and a mottled dark gray and dark yellow brown clayey loam to a depth of 60cm, were found to overlay what may be an intact dark gray A1 horizon. Test pit H-2 found a post hole that was interpreted as probably being 20th century ind ate and representing a library sign in the center of the pit at 30 cm. The soils above and around the feature appear to be intact A1 and B1 soils.

A total of 1,022 artifacts were recovered from the south yard (**Appendix H**).The overall trend was that material was concentrated near the stone wall bordering the sidewalk or near the house with very little being found in the yard between. This supports the notion that some degree of

disturbance happened to the middle of the yard. Only one prehistoric artifact, a quartzite flake, was found. This artifact is not temporally diagnostic. Seventeenth century artifacts were limited to pipe stems and bowl fragments (8/64" to 6/64" stem bores), a lead window kame, hand wrought nails, and Staffordshire slipware, the latter of which was produced into the 18<sup>th</sup> century. Eighteenth century artifacts were more plentiful (creamware, Nottingham, gray, Westerwald, and white salt glazed stoneware, the possible Colonoware, Jackfield, Tin-glazed earthenware, pipe stems with 5/64" and 4/64" stem bores) while 19<sup>th</sup> century artifacts were relatively scarce (machine cut nails, pearlware, whiteware, yellowware). The general trend appears to support the occupation history of the house- initial 17<sup>th</sup> century occupation followed by continued intensive occupation in the 18<sup>th</sup> century, followed by domestic occupation into the middle 19<sup>th</sup> century followed by institutional use of the building (low domestic refuse disposal) in the late 19<sup>th</sup> and 20<sup>th</sup> centuries. The majority of the artifacts recovered were architecturally related (N=572/ 55.6%), followed by faunal remains (N=147/ 14.4%), ceramics (N=133/ 13%), and tobacco pipe fragments (N=39/ 4%). This distribution indicates that extensive renovations occurred at the site throughout its history.

### **Testing Beneath North Side of House- The Northeast Passage**

The first unit excavated beneath the house was in the crawl space excavated north of the northeastern corner of the cellar hole so that various utilities could be run beneath the building (**Figure 11**). In this area, an approximately 20-35 cm thick layer of clay and mortar was found overlaying a horizontally placed layer of bricks that measured 1.4 x 1.4 meters (4.5 x 4.5 feet). The bricks in turn rested on what appeared to be an old intact ground surface (**Figure 12**).

Excavation of the area revealed that an intact brick foundation lay to the immediate west of the present eastern foundation and that a space of approximately 30 cm separated this brick foundation from the current eastern cellar wall (**Figure 13**). The horizontal brickwork extends from the brick foundation west to what appears to be a chimney stack base (**Figure 13**). The base is composed of split and natural granite pieces with a thick layer of clay being present on the south side. The chimney base extends into the cellar approximately 30-50 cm south. This base is believed to date to the 17<sup>th</sup> to early 18<sup>th</sup> centuries when the single cell house was expanded to a full two story salt box style. This chimney would have supported a kitchen hearth and possibly a bake oven.

The bricks used in both the foundation wall and the paving are laid in a lime mortar but the chimney stack contains shell mortar. This indicates that the chimney stack is earlier than the brick work. The bricks measure 9.5 to 10 cm wide, 5-6 cm thick, 20-20.5 cm long, and are all hand made. They are believed to date to the 18<sup>th</sup> century, probably during the occupancy of the house by the Sturgis family. The brick paving may have extended further to the south up to five feet and may have been located in a paved kitchen support room, possibly a dairy. The southern portion of the paving may have been removed when the cellar was expanded from its original dimensions. The northern extent of the paving was found, so it does not appear to have extended to the north wall of the house. An alternative explanation is that it represents the base for an oven that was added after the northern chimney had been constructed. The clay and mortar mass that was found on top of the brickwork was found to contain many artifacts dating to the very late 18<sup>th</sup> to early 19<sup>th</sup> centuries including creamware, blue edged pearlware, redware, pins, fish remains, a marble, and other food ways related items. The presence of these artifacts dates the demolition of this chimney most probably to the early 19<sup>th</sup> century when Deacon Joseph Chipman acquired the property in 1819.

### **Testing Beneath Northwest Side of House- The Northwest Passage**

Limited testing was originally conducted beneath the northwest side of the library (**Figure 11**). The soils in this area appear to be intact topsoil and subsoil with a small amount of artifactual material resting on the surface. Initial testing consisted of the excavation of a small area of topsoil along the western side of the utility trench beneath this portion of the house. One late 18<sup>th</sup> century pipe stem/bowl fragment was recovered. The original ground surface extends to within a few inches of the floor joists in this portion of the house. No evidence of demolition rubble from either the northern or the western chimneys was found lying on the surface beneath this portion of the house. This indicates that when the single cell house was converted into a two story salt box, the chimney was not moved so that it was located in the center of the house, it remained off center to the west due to the presence of the cellar, which appears to have been part of the original build.

Further investigation of the northwest passage was carried out on August 4, 2014. The soil along the south side of the passage was excavated in 10 cm layers in a strip segmented into 1 m lengths that were approximately 40 cm wide (north to south). An area of recent brick work was excavated from 0 (the west wall of the cellar) to 58 cm west of this wall. The brick work was associated with either a clean out trap at the base of the chimney or a flue for a basement furnace. This was the source of a fire that occurred in recent memory beneath the library. The brick work had been erected by digging a 60 cm deep trench into the subsoil, erecting the brick box and the filling in the trench.

Beyond this brick work the soils averaged 20 cm deep. The clayey subsoil beneath the artifact bearing upper layer was studded with pits caused either by random digging by rodents or by people extracting clay for putting up the chimney mass. The length of the southern excavation area was 2 m east to west, at which point excavation turned north for an additional 2 m. At 2 m north the ground sloped up abruptly so that the joists were resting on the clay subsoil at this point. It appears that when the house was built or at least when it was added on to, the ground surface was scalped to the subsoil and then the house was erected. The ground to the south may slope lower than it did to the north. Alternately, the ground on the south was dug deeper to put in the chimney base and to remove clay for putting up the chimney. Soils on the east side of the northwest passage consisted of a very shallow, 3 cm deep, layer of topsoil over a dense clayey loam subsoil. An area measuring one meter long by three cm deep was excavated on the eastern side of the passage.

Artifacts recovered from this excavation were generally contemporaneous with the material recovered during the excavation to the east, with some slightly earlier material.

### **Testing Beneath Southwest Side of House- The Southwest Passage**

The crawl space at the southern end of the western cellar wall was entered through a hole measuring 64 cm wide by 82 cm high. The trench was 80 cm wide by 80 cm high with the height and width both being severely restricted due to the presence of utility lines. Beneath the southwest side of the house a heavy layer of 17<sup>th</sup> century brick and mortar rubble was found to extend from 2.5 to 5 meters (8-16 feet) to the west of the western cellar wall. A concentration of stacked stones, interpreted as the remains of the eastern edge of the original chimney base are visible 8 feet west of the cellar hole wall (**Figure 11**). Further to the west, close to the western wall of the house, a large stone appears to have been rolled west from its original position. It rests on a layer of brick and

mortar demolition debris. This indicates that the demolition of the chimney occurred prior to the moving of the stone. This stone is believed to represent one of the original chimney base or hearth stones from Reverend Lothrop's hearth. It appears to have been moved to the west in order to lay the present floor, probably in the early 19<sup>th</sup> century. The stone must have protruded above the floor level and thus was an impediment to a level floor. Simply pushing it to the west removed this obstacle. Excavation on the northern side of this east to west running passage began on June 7, 2014 and finished on August 11, 2014. The area was excavated by subdividing its length into one meter east to west running units that were between 40 and 60 cm wide, depending on the distance to the south from the floor joist that formed the northern boundary of the excavation area.

A 10 to 35 cm thick layer of clay and soil was found on top of the original ground surface. The mound tapered from 10 cm at the east end to 35 cm deep at the west end. From 0-1 m west the stratigraphy consisted of a gray brown sandy loam A1 horizon that was followed by a yellow brown sandy silt B1 horizon. The B1 was on top of a clayey loam C1 horizon. At 2 m west a pocket of dark loose soil was encountered adjacent to large stones that are believed to represent the eastern edge of the original chimney mass. The stone mass continued to 3 meters west being 140 cm long east to west. This mass is believed to represent the base of the original hearth associated with the first incarnation of the house. The dark soil was determined to be the remnants of rodent burrowing and it continued under the clay to the north. Two iron horseshoes were found in association with the east side of the stones. The stones were found to extend only slightly to the north of the floor joist that formed the northern edge of the excavation area. This joist is 170 cm north of the south side of the library.

From 2-3 m west the soil was found to be loose with lots of demolition debris (brick, plaster) as well as faunal remains and tobacco pipes. the demolition debris was on top of the hearth foundation stones. Between the demolition layer and the stones was a layer of clay. the stones were found to end at the floor level of the utility trench, which was 80 cm below the floor boards for the first floor south west room.

From 3-4 m west a dark soil layer was found to lie beneath the brick and mortar fill beneath the large stones and top of the underlying olive brown colored C1 clay. One large piece of cattle bone was found in this dark soil directly on top of the clay. This indicates that the area was excavated down to the clay layer and then the hearth base was erected.

Excavation resumed at the extreme western edge of the southwest passage on August 11, 2014. The main discovery of this excavation was a 30 cm north to south by at least 35 cm east to west by 10 cm deep square sided trench that had been cut into the clay floor before the chimney base was erected. This was located directly west of the stone concentration and appeared to end at the stones to the east. It continued to the west under the existing demolition rubble. No brick was found in the fill indicating it was created before the heavy brick, mortar and clay rubble layer was laid down. It is possible that it represents the bottom of a slot trench fenceline that ended at the west wall of the original house. When the house was expanded the fence was removed and the trench filled, then when the central chimney was demolished the rubble piled up on top of the former fenceline (**Figure 14**). The remnants of the trench were found to start at 70 cm below the bottom of the floor joist.

Artifacts recovered from this excavation were consistently earlier than those to the north. Very little of the mid to late 18<sup>th</sup> century ceramic types were recovered and generally the material is believed to date to the late 17<sup>th</sup> to early 18<sup>th</sup> century.

### **Artifact Analysis**

The aim of the artifact analysis was to help to date various phases of alteration at the site and to determine what the absolute earliest date of occupation at the site was. Tables showing the recovered artifact assemblage for each of the contexts tested (northeast passage in the cellar, the northwest passage in the cellar, the southwest passage in the cellar, and the south yard) are presented in Appendix H.

### **Prehistoric Artifacts**

Only three prehistoric artifacts were recovered during the survey: one chert flake (NE passage), one quartz Squibnocket spear point (SW passage), and one quartzite flake (test pit D-1). The chert flake and the quartz Squibnocket point are believed to date to the Late Archaic period (6,000-3,000 years before present). It is suspected that further prehistoric material may be found in the northern part of the property to the north of the parking lot . This area is closer to fresh water and may have been more attractive to Native people.

### **Tobacco Pipes**

Clay tobacco pipes are, to the archaeologist, one of the most commonly occurring objects on colonial sites and easily dated by their maker's marks and bowl styles. The stem bores of tobacco pipes gradually became smaller over the centuries since they were first produced in England. The stems of the pipes were slowly lengthened over time and as a result the bore of the stems became smaller. The stems from the 1580-1620 period are predominantly of a 9/64" bore while those of 1650-1680 are predominantly of a 7/64" bore. J.C. Harrington discovered this reduction sequence when he worked with clay pipes from Jamestown in the 1950s and it has been refined since.

9/64" 1580-1620  
8/64" 1620-1650  
7/64" 1650-1680  
6/64" 1680-1710  
5/64" 1710-1750  
4/64" 1750-1800

This dating by stem bores was initially believed to be the answer to the problem of dating sites. Dating artifacts is never as easy as Harrington felt that it could be. This is especially true after 1800 when stems of the 4/64" and 5/64" bore were being made simultaneously, thus negating the use of stem bores for sites occupied after 1800.

Tobacco pipes can also bear maker marks in the form of a specific symbol used by a specific maker or the actual maker's name on the bowl or stem. Along with these makers' marks, certain styles that appear to be indicative of specific countries of origin including England, Ireland, America or Canada large bored stems mainly of the 8/64" variety and small sized bowls similar to those shown in Hume's work (Noël Hume 1969: 303).

A total of eighty-five tobacco pipe fragments were recovered with the majority coming from the southwest passage and test pit D-1 (Table 1). Keeping in mind that the smaller the pipe stem bores,

Table 1. Tobacco pipe distribution

	NE	NW	SW	D-1	E-1	G-1	SY
4/64" stems	1	2		1		1	4
5/64" stems	1	1	19		3		
6/64" stems		1	6	3	1		
7/64" stems			2	8	1	1	
8/64" stems				3			
Stems			3	2	1		
Bowl frags.	2	2	6	2	5	2	2
Totals	4	6	36	19	11	4	6

NE- Northeast passage cellar NW- Northwest passage cellar SW- Southwest passage cellar

D-1- South Yard test pit E-1- South Yard test pit G-1- South yard test pit SY- South yard general

the more recent the deposit, it can be seen that the test pit D-1 was the earliest deposit and that it predated the deposit in the southwest passage. One way to grossly compare tobacco pipe assemblages is to calculate the median date for each stem bore's date range:

Stem Bore	Date range	Median Date
9/64"	1580-1620	1600
8/64"	1620-1650	1635
7/64"	1650-1680	1665
6/64"	1680-1710	1695
5/64"	1710-1750	1730
4/64"	1750-1800	1775

Multiplying the count of pipe stems for that size bore by the median year in each deposit to be compared, and the dividing by the total number of measurable pipe stems in that deposit. This will yield a relative median date for the assemblage. Using this technique, the following median dates for the various assemblages were arrived at:

Test Pit D-1	1672
Test Pit E-1	1710
Southwest Passage	1717.4
Test Pit G-1	1720
Northwest Passage	1743.8
Northeast Passage	1752.5
South Yard	1775

It should be remembered that these are not absolute dates but just show which deposits appear to be earlier, and relatively how much earlier, than other deposits.

A few pipes also bore maker's marks that help to date them as well. One pipe stem/ bowl juncture from the south yard was marked McDougall/ Glasgow. This pipe was made in Scotland in the late 19<sup>th</sup> century before the 1891 McKinley Tariff Act required the country of manufacture to be placed on imported items. After 1891 a pipe like this would be marked Scotland and not by the city of manufacture. A pipe stem from test pit D-1 was marked LE. This was the mark of Llewellyn Evans, a Bristol, England pipe maker who plied his trade between 1661 and 1689. Two pipes from the southwest passage were marked RT. This was the mark of Robert Tippet, another Bristol pipe maker working from 1678-1720.

### **Ceramic Analysis**

There are three general classes that ceramics fall within, being distinguished by the amount of time that they have spent in the kiln. These are earthenwares, stonewares and porcelain with each being higher fired and thus more water resistant. Earthenware and stoneware were recovered from the Site Examination testing. Earthenwares can be characterized as being a ceramic class composed of glacial or alluvial clays that have been fired in a kiln at temperatures not exceeding 1200 degrees

### **Earthenware**

#### **Redware**

Redware is the largest and most commonly occurring type of earthenware encountered on European Colonial sites. Redware itself has not received a great deal of careful and scholarly work to tightly date them. Apart from Laura Watkins' paramount work and Sarah Turnbaugh's 1985 treatise on the subject, there has not been much follow up work done to continue the scholarship. As a result, while redware makes up the greatest percentage of the assemblages looked at, they can not be closely dated, and must be given limited weight to the amount they can contribute to the identification of an early seventeenth century site. What can be said about them relates primarily to their glaze colors.

Studying the English ceramic traditions which formed the precedent for colonial potters work, Turnbaugh identified 12 redware traditions in England which she felt were perpetuated by New England potters (Turnbaugh 1985:216-217). Her date ranges for wares made in England date from ca. 1200 to 1795, and those in New England from ca. 1650 to 1815. Several Charlestown potters are known including John Parker, who, in 1750, is known to have sold to Barnstable and Harwich as well as Duxbury and Daniel Parker Jr. in 1832 (Watkins 1968: 45). Additionally it is known that Noah Bradford, son of Noah Bradford, potter, of Kingston, Massachusetts, operated a pottery in Barnstable from 1819-1830 that he had bought from Prince Nye (Watkins 1968: 45). People on Cape Cod also received pottery from Long Island in New York (Watkins 1968: 27).

Redware was recovered from all contexts (N=161) with the South Yard excavations yielding the highest occurrence (n=80/ 49.7%) followed by the northeast passage (n=77/ 47.8%). This indicates that these two areas saw the majority of the deposition of kitchen waste. In the south yard, the majority of the redware was found in test pits D1 and E1, both located just north of the stonewall bordering the sidewalk and both associated with the 17th century occupation.

Vessel forms were limited to a cup, pitcher, pan, and milkpan from the northeast passage, a cup from the northwest passage, a cup from the southwest passage, and a pan, milk pan, chamberpot, and pot from the south yard. By their glaze color and forms, these vessels all appear to date to the 17<sup>th</sup> to 18<sup>th</sup> centuries based on the author's experience.

### **Tin-enameled**

Tin-enameled wares (also called tin-glazed, or delftware) were produced in Spain, France, Portugal, Holland and England as early as the 16<sup>th</sup> century and are commonly found on archaeological sites from the seventeenth through the end of the eighteenth century. Tin-enameled wares are semi-soft bodied earthenwares that were decorated with blue, orange, green and yellow painted glaze and were covered with a tin glaze or a lead glaze with tin added. This gave a white glaze to the vessel reminiscent of oriental porcelain, which they appear to have imitated. At present it seems that wares from England comprise the vast majority of those found on English colonial sites. The most common vessels for the early seventeenth century are chargers, flat broad platters, with floral or pomegranate decorations in the center and blue dash decoration along the rims (Noël Hume 1969:108). These were made from ca.1620 to 1720. As with other ceramic types that lasted for a long period, the decoration of this ware degraded throughout the century as demand and availability of them increased. Bottle were produced between 1620 and 1680. Apothecary or drug pots were also made in England. These were rather tall and narrow vessels painted in bands on the exterior, often in blue, orange and purple (Noël Hume 1969:205). These were produced from ca. 1580 to 1640. They were replaced by plain white pots of a squatter shape later in the century. Punch bowls were made after 1680 and continued in production until ca. 1780. Plates, the most common form recovered archaeologically were commonly produced after 1680 until ca. 1800. tankards represent a form that was produced throughout the seventeenth and eighteenth centuries. Small vessels such as teacups are rarely recovered from sites after 1750 due to a loss in popularity to refined earthenwares like creamware and fine stonewares like white salt glazed stoneware. These harder fired wares were preferred because the glaze on the edge of the rim would not chip and flake the way it would on the tin-enameled wares.

Decoration used on the vessels is a better chronological indicator than form. Plain white vessels were produced in England from the inception of its tin-enameled industry throughout the eighteenth century. After 1660, polychrome chargers with blue-dash edged and tulips or biblical scenes in their centers were popular. Chinese motifs were used after the 1630s (Noël Hume 1969). Earlier polychrome colors tend to be less vibrant than the post 1690 wares.

A few pieces of tin-enameled (aka Tin-Glazed) ceramic were recovered from the northwest passage (n=1), the southwest passage (n=2) and the south yard (n=2). The south yard pieces came from test pits D-1 and E-1 in association with 17<sup>th</sup> century finds. The largest piece was found in the southwest passage and appears to be a n English plate dating from the early 18<sup>th</sup> century. A piece of an 18<sup>th</sup> century charger was found in the northwest passage.

### **Jackfield**

Jackfield was produced in England between 1745 and 1790. It is easily recognized by its purple or gray paste covered with a black glossy glaze. Jackfield ware was produced in Shropshire after 1750 by Maurice Thursfield and by Thomas Wheildon in Staffordshire (Noël Hume 1969: 123). Wheildon's Jackfield has red body and glossier glaze. The principal ware produced in Jackfield were tea wares and pitchers and they are common in America on sites dating to the 1760s (Noël Hume 1969: 123).

One piece of what may be Jackfield was found in the south yard in test pit E-1. Alternately this piece, which appears to be from a mug, may be a piece of 17<sup>th</sup> century Cistercian ware. This ware was a black glazed redware made in England.

### **Slipware-Staffordshire**

Slipwares are ceramics with an earthenware base and coated with a yellow lead glaze which is decorated with brown trailed or combed decoration. This ceramic type was produced first by the Romans but became popular during the reign of Charles I (1630-1685). Slipware produced in the Staffordshire region of England was exported to the North American colonies from the late seventeenth century until the American Revolution (c.1675-1775). It is a thin, buff-bodied earthenware that is coated with slips and decorated with trailed, combed and marbled designs. By the late seventeenth century, exported slipware was generally used by less affluent classes of society (poor to middle class) as well as in taverns and as a general rule, finely executed decorated examples date earlier than more coarsely decorated ones. Vessel forms included drinking vessels (cups, tygs, mugs, posset pots, puzzle jugs) and dishes/plates, as well as a wide variety of other forms that are less commonly recovered archaeologically (bowls, drug jars, honey pots, teapots, jugs, candlesticks, chamber pots) (Noël Hume 1969).

A total of six small fragments of Staffordshire slipware were recovered from the southwest passage in association with the area west of the hearth base and the possible fenceline (n=3), and from the south yard in test pits D-1 and E-1 (n=3). Vessel forms were limited to cups.

### **Creamware**

While English folk and Colonial settlers were content to use redwares for their utilitarian needs, there was always a market for “white wares”, beginning with the importation of Oriental porcelain. But porcelain was expensive and the availability was limited, which led to the development of tin-glazed soft-bodied delft wares which copied the motifs and forms of the more expensive porcelains. By the middle eighteenth century, the English quest for a less expensive light-glazed ware similar to Chinese porcelain was brought one step closer by Josiah Wedgwood’s perfection of Creamware in 1762 (Noël Hume 1969:125). This ceramic type was not pure white, but had a light to deep yellow tint to the glaze and pooled green in the crevices of the vessels. Creamware was produced until 1820 and was generally replaced by a whiter “pearlware” that began production in the late 18th century. Early Creamware had a deep yellow tint which, by 1775, was refined to a lighter yellow by the use of kaolin clays in the manufacturing process. Decoration on Creamware was limited to some molding, and hand painting and transfer printing to a much smaller degree. Miller and Hunter (1990) summarized Creamware edge treatments thus:

1750-1775 Molded Whieldonware (mottled glaze)

1766-1790 Queen's ware

1766-1820 Royal Pattern

1765-1790 Feather edge

A total of 83 pieces of creamware were recovered from the northeast passage (n=63), the northwest passage (n=1), and from the south yard (n=19). The pieces from the south yard were spread across the yard with only three fragments coming from the upper layers of test pits D-1 and E-1 (the pits that yielded 17<sup>th</sup> century material deeper down). While the recovered fragments were generally very small and as a result vessel forms could not often be identified, vessel forms that could be identified consisted of undercoated cups, a bowl, and plates with Queen's edges. One piece of a Wheildon ware plate was found in the northwest passage.

### **Astbury**

Astbury is a thin red-bodied earthenware with a ginger colored lead glaze. It was often decorated by engine turning or with white clay sprig-molding. Astbury ware dates from the early to mid 18<sup>th</sup> century and was generally gone by ca. 1750. Vessel forms included teapots and cups, bowls, and coffee pots.

One piece of Astbury ware was found in the northeast passage in the fill above the brick paving. The vessel form appears to be a cup. this may have been a curated heirloom or antique as it dates earlier than the other ceramics found.

### **Pearlware**

Pearlware is said to be the most common type of ceramic encountered on early 19th century sites, being produced from 1774-1840 (Noël Hume 1969:130). Whereas when the glaze of creamware pooled green in the crevices of the foot ring on the bottoms of vessels, pearlware pooled blue. Pearlware was used on a wide variety of forms from chamberpots to eggcups but it is most frequently encountered in the form of plates and saucers decorated with blue or green shell edging around their interior rims.

Decorative techniques used on Pearlware and Whiteware, are more temporally sensitive than the wares themselves. One of the forms of decoration on pearlware took the form of annular bands on the exterior of pitchers, cups, mugs and bowls. These “annular wares” were produced from approximately 1795-1815 (Noël Hume 1969:131). Annular pearlware with a worm (a.k.a. Cabled) mocha pattern was produced from 1790 to 1820. Fragments of one annular pearlware cup with a worm mocha decoration was recovered from the North Yard Scatter.

Blue or green shell edge-decorated wares first appear in Wedgwood's 1775 and Leeds' 1783 pattern books and became one of the standard products of the Staffordshire potteries in the nineteenth century. This is believed to be due to the fact that they are the least expensive decorative table ware available (Miller and Hunter 1990). Initially both green and blue were used on the edges, but by 1840 green-edged had become rare with blue shell-edged remaining in production until the 1860s. By the later part of the nineteenth century the production of shell-edged wares had discontinued but blue-edging, edging that was just blue but that lacked the earlier molded edging, continued until the 1890s. Miller and Hunter summarized the production of blue and green edging in 1990:

1780-1810 Rocco Style, irregular scalloped rim and undecorated center

1800-1840 Evenly scalloped Shell Edge

1820-1840 Embossed Edge

1840-1870 Unscalloped Shell Edge with impressed pattern

1850-1890 Unscalloped and unmolded Shell Edge

Pearlware, and later whiteware, were also decorated by hand-painting. Two general types were used: thin-lined and broad-lined. Prior to 1835 polychrome hand-painted designs were executed in mustard yellow, mocha brown and burnt orange, but after 1835 brighter colors such as grass-green, golden yellow, red and powder blue were used. The singular use of blue painted designs, intended to mimic porcelain designs, occurred on earthenware from 1775-1840 and was eventually replaced by transfer printing by 1815. After 1820 until approximately 1830, blue floral designs were executed with a bolder stroke and are easily distinguished from the earlier technique.

Transfer printing was the decorative technique that replaced hand painting after the 1830s. This technique was first used in 1784 with the first colors being blue, black and sepia and was followed by red, yellow in 1848 and then brown and green in 1852. The earliest patterns were Chinese until 1805 when the development of copper plate engraving allowed the creation of finer lines and more variation in color tone. After 1830 the quality of design and color intensity declined and multicolor underglazing was developed in 1848. Color is considered the most temporally sensitive property of this decorative technique.

A total of 49 pieces of pearlware were recovered principally from the northeast passage (n=40) in association with the demolition fill on top of the brick paving. The remaining pieces were found scattered across the upper layers of the south yard. Decorative techniques consisted of blue hand painting, polychrome floral hand painting, blue and green edging, and blue and dark blue transferprinting. These decorative techniques were all in use before 1830 and support the association of these ceramics with the Chipman occupation. Vessel forms were identified as plates and tea cups and saucers.

### **Whiteware**

Pearlware was replaced in approximately 1820 by a very white refined earthenware commonly called whiteware. Whiteware continues to be produced today. Plain, undecorated whiteware was produced throughout the century, starting after 1820 and was considered the cheapest version of this type of whiteware. Blue and black florals covering most of the decorated surface predominated on hand painted whitewares in the first quarter of the nineteenth century. Slightly later, a finer sprig pattern in either monochromatic or polychromatic forms was produced until around 1890 with polychromes more popular, but less common, from 1830 to 1850 (Miller 1987). Blue edging, similar in execution and design to that used on pearlware, continued on whitewares most commonly with unscalloped unmolded or impressed rims, overall much simpler than the earlier pearlware versions.

The nine pieces of whiteware found were all found in the south yard with the exception of one fragment found in the attic. Whiteware dates to after 1820, so its absence from under the house is a good indication that major restorations were completed during the Chipman occupation and not when the house was converted to a library in the 1860s. The pieces from the yard may reflect refuse thrown out by the Chipmans. Decorative techniques consisted of one piece of blue hand painting with the remaining decorated pieces having purple, brown, or black transferprinting. one piece of purple transferpainted whiteware was found in a small feature in test pit C-5 helping to date it to the second quarter of the 19th century and linking the feature to the library renovations. Vessel forms consisted of a tureen, a tea cup, and a tea saucer.

### **Ironstone**

Ironstone is a high-fired earthenware that approaches, but never quite reaches the hardness of stonewares. Ironstone was developed to compete with the whiteware market. With the final development of thin whiteware, the thicker ironstone was relegated to products such as plates, pitchers and bowls, chamber pots and other heavy utilitarian wares. Ironstone was first introduced by Charles Mason of Staffordshire, England in 1813 and was shipped to American markets by 1842. Ironstone was decorated in the same ways as Whiteware. Additionally it was often left plain or molded with leaves, ribs, or flowers. Plain wares were produced for the entire time span of

Ironstone production, whereas molded ironstone with sharp angles, and hexagonal or octagonal body forms were popular from the 1840s through the 1880s. After 1860 embossed plant elements became popular and in the 1860s and 1870s, luster decorated “tea leaf” patterns were popular.

One piece of an ironstone cup with molded panels on the exterior was found in the test pit in the north yard. It was located on top of the lower C1 horizon and may be evidence that the topsoil had been stripped in this area in the middle to late 19<sup>th</sup> century.

### Yellowware

Yellowware is earthenware produced to replace the unfashionable redware, as a new kitchen utility ware. It has a hard, pale yellow body that is covered with a yellow or a clear glaze and often with blue, black or brown and white bands. It may also have a blue, green, or black dendritic mocha decoration, or a dark mottled brown glaze. The annular decoration with or without the mocha was produced from 1840-1900.

Clear-glazed yellowware was produced in many utilitarian forms including bowls, plates, jugs, and bottles. Yellowware was introduced to America from England in the latter 1820s and eventually was produced by various firms in New Jersey, Pennsylvania, Ohio, Vermont, New York, and Maryland from the 1840s to the 1850s. The maximum popularity of yellowware was in the period from 1860-1870. Even though its popularity waned by 1900, it was continually produced into the 1930s. English-made yellowware has a yellow glaze, while American-made yellowware has a clear alkaline glaze. Four temporal trends have been identified for yellowwares :

1830	Plain no decoration, no foot formation, no lips, hand thrown
1840	Annular banded and dendritic (mocha) decoration
1850-1870	Coarse, heavy yellowware predominantly in the Midwest, cream and buff color to rich canary yellow
1860-1900	Pressed or molded yellowware, scenes and floral decoration

One piece of yellowware was found in the south yard in the upper layer of test pit E-1. this fragment was undercoated but probably dates to the middle to late 19<sup>th</sup> century.

### Colonoware

Colonoware is a type of unglazed hand built pottery whose manufacture is ascribed to enslaved Africans and Native tribes in the south. The vessel forms mirror European shapes such as chamberpots, cups, and bowls.

One fragment of what **MAY** be Colonoware was recovered from test pit D-5 in the south yard in the 10-20 cm layer. It appears to represent an unglazed pot with a diameter of 20 cm. The recovery of a fragment of possible Colonoware may be related to the presence of slaves at the house in the middle 18<sup>th</sup> century. This piece should be examined by someone who is an expert on these ceramics.

### Stoneware

Stoneware can be described as a ceramic type that is made of alluvial or glacial clays which is fired in a kiln at temperatures of 1200 to 1400 degrees Celsius. Firing the clays at these temperatures produces a dense, vitrified, waterproof body of a gray, brown or buff color. Vessels were often

glazed by throwing handfuls of salt into the kiln at the peak of firing. This imparted a salt glaze, giving the exterior surface a waterproof glaze with an orange peel like texture. Stoneware products often took the form of heavy, utilitarian objects such as mugs, jugs, crocks, churns, pitchers, inkwells and oil lamps. Four general types of surface treatments can be present on stoneware: Unglazed/Plain, Salt-Glazed, Albany-Slipped and Bristol. Unglazed stoneware is considered relatively rare (Stelle 2001).

One piece of Albany slipped stoneware was recovered from the test pit excavated in the east yard.

### **White Salt-Glazed Stoneware**

While Germany was the best known stoneware producer in the 17th and 18th centuries, other countries, especially England, began to try their hand at this craft. The most important development in England's stoneware industry was the perfection in 1720 of a thin bodied white salt-glazed stoneware. This ware became common tableware by the middle 18th century and soon took away much of the trade from the tin-enameled producers (Noël Hume 1969:115). Common shapes included plates with molded rim decorations and cup and saucers with a scratch blue decoration. This later decorative technique became popular in the mid to late 18th century, especially in the third quarter.

Three fragments of white salt-glazed stoneware were found in the south yard in the upper layers. All are undercoated and represent a cup and a mug.

### **Westerwald**

Another type of stoneware was a German product of the Westerwald region. These vessels were most commonly made in the form of jugs that were decorated with cobalt blue and a salt glaze on a gray stoneware body. Over time the finely executed decorations and lines on Westerwald vessels became degraded. By the late seventeenth and especially the eighteenth century, they were distinctly debased. After approximately 1660 manganese was also used in conjunction with cobalt in the decoration of these vessels (Hume 1969:281).

Fragments of Westerwald stoneware were recovered from the southwest passage in the cellar, test pit E-1 in the 17<sup>th</sup> century layer, and from test pit F-1 in coarse sand fill. The piece from the cellar was a jug with molded bands on the exterior and the piece from F-3 was a chamberpot.

### **Nottingham**

Another potter began his own variety of stoneware in England in the late seventeenth century. James Morley, who was sued in 1685 by Dwight, began making a smooth brown stoneware with a glossy surface in the form of mugs, bowls, pitchers and double handled loving cups (Noël Hume 1969:114). While these wares were made initially in Nottingham, they were also produced throughout the 18<sup>th</sup> century in Burslem and other locations in Staffordshire and Derbyshire as well as Swinton in Yorkshire (Noël Hume 1969:114). Products of Nottingham are readily identifiable by a thin white to gray line separating the body and the glaze.

Three fragments of Nottingham stoneware were recovered , one from the northwest passage and two from the south yard. Vessel forms were a cup and a mug.

### **Porcelain**

Porcelain is the final class of ceramic. Porcelains are ceramics that have been fired to such high temperatures, over 1400 degrees Celsius, that they vitrify or become glass like. Ceramics of this type were produced in China as early as 1000 B.C.. It was not until 1708/ 09 that a porcelain industry was developed in Europe (Turnbaugh 1985:19). In lieu of the scarcity and high price of Chinese porcelains, many potters began experimenting with other ceramic type, such as tin-enameled, creamware, pearlware and white-salt-glazed stoneware, that mimicked porcelain's whiteness and decorative elements. Common types of porcelain encountered on seventeenth to nineteenth century sites include Dehua White China (1640-1750), a thick white porcelain decorated with applied elements; Ching Blue and White China (1644-1912), a thin porcelain decorated in blue with a rust colored band on top of the rim; Imari Porcelain (1700-1780), a thin porcelain decorated with underglaze blue and overglaze red enamel; Ching Polychrome (1700-1750), a thin porcelain decorated in overglaze red and gold; Batavian/ Brown Porcelain (1740-1780), decorated on the exterior with a brown glaze and the interior with blue underglaze or polychrome overglaze decoration; Powder Blue Porcelain (1700-1750), decorated on the exterior with a blue glaze and on the interior with overglaze enamel painting; Polychrome Porcelain (1680-1850), decorated with opaque overglaze enamels and gilding in a variety of colors; English Soft Paste Porcelain (1742-1800), with a hard compact chalky appearing body and decorated with underglaze navy to dark blue; Bone China (1749-1900), a nearly translucent porcelain decorated with overglaze polychrome, gilding, or left undecorated; and Canton Porcelain (1800-1860), a bluish white glazed porcelain decorated with distinctive blue underglaze decoration.

Seven pieces of porcelain were recovered from the northeast passage (n=4), one from the northwest passage, and two from the south yard. Two fragments from the northeast passage and one from the south yard were decorated with blue hand painting. The south yard piece was found associated with the 17<sup>th</sup> century artifacts, making it possible that it also dates to that period. All of the pieces are believed to represent tea wares- cups and saucers- and may either be Canton or Imari. The recovery of an appreciable amount of porcelain alludes to a higher status household throughout its occupation.

### **Vessel Glass**

Curved or vessel glass was found in the attic, cellar passages, and south yard during the archaeological and architectural surveys. A total of 68 pieces representing case bottles, wine bottles, molded drinking glasses, hurricane lamp chimneys, and vials were recovered. The majority of these were hand blown with some machine made and molded pieces being identified. the hand blown vessels date from the 17<sup>th</sup> to early 19<sup>th</sup> centuries, the mold blown date to the 19<sup>th</sup> century, and the machine made dates to the 20<sup>th</sup> century. Hand blown glass was found in all contexts (Attic [n=1], SW passage [n=8], NW passage [n=9], NE passage [n=19], test pit D-1 [n=8], test pit E-1 [n=6], south yard [n=8]) and machine made (n=4) and mold blown (n=1) glass were found in the south yard. The lack of machine made and mold blown glass beneath the library reflects the lack of substantial alterations that would have exposed the ground surface beneath the floor boards at any time during the later 19<sup>th</sup> or 20<sup>th</sup> centuries.

### **Architectural Artifacts**

The majority of the artifacts recovered were architecturally related pieces. This is due to the fact that, as will become evident later in this report when the architectural survey is discussed, that the

house has been subjected to numerous remodeling and expansions over the centuries. The majority of this material was recovered from under the house with a much smaller amount being found in the yard around the house.

### Brick Analysis

As early as 1625 there were English laws regulating the dimensions for bricks as 9" by 4 1/2" by 3" high (22.9 x 11.4 x 7.6 cm), which was very similar to the 1700 dimensions for statute (a.k.a common) bricks which was 9 x 4 1/2 x 2 1/4" (22.9 x 11.4 x 5.7 cm) (Cummings 1979:118). The Massachusetts Bay Colony set regulations on brick sizes in 1679, stating that the molds for bricks must be 9" long, 4 1/2" wide and 2 1/4" high, but, as William Leybourn observed in 1668, molds of such size seldom produced bricks of such size due to drying and burning (Cummings 1979:118). The firing of a single brick clamp results in three different types of bricks: Clinker- those that lie closest the fire which have a glaze on them; those that lie next in the clamp which are of second quality; Samuel or Sandal-bricks- those that lie at the outside of the clamp and which are soft and will dissolve in the weather.

A total of 300 bricks and brick fragments were recovered during the testing. One hundred-two fragments could be measured for length, width or height.

When compared with the bricks recovered from the other sites (Table 2) it can be seen that the bricks from the southwest passage most closely match those from the 17<sup>th</sup> century sites while the bricks from the northeast passage and test pit G-1 more closely match the 18<sup>th</sup>- 19<sup>th</sup> century sites. The bricks from the northwest passage appear later than the other bricks.

Table 2. Comparison of brick sizes between 17th to 19th century sites

Site	Length Range	Width Range	Height Range
Allerton/ Cushman Site (1650-1690)	17 cm	9-11.5 cm	4.8-6.1 cm
Ezra Perry II (1670-1720)	20 cm	10 cm	6.35 cm
Lot Harding Site (1746-Present)	18.2-18.8 cm	8.6-10.9 cm	4.3-5.7 cm
Duxbury Second Meeting House (1708-1785)	14 cm	8.5-11 cm	4.3-6.2 cm
Samuel Fuller House (1830-1890)	18.2-18.8	8.8-10.9 cm	4.3-5.5 cm
Richard and Ruth Taylor (1640-1800)	20 cm	8-13.5 cm	4-7 cm
<b>Southwest Passage</b>	18.5-21.5 cm	9-11.5 cm	4.3-6 cm
<b>Northwest Passage</b>	19.8 cm	8.8-11 cm	4-6.1 cm
<b>Northeast Passage</b>	20-20.5 cm	9.5-10 cm	5-6 cm
<b>Sturgis Yard Test Pit G-1</b>	21 cm	8.5-10 cm	4-5.8 cm

The average brick sizes for each of the contexts at the Sturgis Library also supports this (Table 3). The earliest deposit, the SW passage had the widest average bricks while those from test pit G-1 were narrower on average and the NW passage was narrower still.

Table 3. Average brick sizes Sturgis Library

	Length	Width	Height
SW Passage	20 cm	10.6 cm	4.8 cm
G-1	21 cm	9.5 cm	4.8 cm
NW Passage	19.8 cm	9.2 cm	4.9 cm

Bricks such as these were made of local clay mixed with sand, gravel, and even larger pebbles and small rocks to act as aggregates to give strength to the clay. The molding process was begun by drenching a wooden mold into water and then placing it on a table covered with a thin layer of sand. The mold was then filled with a large glob of clay and a board was run either vertically or horizontally across the upper face to level the mold off. The mold was then removed and the brick was paled in the sun to dry before it was fired. Firing bricks involved stacking them up in a specific manner, building what is referred to as a clamp. Wood was placed within the clamp, around the bricks, and the whole thing was set on fire and allowed to burn until the bricks were hard. Bricks that were fired close to the heat source tend to be blackened on their faces that faced the fire, often bearing a vitrified, glass-like surface finish, while those that were farther from the direct heat were more evenly colored. The bricks that were closest to the flames tended to warp and often deformed to some degree.

### **Mortar**

Associated with the brick were fragments of shell-tempered or shell-lime and sand-tempered mortar. The majority of it was found beneath the library. This is interpreted as being the result of the chimneys being torn down and rebuilt several times in the 17<sup>th</sup>, 18<sup>th</sup>, and 19<sup>th</sup> centuries. Local sources of limestone that could be calcined to produce lime were difficult to find in Massachusetts. Edward Johnson reported in 1650 that “the country affords no lime, but what is burnt of Oyster-shells” (Cummings 1979: 122). As Johnson reported, people burned sea shells to produce lime which was mixed with the clay to produce mortar. Lime was necessary for the mortar to make it waterproof, as without lime, a good rainstorm would wash the mortar out of the masonry and the whole construction would soon come crashing down. The shells that were reduced to lime came from a variety a sources. In 1694 a large storm resulted in a plethora of shells on the beach. Local officials soon declared that none of the shells, nor any of the lime that was subsequently made from the shells, could be shipped out of Lynn under punishment of a fine (Jenison 1976: 22). Shells were also mined from Native American shell middens such as was done in 1667 by Thomas Batt, a hide tanner in Boston. Batt used a Native shell midden located on the west side of Beacon Hill to create the lime pits he used for dehairing hides (Jenison 1976: 22). Another source of shells were live shellfish beds. This practiced was discouraged due to the harm done to the shellfish, as such was the case in 1728 in Providence, Rhode Island where oyster beds were being raided (Jenison 1976: 22). By the early 18th century, local lime sources had been discovered and shell lime was less often used, as evidenced by a 1724 decree that mussels in Massachusetts Bay should no longer be used for making lime or anything else except for eating and bait (Kimball 1922: 36).

Fragments of clay and burned clay were found in the southwest passage. These are interpreted as representing the clay that was used to put up the lower portion of the hearth and chimney with shell-

tempered mortar being used on the portions that stuck above the roof line. Samples of shell-tempered, clay, and sand tempered mortar were all saved.

### **Window Glass**

Window glass was common throughout, beneath, and outside of the house. A total of 458 pieces of 17<sup>th</sup> through 19<sup>th</sup> century glass was recovered. The majority was found in the yard, especially in test pit C-5, and beneath the house in the northeast and to a much lesser degree in the southwest and northwest passages.

### **Window Lead**

One window lead was recovered from test pit D-1. This lead was originally used on the widows of the house to affix the diamond-shaped quarrels in place within the casement. This type of window was used until the very early 18<sup>th</sup> century and eventually was replaced by rectangular and square sash windows. Often these leads contain embossed initials and dates of manufacture. Unfortunately, the fragment from the excavation is too small and fragile to be opened without destroying it. It is probable that further excavations along the wall bordering the sidewalk will reveal more of these leads. It is believed that these window leads were used when the house was originally built, thus if we found more leads there is a good chance that we could find ones with the actual date of construction in one.

### **Nails**

#### **Hand-Wrought Nails**

Nails are designated by their “penny” size, which refers to how much it costs to purchase 100 of each nail size. A two penny nail would cost two pennies to purchase 100 while a 10 penny nail, due to its larger size, would cost 10 pennies to purchase 100. The abbreviation “d” is used for penny, thus a “10 penny” nail is abbreviated “10d”. The “d” used in the abbreviation comes from the Roman word for a coin, denarius, thus the “d”. Fourteen sizes of hand-wrought nails were identified at the site. These range in size from small brads 30d nails. The majority of the nails were of the 3d (1 1/4” long) size.

Hand-wrought nails were made by specific craftspeople called “nailers” in the 17th and 18th centuries. Nailers took long thin rods of iron and hand formed each individual nail. The resulting nail is distinctive from later machine-made nails in that the shank of the former is square in cross-section and tapers to a sharp point. The heads of hand-wrought nails are large and broad, often with four distinct blows of the headers hammer visible, giving them a distinctive “rose head” appearance.

The shanks of machine-cut nails are rectangular in cross section, which is a result of the cutting of nail blanks from a flat sheet of iron versus hand hammering each nail. Machine cut nails initially were individually headed but later, by the 1820s, had roughly rectangular machine-stamped heads. While hand-wrought nails and spikes were produced since ancient times, by the late 18th century they were replaced by partially machine cut nails between 1790 and 1825, with the machine cutting the nail shanks and a human finisher applying the heads by hand. By 1825 machines had been developed to crudely make the heads and by 1840 the heads and shanks were completely machine-made. Machine-cut nails continue to be produced until the present time. Eventually, by 1890s, round-shanked wire nails, which were first produced in the 1850s, began to dominate the nail market, replacing the machine-cut nails and continuing in use to this day.

A total of 255 hand-wrought and 91 machine cut nails and nail fragments were recovered from the test areas (Table 4). The presence of nails and nail fragments is indicative of areas where construction and demolition occurred at the site and can be used to help date when changes were made to a structure. The distribution of nails in the test areas indicate that an episode of construction

Table 4. Hand wrought and machine cut nail occurrences

	Hand Wrought	Machine Cut
Attic	2	
NE Passage	54	1
NW Passage	12	42
SW Passage	107	13
Test pit D-1	22	2
Test Pit E-1	11	1
South Yard	47	32

or demolition followed by construction occurred in the area of the southwest and the northeast passage in the 17<sup>th</sup> to 18<sup>th</sup> century before the introduction of machine cut nails. This is consistent with an expansion of the original single cell house to a larger salt box style house in the late 17<sup>th</sup> century. The presence of nail concentrations in test pits D-1 and E-1 indicate that some activity, either initial construction or later renovations, resulted in waste being deposited in this area of the house as well in the 17<sup>th</sup> century. Machine cut nails show a different pattern with the concentration being in the northwest passage. This shows that this portion of the house went through renovations or additions later than the south half of the house. This may be associated with renovations by the Chipmans or the conversion of the house to a library in the 1860s. The distribution of hand wrought and machine cut nails in the south yard is the result of overall scatter of building and demolition materials during all phases of construction and renovation.

A few 20<sup>th</sup> century wire nails were also recovered from the south yard. These are interpreted as the result of maintenance and upkeep of the building. One iron staple was also found.

### Worked Wood

Because the survey was conducted in the protected environment beneath the main floor of the library, many fragments of worked wood were recovered. These were pieces discarded during construction as pieces were shaved and sawn to fit as well as old pieces of the house discarded as woodwork was removed and renovated. Most pieces could not be identified as to what they originally came from, but several pieces of molding were represented in the collection. Pieces from the attic were most complete and identifiable with fragments of what may be basketry splints, a possible 17<sup>th</sup> century clapboard, and a trunnel being identified. Also collected was a piece of wood used to support the vaulted ceiling over the southwest room. This piece bears the following in pencil "Russell Matthews June 14th, 1866". Matthews appears to have been one of the carpenters who put in the ceiling when the house was converted to a library.

### **Plaster**

Samples of the wall plaster that was found beneath the library were recovered from southwest passage, the northeast passage, and to a lesser degree from the northwest passage. Most of the fragments exhibited evidence of hand riven lathe with a few showing the impressions of 19<sup>th</sup> century sawn lathe. The hand riven lathe was made in the 17<sup>th</sup>, 18<sup>th</sup>, and early 19<sup>th</sup> century. Two fragments of hand riven lathe showed evidence of black painting.

### **Other Architectural**

Other architecturally related items found include an iron butt hinge, pieces of lead roof flashing and iron lumps and fragments that are most probably corroded nail pieces.

### **Personal Items**

Items of a more personal nature were found in the passages beneath the first floor. These included common pins and needles from the 17<sup>th</sup> to 18<sup>th</sup> centuries, a bronze scale weight (supporting the occupation of the house by people associated with the merchant class), a 19<sup>th</sup> century clay marble, one glass (19<sup>th</sup> century), one wooden, and two bone buttons (all 18<sup>th</sup> century), an iron teaspoon (19<sup>th</sup> century), a bone utensil handle (19<sup>th</sup> century), an iron kitchen utensil handle (17<sup>th</sup>-18<sup>th</sup> century), a fragment of a pair of hearth tongs (18<sup>th</sup> century), a brass shoe buckle (18<sup>th</sup> century), a brass possible sword hanger (18<sup>th</sup> century), hairs from a paintbrush (18<sup>th</sup> century?), a pewter possible flagon lid fragment (17<sup>th</sup>-18<sup>th</sup> century), and newspaper fragments (19<sup>th</sup>-20<sup>th</sup> century). One iron barrel hoop fragment was also found in the south yard. One piece of what appears to be white marble with score marks was found in the attic. This may have been used by one of the carpenters who worked on the house for an unknown construction related purpose.

### **Animal Husbandry**

Three halves or fragments of 17<sup>th</sup> to 18<sup>th</sup> century horseshoes and one half of a horse bridle bit were recovered from the southwest passage in association with the hearth base.

### **Flint Fragments**

Five pieces of flint, presumably from the manufacture of gunflints and the use of flint and steel to start hearth fires, were recovered from the test pit D-1 (n=2), the northwest passage, the northeast passage, and test pit C-5.

### **Fuel Byproducts**

One hundred thirty-one pieces of charcoal, the result either of the fire that occurred within the library or from using the hearth for cooking and heating, were recovered from the southwest passage (n=66/ 50.4%), the northwest passage (n=58/ 48%), test pit D-1 (n=10/ 7.4%), and the northeast passage (n=6) and the south yard (n=1). The majority of the charcoal from the northwest passage is believed to be a result of the library fire while the charcoal from the southwest passage and test pit D-1 are interpreted as a being the result of use of the 17<sup>th</sup> century hearth.

A few pieces of coal (N=18) were recovered as scatter in the south yard (n=16) and from the northwest and southwest passages. The coal is interpreted as being the result of the use of coal as a heat source in the 19<sup>th</sup> and possibly early 20<sup>th</sup> centuries.

**Floral Remains**

Thirty-nine floral remains of corn cobs, chestnut, butternut, cherry, apricot, peanut, linden, peach, and pumpkin were found in the attic (n=4), the northwest passage (n=28), and the southwest passage (n=7). It is believed that these were carried into the library by rodents who were living beneath and in its walls.

**Faunal Remains: Bone/ Shell/ Egg Shell**

Analysis of the faunal remains sought to examine the site inhabitant's involvement in the larger local and regional markets by examining the degree to which they raised and butchered their own livestock versus what they may have purchased from neighbors or from the markets. The recovery of a wide variety of elements (cranium to tail vertebrae, upper and lower elements of legs, phalanges) from a species likely indicates that the species was raised on site and butchered there or that it was purchased whole and butchered on site. The faunal elements recovered when species are butchered and consumed on site differ markedly from instances where only specific elements are purchased at a market or from a neighbor. In the latter case, only specific elements are present with many of the less desirable elements (tail vertebrae, lower legs, phalanges) being absent.

There are two schools of thought on the nature of rural farming in the 19th century. One school believes that all American farmers, regardless of proximity to markets, were capitalists whose economic decisions were greatly influenced by market forces. The other school sees small, rural inhabitants not as capitalists but as subsistence farmers who valued their independence over consumption of market products. This school believes that rural inhabitants preferred to produce their own goods to the point that they produced everything they could by themselves and purchased whatever else they needed from their neighbors. In this instance, trade between neighbors took the form of reciprocal exchanges of goods and labor in which tradition, family loyalty, neighborliness and self-sufficiency was valued over profit and regulated economic decisions (Henretta 1978; Kulikoff 1989; Rothenberg 1981)

Evidence of the vertebrate and invertebrate portion of the diet of the occupants of the site was represented by both bone and shell remains. A total of 395 fragments of shellfish, 22 fragments of egg shell, and 347 fragments of animal bone were recovered.

**Shellfish**

Shellfish species represented were all local varieties (soft shell clam, quahog, oyster, blue and ribbed mussels, slipper shell, and jingle shell). The majority of the assemblage was composed of soft shell clam (n=267), followed by oyster (n=55) and quahog (n=53). The remaining species made a minor contribution to the diet and may have been collected accidentally when the other species were collected. Soft shell clam dominated the assemblages from all the contexts with quahog being the next most common (in all contexts except for the NW passage) and a small scattering of other species being present as well. This distribution shows that the occupants of the house were essentially consuming the same species throughout the occupation, with the lowest occurrence of consumption for oysters being in the 17<sup>th</sup> and early 18<sup>th</sup> century contexts.

**Egg Shell**

The egg shell fragments were all recovered from the NE passage in the fill on top of the brick paving.

### Bone

Bone fragments were concentrated in the NE passage beneath the library (n=113) (Table 5) with slightly lower quantities beneath the NW and SW portions of the building. Calcined mammal bone

Table 5. Faunal remains

Species	NE	NW	SW	D1	E1	S. yard
Calcined Mammal	2	1	1	22	9	4
Small Mammal	1					
Vole		2				
Mouse	2					
Rat	2	11	11			
Squirrel		3				
Rabbit	1					
Medium Mammal	19	8	16	13	3	
Sheep	7	13	30	2		1
Swine	4	4	6		2	1
Large Mammal			1			
Cattle	1	7	6	1		
Bird	12	13	9			
Chicken	4	6	8			
Duck	1	4	5			
Goose		2		1		
Fish	28	3	2			
Herring	1					
Bass	27		1			
Perch	1					
Sturgeon			2			
Totals	113	77	98	38	14	7

is medium sized mammal (sheep, swine, deer) that has been subjected to extreme and prolonged heat essentially cremating the original bone and leaving only the inorganics behind. This type of bone is interpreted as that which has been thrown into a cooking fire either during processing, consumption or as part of a refuse disposal procedure. The highest occurrences of calcined bone were in the south yard in test pits D-1 and E-1 within the 17<sup>th</sup> century contexts. This indicates that these areas were the loci of hearth refuse disposal during that period of occupation. The presence of commensural rodent species (mouse, rat, vole, and possibly the squirrel and rabbit) beneath the building indicates that some of the faunal material may have been dragged under there by these

rodents and that there was some degree of access for these species. Two of the species, the squirrel and the rabbit, may have also been consumed.

Sixteen species were represented by the bone assemblage from the site. The most commonly occurring were sheep, a species generally linked to higher status dining while swine, and even cattle, were poorly represented. Fish species were abundant in the NE passage associated with the Chipman occupation and the remains of sturgeon, a species that could have been caught in the harbor to the north of the site, was present in the late 17<sup>th</sup> century assemblage. Overall it appears that the inhabitants utilized a wide variety of species in the 18<sup>th</sup> and 19<sup>th</sup> centuries and a more limited range in the 17<sup>th</sup> century.

Element distribution shows that the occupants consistently preferred ribs and thoracic vertebra, lumbar vertebra, and scapulas and humeri. These bones represent racks of ribs, loin chops, and shoulder cuts. Swine were represented by cranial elements, ribs, and front legs. These cuts represent heads (often served as presentation pieces and used to make head cheese), racks of ribs, and shoulders or shoulder hooks. Cattle remains were represented by cranial elements, ribs, and hind quarters. These represent rump roasts and ribs. The general lack of lower elements and cranial pieces indicate that cuts from all species were most probably being purchased prebutchered, at least in the 18<sup>th</sup> and 19<sup>th</sup> centuries.

## Architectural Survey

### Cellar

The cellar beneath the Lothrop room at the Sturgis Library is a dry-laid cellar that is over six feet deep. It measures 4 meters (13') east to west by 6.6 m (21.5') north to south. The norther 1.6 meters (4.5') appear to have been added on to the original cellar at a later date. What appear to be the original floor joists for the Lothrop Room are present on the cellar ceiling (**Figure 15**). These original joists, which are spaced at 70 to 80 cm (27-31") apart, have been supplemented with more recent joists placed between the original ones. The original joists appear to be white oak logs modified for framing by flattening one face and putting tenons on the ends. The east tenons are joined with a sill that extends beyond the walls of the cellar while the west girder is located at the west wall of the cellar. The southern sill bears two notches that may represent juggling cuts when the log was being squared (**Figure 15**).

### Surveying Beneath Southwest Side of House

The two joists that were visible beneath this portion of the house are white oak and appear to have been split from one original timber (**Figure 13**). The timbers are 17 cm wide and 9 cm deep with the longest side facing the floor. The northern joist bears two pockets in it and it appears to have been reused. The western pocket retains a fragment of the trunnel that was used to hold the partnered timber to it and the entire timber may have originally been upright. The joists are different in nature from those beneath the Lothrop room (which are logs with one flattened face and tenoned ends) and are believed to date to the second period of construction at the site in the last half of the 17<sup>th</sup> to the early 18<sup>th</sup> century. The eastern end of the joists attaches to a sill girder that appears to be 17<sup>th</sup> century in date.

The underside of the floor in this area shows evidence of reuse of old sheathing and floor boards with one bearing evidence of whitewashing, one with traces of red brown milk paint, and one with traces of what appears to be green paint on the edge.

### Survey in the Attic

In order to facilitate the inspection of as much of the framing in the attic as possible, much of the flooring was systematically removed, the timbers were inspected and then the flooring was replaced. All of the joists in the northeast quarter of the attic was found to date to the 19<sup>th</sup> century. The north half of the eastern tie beam appears to have been reused, possibly from the backplate, and the pocket for a principle rafter is present in the eastern side. The eastern third of the back plate was found to probably date to the 18<sup>th</sup> century

### East Gable Room

The architectural investigation in the attic began at the small storage room located against the east gable. The exterior of the walls are made of repurposed sheathing boards, many of which bear clapboard and/ or shingle holes. The boards on the exterior west side of the room are made of interior 17<sup>th</sup> century paneling with two types of edge finishes (a tongue and groove and a beaded edge) (**Figure 16**).

A loose floorboard was removed in the northern half of the room, exposing a white oak summer beam in the middle to western portion of the room in excellent shape with hew marks still sharply visible (**Figure 16**). This beam is located in what is now the staff break room on the second floor, directly above the Lothrop room. The beam has been boxed in in the break room. Nineteenth century sawn lathe has been used to hold up the plaster ceiling in this portion of the house. One of the pieces of strapping used to support the lathe appears to be a reused piece of 17<sup>th</sup> century weatherboard or paneling. The floorboards in the room have been affixed with late 18<sup>th</sup> to early 19<sup>th</sup> century T-headed nails and light green paint is present on some of the boards, which is possible evidence of reuse. A second reused summer beam was identified along the eastern wall. This beam appears to have been reused as a tie beam along that wall. A piece of black painted 17<sup>th</sup> century floor joist has been reused here as well. A piece of what looks like a roof rafter has been reused as a portion of this tie beam as well.

### East Gable Southeast Corner

A 17<sup>th</sup> century principle rafter was identified rising up from the southeast corner of the roof. The rafter measures 6.5 x 4" and is white oak (**Figure 17**). Two purlin pockets are present, each measuring 3" wide and 3.5" deep. A white oak purlin has been reused as a stud to the immediate north of the rafter. It measures the same as the purlin pocket. The pitch of the roof is relatively shallow at 9/12. This pitch represents the roof line of the second period of construction on the house ca. mid 17<sup>th</sup> to early 18<sup>th</sup> century. It appears that when the house was first built in 1644, the roof was at a steeper angle, perhaps at a 10 or 11/ 12 and it was a story and a half high with whitewashing extending partially up the rafter. The ceiling in the original house was located above the whitewash line and the attic or garret was a relatively small space.

The mortise for a tie beam is located at the south end of the rafter. The white oak end girt on the south side of the house appears to be the reused tie beam that originally was present on the west gable of Reverend Lothrop's house. The gable measured at least 21 feet long and the southern room as whitewashed while the northern room was not. This was a common practice. The best rooms, the rooms that people would be entertained in, would be whitewashed while the auxiliary/ support rooms at the north end of the house, would not be whitewashed. The whitewash was found to extend approximately 16-18 feet along the front plate, a dimension that matches the depth of the Lothrop room (**Figure 18**). This plate/ tie beam measures 6 x 6.5". It appears that when the house was expanded from its original form, most of the building was taken apart and reused in the new building. Vertical pine sheathing boards are present below the apex of the rafter while reused sheathing boards are placed horizontally above and to the north of it. Clapboard nail holes are present on the horizontal boards. the nail holes are spaced at an average distance of 4.25" with a range of 3-5". Cream yellow paint is present on one of the boards.

When a loose board was removed at the southeast corner of this gable, a concentration of artifacts consisting of corn cobs, pieces of window glass, basket splint fragments, wood shavings, and one piece of 17<sup>th</sup> century riven clapboard was found (**Figure 19**). The corn cobs are an 8-row variety and probably date to the 18<sup>th</sup> to 19<sup>th</sup> century. Eight-row corn is the type grown by the New England native people and is the precursor to the modern 10+ row corn consumed today. These cobs were probably dragged in here by rodents. The ceiling beneath this portion of the attic is attached to hand riven lathe and probably dates to the 18<sup>th</sup> century. The floor joists in this portion of the house join with the front plate with tusk tenons, which is an older style of joinery.

A reused white oak timber was found running south beneath the eastern attic room to the front plate of the library. This beam was found to have a large mortise present in the southern half. The mortise was filled with mortar or plaster, soil, and window glass and it was located 115 cm from the end of the beam. This timber is unlike any of the others found in the attic and may represent a beam used as the plate for a porch extending off the front of the house. When the house was rebuilt in the late 17<sup>th</sup> century, the porch may have been removed and the beam reused in the attic. Removal of the floor boards also found that a whitewashed rafter had been reused in the attic as a joist.

### South Side

The salt box plate on the south side of the building is located behind a later hewn early 19<sup>th</sup> century plate. It originally had an overhang on the south side that protected the front of the house from water running off the roof (**Figure 20**). In order to give the house a more "modern" appearance, the second plate was added in the early 19<sup>th</sup> century creating a vertical face on the front of the house. The sheathing boards located to the south of the salt box plate are white pine. A brindled scarf joint (a joint connecting two pieces of wood together, in this case being brindled meaning it has a concealed shelf on it). The scarf appears to be upside down and the entire front plate appears to have been flipped when the new facade was put on in the 18<sup>th</sup> or 19<sup>th</sup> century. The plate is whitewashed on the eastern half for 16' 7" with another 5'4" not whitewashed to the scarf. The portion that is not whitewashed is believed to represent the original chimney bay, possibly indicating that the timber that is now the front plate was the original back plate. Two large mortised on the present front plate in the unwhitewashed portion indicate that a vertical post and probably a falling wind brace were once located here. These would have formed the framing for the chimney

bay. Based on this interpretation, it would indicate that the original house was 16' long with a 7' chimney bay on the west side. The location of this proposed chimney bay is to the immediate east of the stone hearth base identified beneath the house.

### **South of Eastern Chimney Stack**

The eastern chimney stack shows evidence of extensive reuse of 17<sup>th</sup> century bricks in it but both stacks were probably erected in the early 19<sup>th</sup> century in an attempt to give the older style house a more modern, balanced and federal style appearance. An odd bit of scarfing (joining of two timbers by an overlapping joint) was initially observed through a missing floorboard just south of the eastern chimney stack at 17'3" west of the eastern gable. On May 1, 2014 we returned to the area south of the eastern chimney and removed several more floorboards, one of which was found to have been a reused 17<sup>th</sup> century floorboard with whitewash and the spirit line from a joist on its underside (**Figure 21**). Possible evidence of soot staining from the original chimney was also observed on the same board. It appears that the soot accumulated on the ceiling of the room that the board was originally in prior to it being whitewashed.

The odd scarfing that had been identified earlier was found to be the result of the reuse of roof rafters as floor joists. When boards were removed along the south wall, a very well preserved late 17<sup>th</sup> century plastered wall was found to be hidden behind the 19<sup>th</sup> century extant wall visible on the second floor. This is in the second floor's southeaster corner room, the same room that has riven lathe being used on the plaster ceiling. Nineteenth century sawn lathe is present in the room to the west of this room. The 17<sup>th</sup> century wall ends at the corner post at the southwestern end of the room. the post has not been whitewashed and still retains bark on the west side. Beneath the attic flooring a piece of very weathered possibly 17<sup>th</sup> or 18<sup>th</sup> century pillastered front door molding was found to have been reused as strapping to attached the ceiling lathe to in the southeast room (**Figure 22**).

### **West Gable Southwest Corner**

The western half of the library was found to be an intact seventeenth century bay that utilized only "new" lumber when it was built- no reuse of timbers was evident as it was in the eastern half. The vertical posts in this half of the library appear to be full two story posts while those in the eastern half are two one story post for each vertical post, indicating a smaller, shorter building was added on to to make it taller. A mortise for a principle rafter was found just west of the scarf joint indicating where that complete bay ended to the east. The bay is approximately 14' east to west. A principle rafter with a purlin pocket is present dating probably from the second build at the house is located at the western gable end (**Figure 23**). The rafter is pine and has been hewn and pit sawn. It measures 17 x 11" and has purlin pockets measuring 2.5 wide x 3.5 deep x 2.5 high". The distance between purlin pockets is 129 and 131 cm. The exterior of the house at this side is double sheathed with 17<sup>th</sup> and 18<sup>th</sup> or 19<sup>th</sup> century pine boards. A window hole measuring 19" wide by 31" high is present on the western gable end (**Figure 24**). This would have been for a single case 17<sup>th</sup> century window. Seventeenth century diamond pane window quarrels and a hand wrought nail were retrieved from the lower portion of the window hole. The floorboards below this window were removed and the junction of the tie beam, the plate, and the principle rafter was found at the southwest corner. All rested on a gun stock corner post. Removal of the boards also revealed traces

of a vaulted ceiling (discussed further below) and 18<sup>th</sup> to 19<sup>th</sup> century block printed wall paper (**Figure 25**), in excellent condition, remaining on the 17<sup>th</sup> century plastered west gable wall.

Also present in the southwest gable end were two lithographs of women. These are glued to a series of vertical tongue and grooved boards running along the south eave of the attic (**Figure 26**). They appear to date to the late nineteenth century.

### West Gable Northwest Corner

The principle rafter present at the northwest corner of the west gable is substantially lower than the gable at the southwest corner. This is interpreted as a result of the second build house being a salt box form with a shallow northern roof line (**Figure 27**). The pitch of the salt box was 3 or 4/ 12. Unfortunately the join between the main house roof and the salt box has not been preserved so it is impossible to know if the roof of the main house dramatically shifted from a 9/12 to a 3/12 or if there was a transition area between the two roofs but it is speculated that there was an area of transition between the two roofs on the north side of the house. Like on the eastern gable, a piece of oak purlin has been reused as a rafter support on top of the salt box principle rafter. Like the other principle rafters, the salt box rafter was initially hand hewn and then pit sawn in half to create two matching rafters. Unlike the other rafters, the salt box rafter is white pine and not oak. The rafter was set in a large mortise at the northern end and the original attic floorboards rested on top of the western tie beam (**Figure 28**). Numerous hand wrought nails had been placed into the tie beam in a haphazard fashion, possibly for hanging items on to dry. The other possibility being that this tie beam was reused from elsewhere in the house. A trunnel for a wall post was identified on the white oak backplate at 4'8" east of the west wall. The post has been removed and a relatively modern 2 x 4 is now present

A floorboard was removed in the northwest corner of this gable end revealing a whitewashed falling brace and a 17<sup>th</sup> century plastered wall (**Figure 29**). Removal of the board also revealed that a vaulted ceiling had been installed in the room along the western gable (**Figure 30**). The ceiling consists of a vault made up of tongue and grooved boards onto which plaster would have been applied on the room side. A vertical support board with the following penciled inscription was found above the ceiling "D C Crocker May 30, 1866" giving a date of installation and even the carpenter (**Figure 31**). This ceiling was part of the change of the structure from a private residence into the Sturgis Library.

### Western Gable Room

A very modern fished room is present in the western gable end of the attic. Removal of sections of the western wall allowed us to follow both the salt box rafter and the southern principle rafter (**Figure 32**). The salt box rafter was found to run up to the northern window where it ended at 70 cm up from the floor. the Southern principle rafter ran up towards the rooms roof and terminated at 144 cm above the floor. It is estimated the the two roofs joined just at or above the southern window in this room. It is further speculated that the peak of the house continued at a 9/12 angle on the north side until it joined with the salt box rafter near the middle of where the southern window is today. It then continued at the 3 to 4/ 12 angle to the north.

## Summary and Conclusions

An archaeological and architectural survey was conducted beneath, within, and immediately adjacent to the Sturgis Library in the spring and summer of 2014. The survey has identified evidence from all phases of occupation at the site (prehistoric and 17<sup>th</sup> through 21<sup>st</sup> century). Architectural investigation beneath the house and in the attic have identified what we believe is strong evidence relating to the original 17<sup>th</sup> century structure including floor joists and principle rafters. We hypothesize that the structure was slightly larger than what Otis identified it to be in the nineteenth century, measuring 29-31 feet on the east side and 24' on the south side (**Figure 33**). The frame for what is believed to be the original chimney was identified in the attic to the immediate west of the present Lothrop Room. The base of the hearth from the second iteration of the house- a salt box- was also identified beneath the southwest room of the library. Abundant evidence of a major rebuilding and expansion of the house that we believe happened in the late 17<sup>th</sup> century was found in the attic. Improvements to the structure included the lengthening of the north side to create a house that was of a salt box form, the building of a second hearth in the northern salt box ell, plastering of walls, and substantial increases in both width and height (**Figure 34**). Extensive evidence for early 19<sup>th</sup> century alterations to the house, including the removal of both the central and northern hearths and the installation of a south facade that modernized the house to an early 19<sup>th</sup> century Federal appearance, literally hiding the earlier 17<sup>th</sup> century house within a new face.

The original structure appears to have been a single cell building- one room with a chimney on the west side. This building was visible when the shingles were removed recently (**Figure 35**). This is believed to have been occupied from the middle to late 17<sup>th</sup> century, probably until just after the death of Ann Lothrop, widow of Reverend John Lothrop. Evidence of middle 17<sup>th</sup> century occupation was discovered during archaeological testing of the south yard and to a more limited extent beneath the southwest portion of the building. A period of major renovation happened at this time with the original house apparently being essentially rebuilt into larger building. The southwest portion of the house appears to be a single two story build added on to the refabricated original house. This second house may have been a salt box or it may have been a rectangular hall and parlor house with an H-shaped central hearth and a north side salt box addition coming later. The house eventually became a salt box that later had its rear wall raised and its front facaded in the 18<sup>th</sup> century to make it Georgian in style. This structure was later renovated again with the removal of the central chimney and installation of paired chimneys and another updated facade to make it federal in style. This last alteration is believed to have happened in the early 19<sup>th</sup> century when the house passed out of the Sturgis and into the Chipman family.

Documentary evidence as found during the review of many probates and wills relating to members of the Lothrop and Sturgis families resulted in a hypothetical title chain for the house going back to Reverend John Lothrop. It is believed that the house was built by Reverend Lothrop in the second quarter of the 17<sup>th</sup> century and that upon his death it passed to his wife. It is hypothesized that it passed to their son Barnabas Lothrop at some point before Widow Lothrop's death and that Barnabas gave or sold it to his daughter and her husband Thomas Sturgis around the time of their marriage in 1687. The house then passed to their son Thomas Sturgis, to his son Thomas Sturgis, and eventually directly to William E. Sturgis whose son William F. Sturgis sold it to the Chipman's and the repurchased it later and dedicated it as a library. The archaeology supports this scenario by finding artifacts that show that the occupants of the house were well off (the could afford porcelain

and buying their meat versus raising their own) and that they were associated with merchant activities (as evidenced by the scale weight). The architectural and archaeological evidence also supports the scenario of remodeling and renovation that can be associated with this line of decent—an initial small house (as evidenced by the architecture and Reverend Lothrop's inventory), a larger house in the later 17<sup>th</sup> century (supported archaeologically under the house and in the south yard as well as architecturally), later renovations in the 18<sup>th</sup> century (as evidenced architecturally) consistent with a well off family trying to update the look of the old family estate to keep up with the Joneses.

### **Recommendations**

It is recommended that further archaeological investigations be conducted on the south side of the house along the wall bordering the sidewalk. The goal of these excavations would be a further investigation of the 17<sup>th</sup> century deposits and features to determine what the earliest date of deposition is and what they represent. It is not known if they merely represent refuse disposal in the south yard or if the rubbish was disposed of in a ditch or bank in an attempt to raise the ground surface. Excavation would take the form of larger units to more fully expose the old ground surface, to see how it relates to the extant stone wall and to see where and why it disappears to the north. It is recommended that these excavations take the form of a public volunteer excavation similar in form to the ones that PARP has conducted elsewhere (Taylor Bray Farm Yarmouth, Water Street Sandwich, Wing Fort House, Sandwich, North Street, Plymouth).

It is also recommended that excavations be carried out in and around the foundation to the north of the north parking lot. the goals of these excavations would be to help date when it was constructed and for what purpose. The archaeological program would also make detailed drawings of the foundations and create a photographic record of it. Testing in the whole of this portion of the property would also look for evidence of Native occupation and sue of the land. This would be another prime location for a public volunteer excavation.

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Figure 1. Location of the Sturgis Library

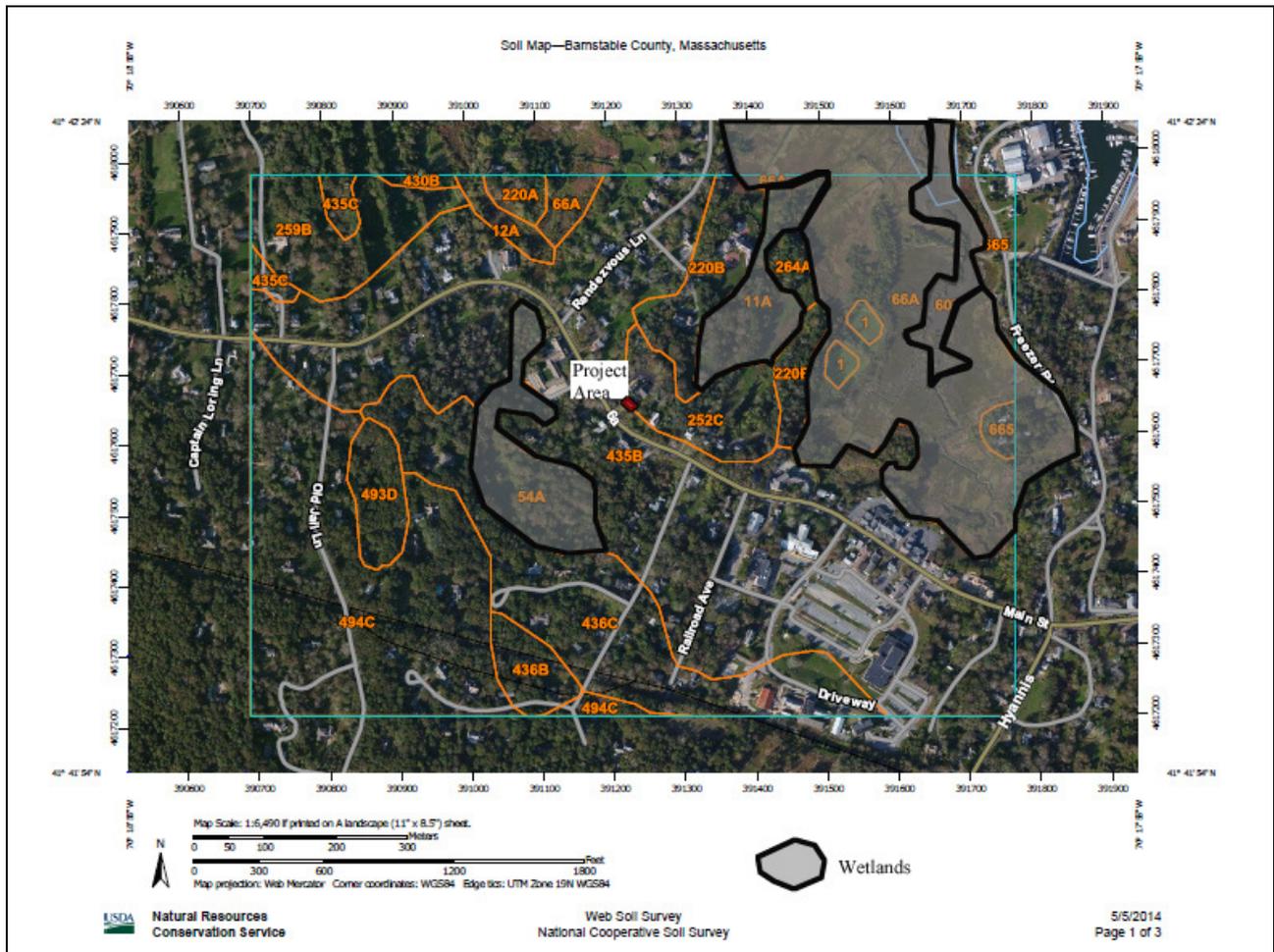


Figure 2. Soils and wetlands present in and around the project area

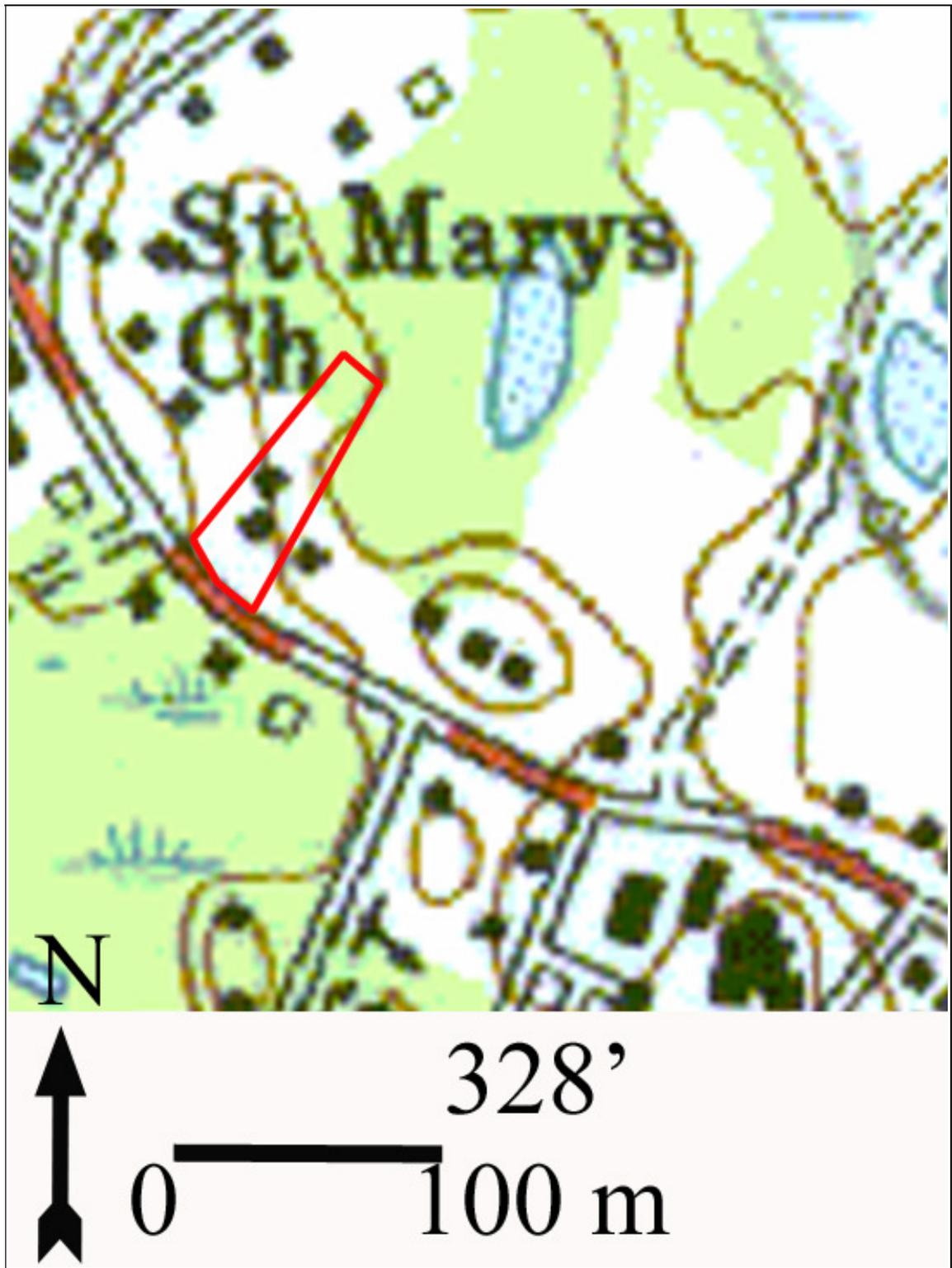


Figure 3. Topographic map

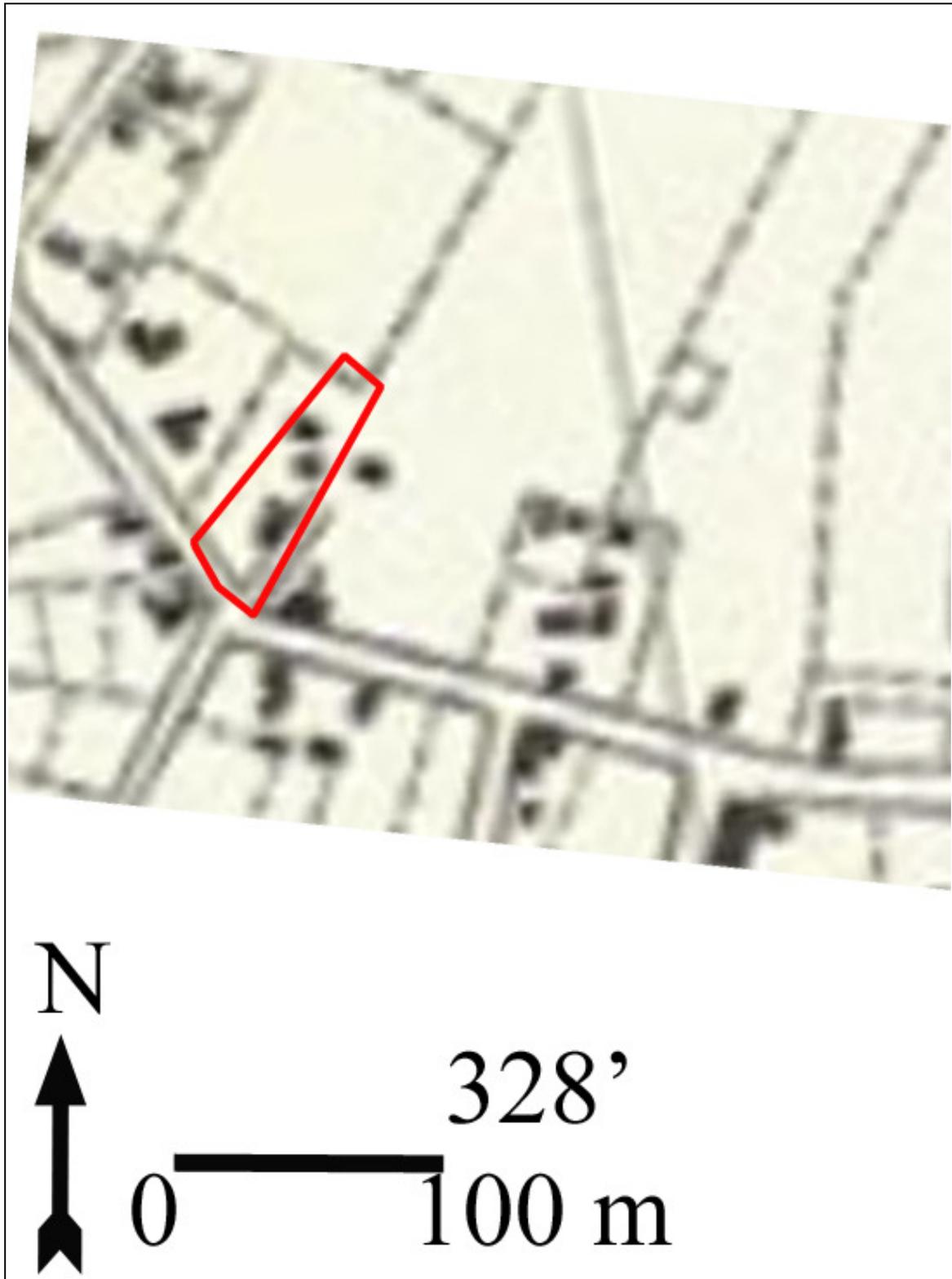


Figure 4. 1861 map showing modern property bounds

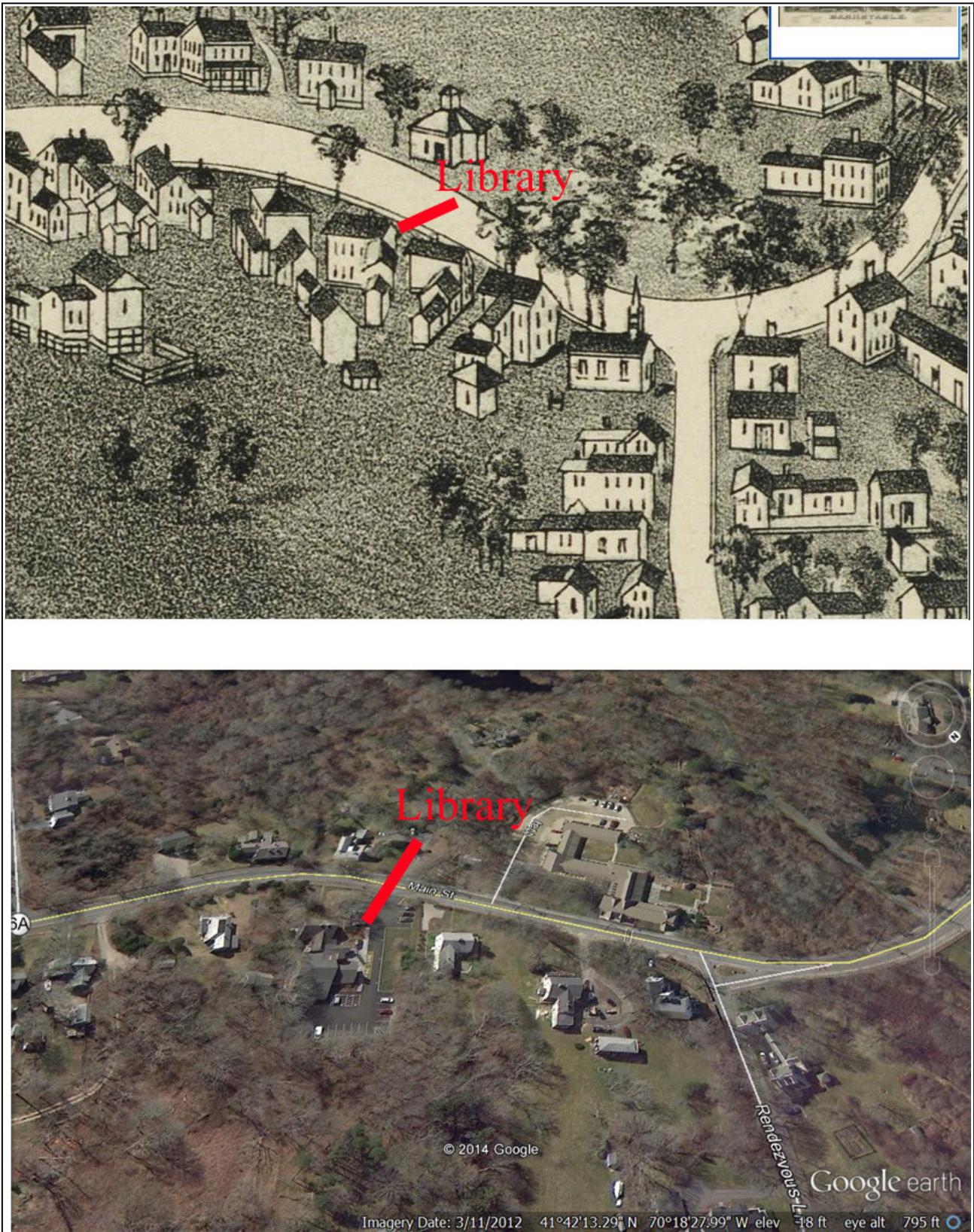


Figure 5. Comparison of 1880 lithograph and modern Google Earth image of property

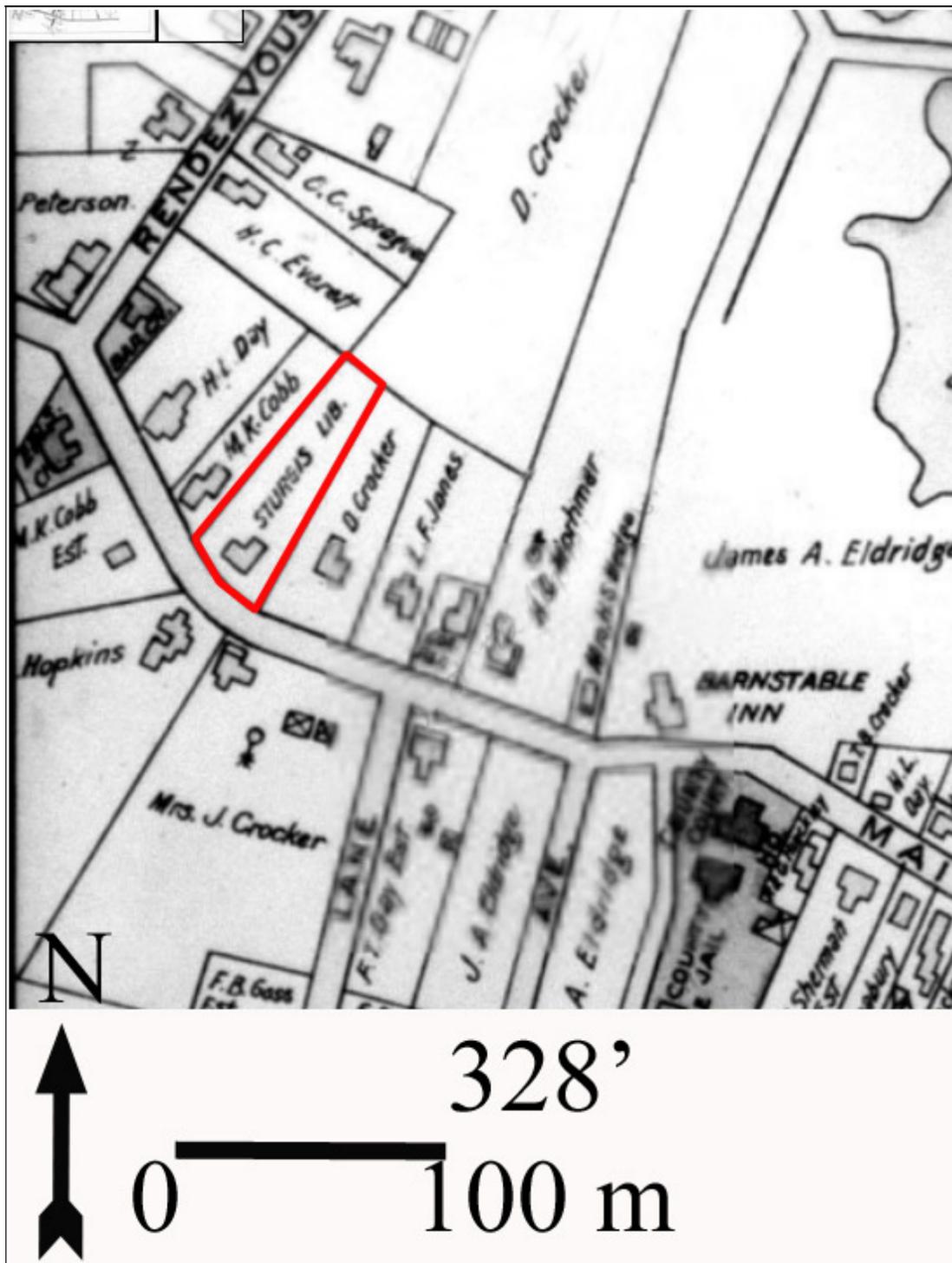


Figure 6. 1910 map of the property

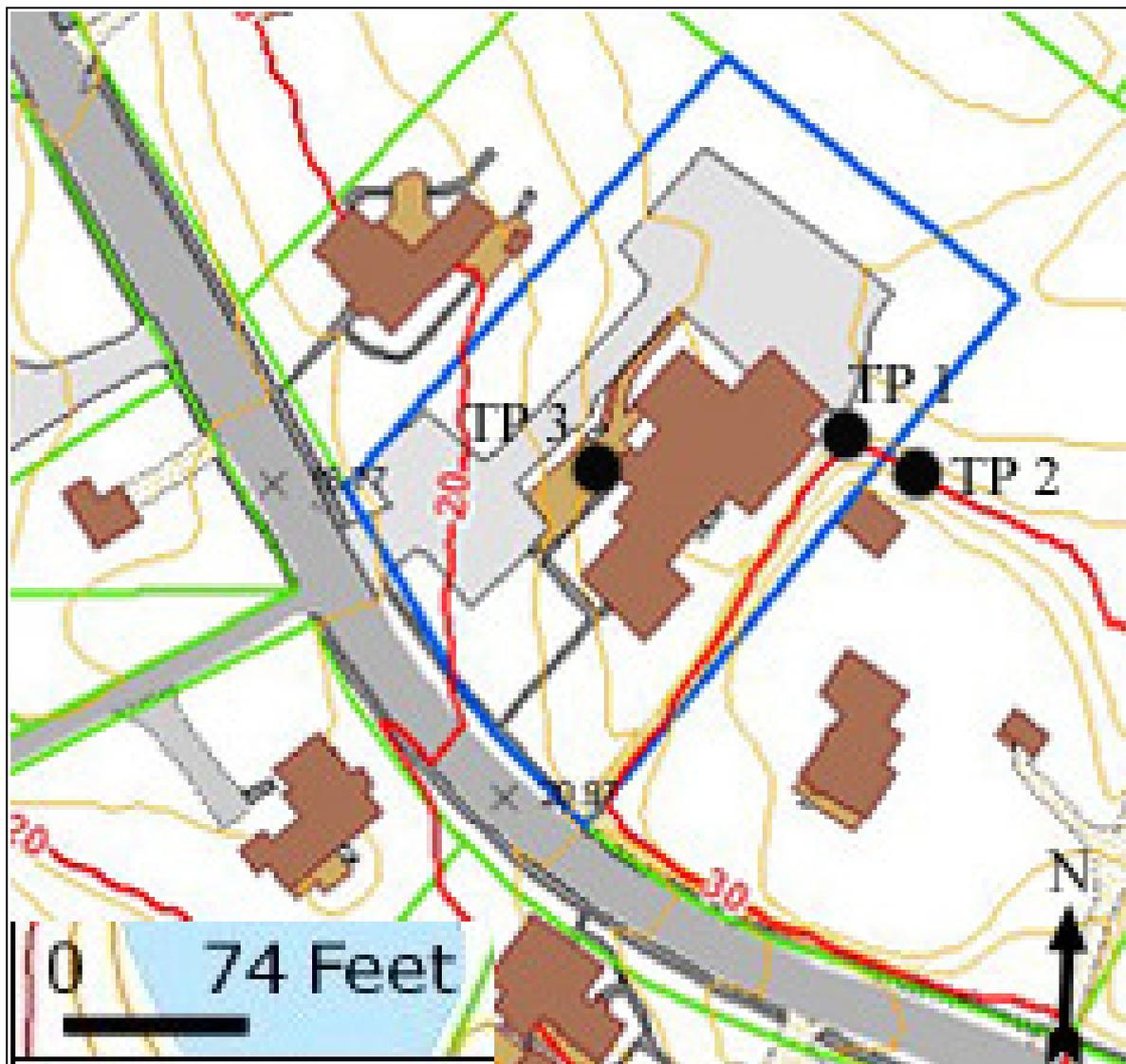


Figure 7. Locations of 1970s testing by Plimoth Plantation



Figure 8. Plimoth Plantation 1971 testing (Test Unit 3 post hole)

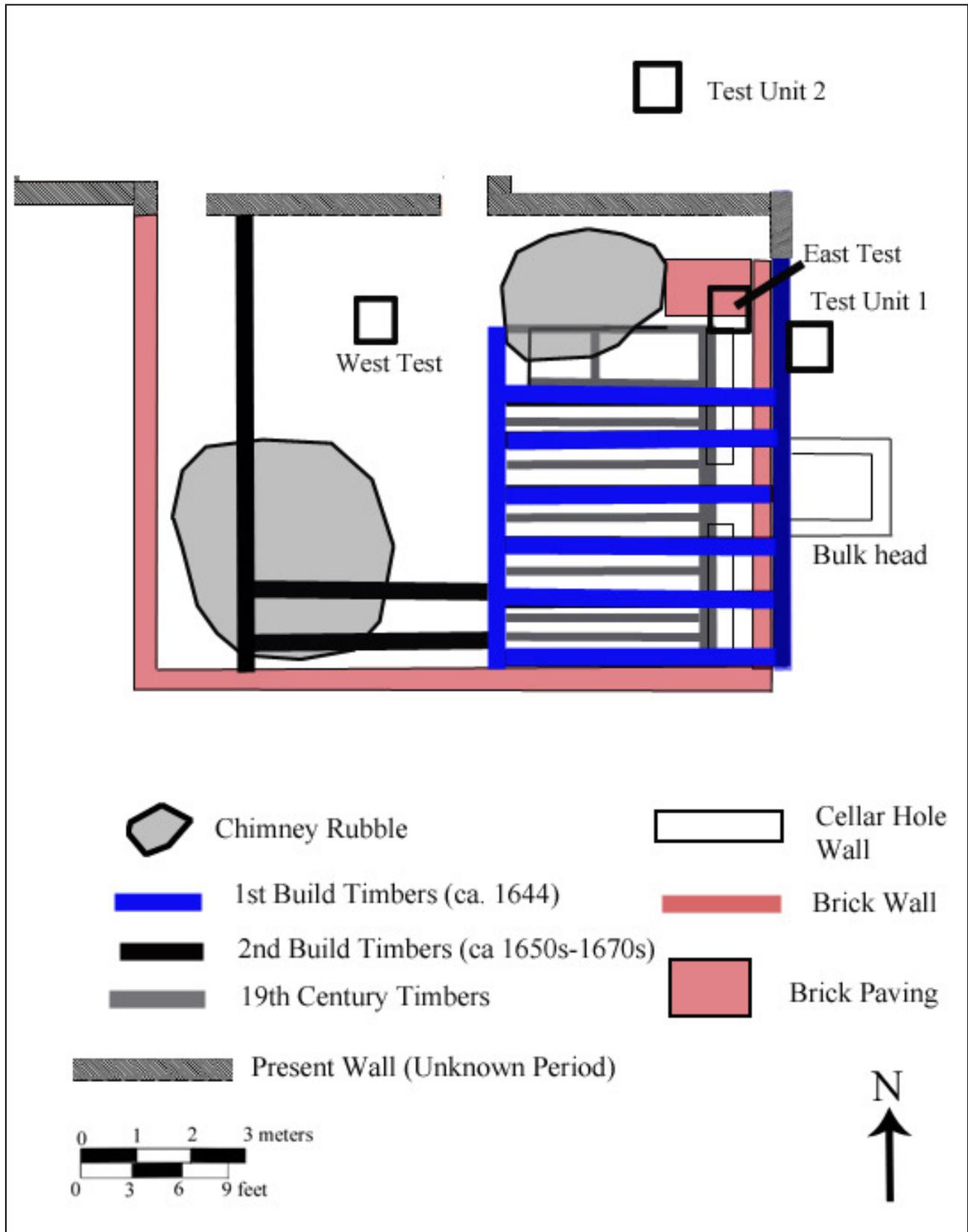


Figure 9. Initial testing under and around the library

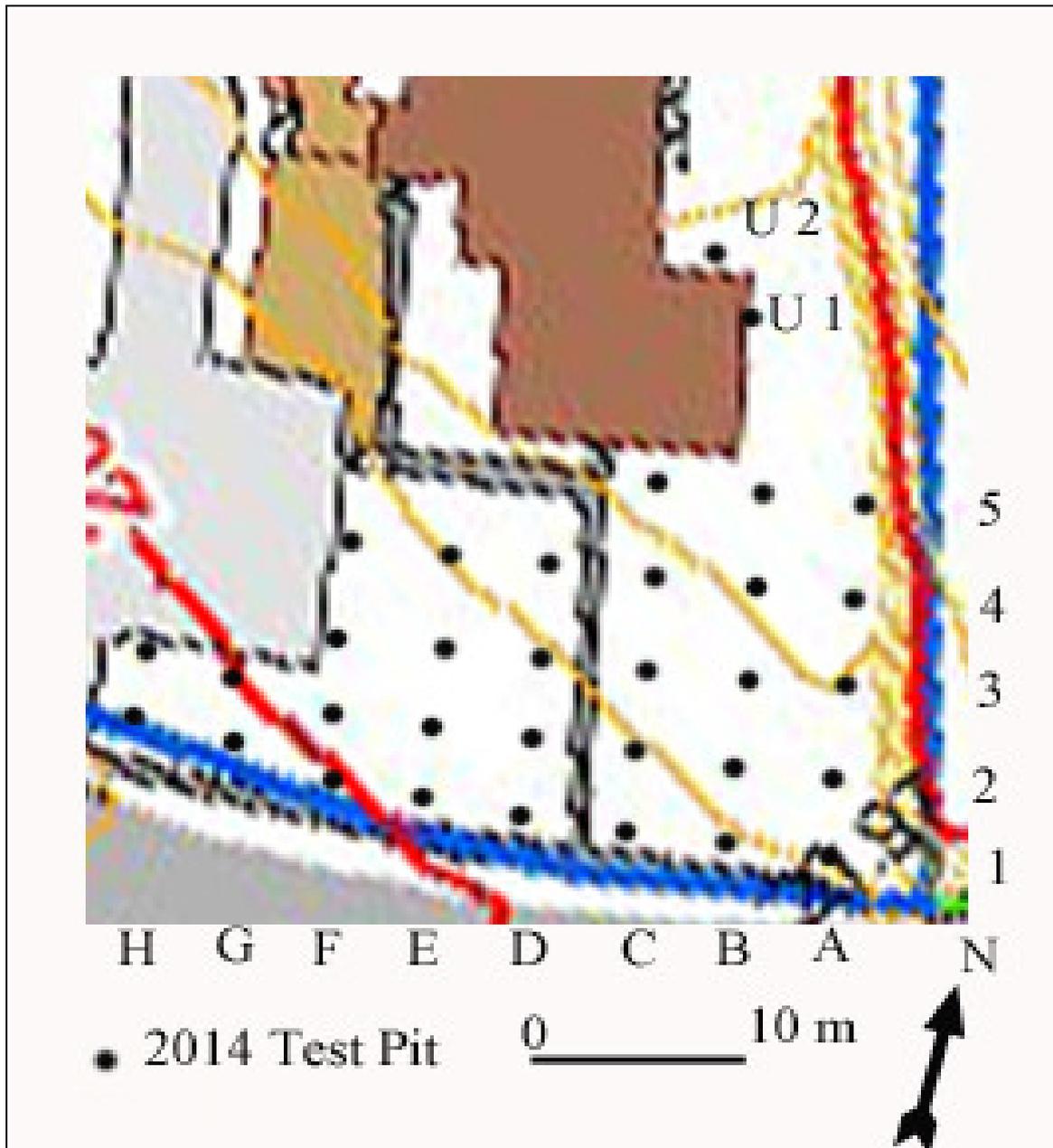


Figure 10. Location of 2014 archaeological yard testing

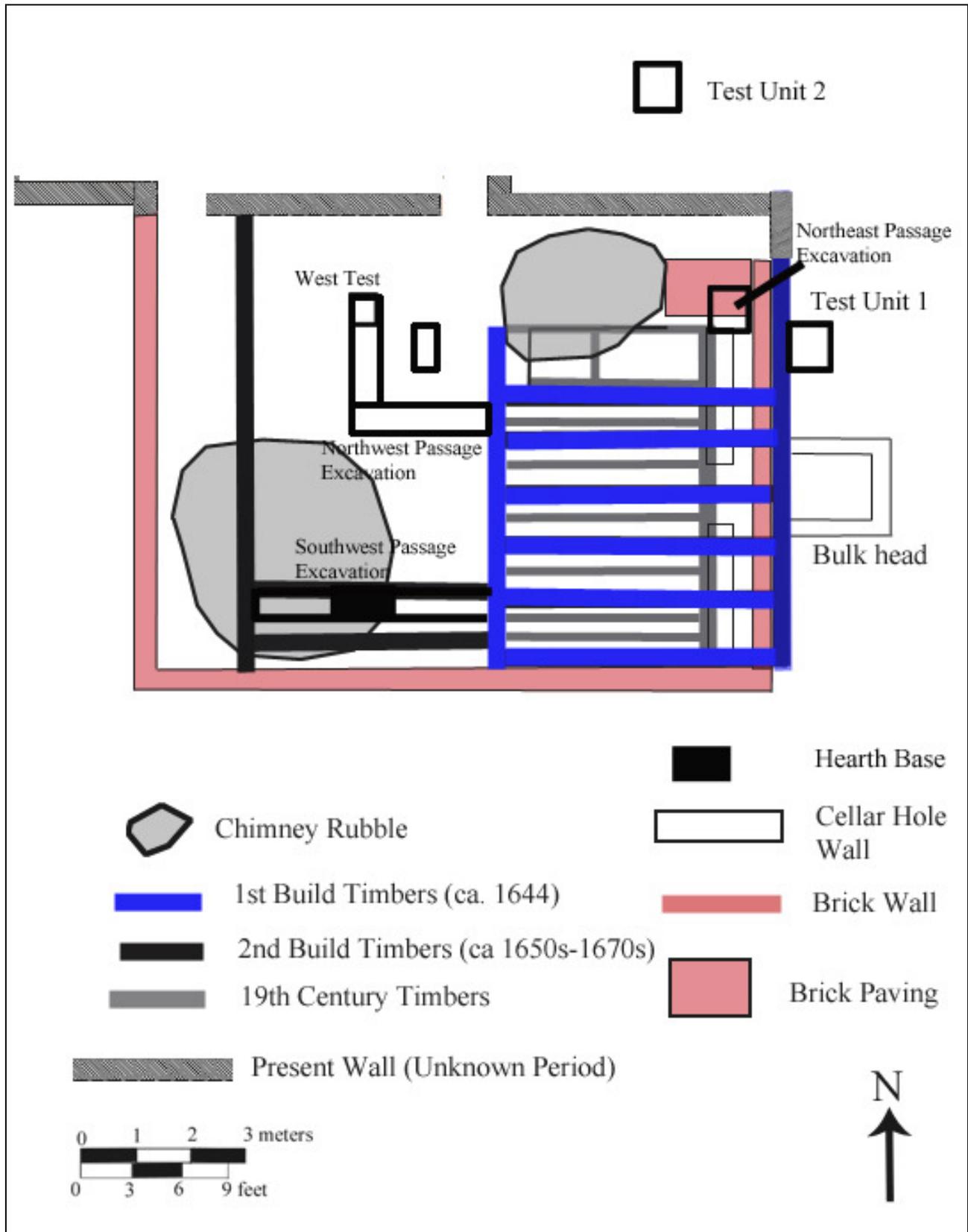


Figure 11. Excavation beneath the library



Figure 12. Stratigraphy in the northeast passage of cellar

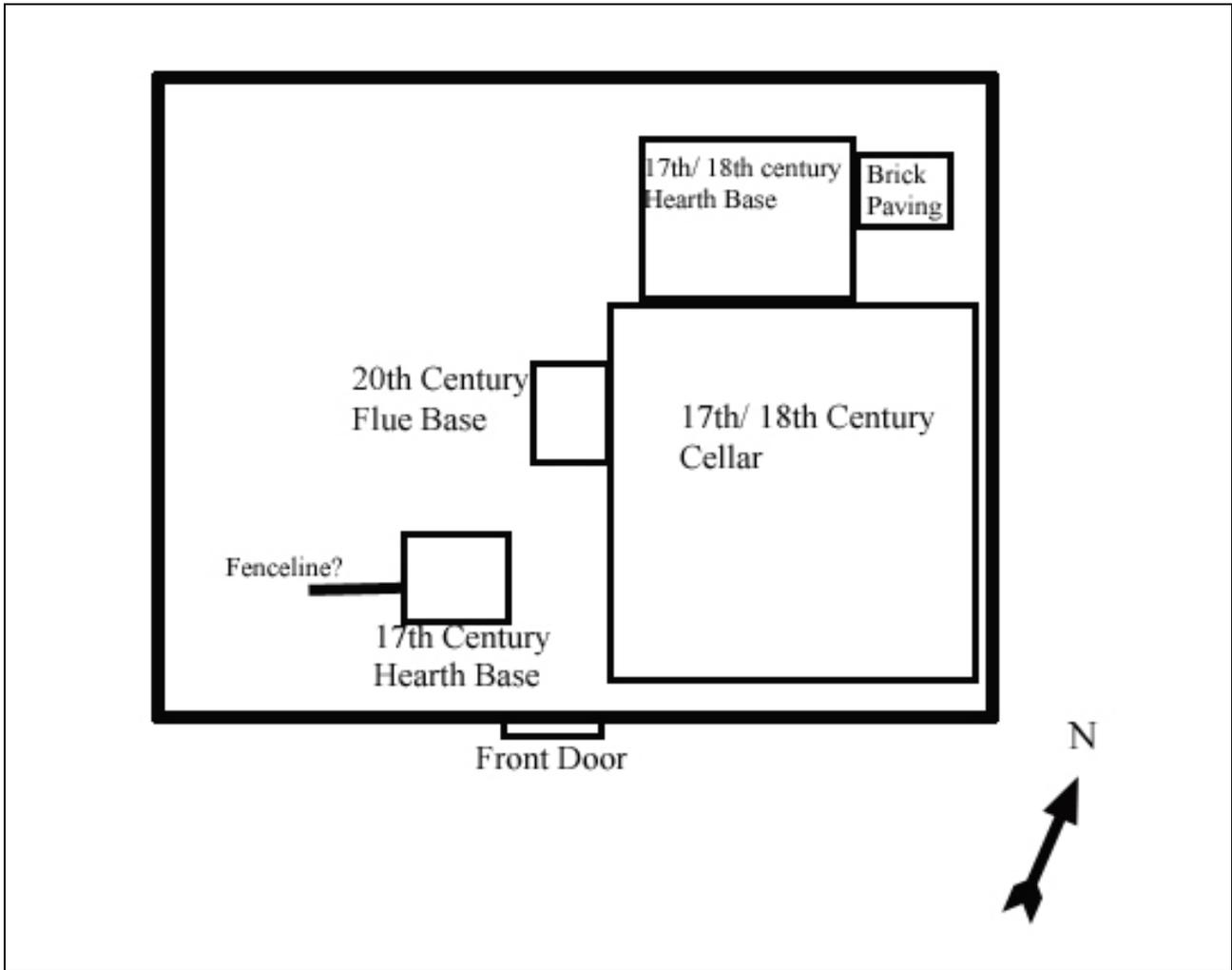


Figure 13. Location of features found beneath the Sturgis Library



Figure 14. Possible fenceline feature in southwest passage of cellar

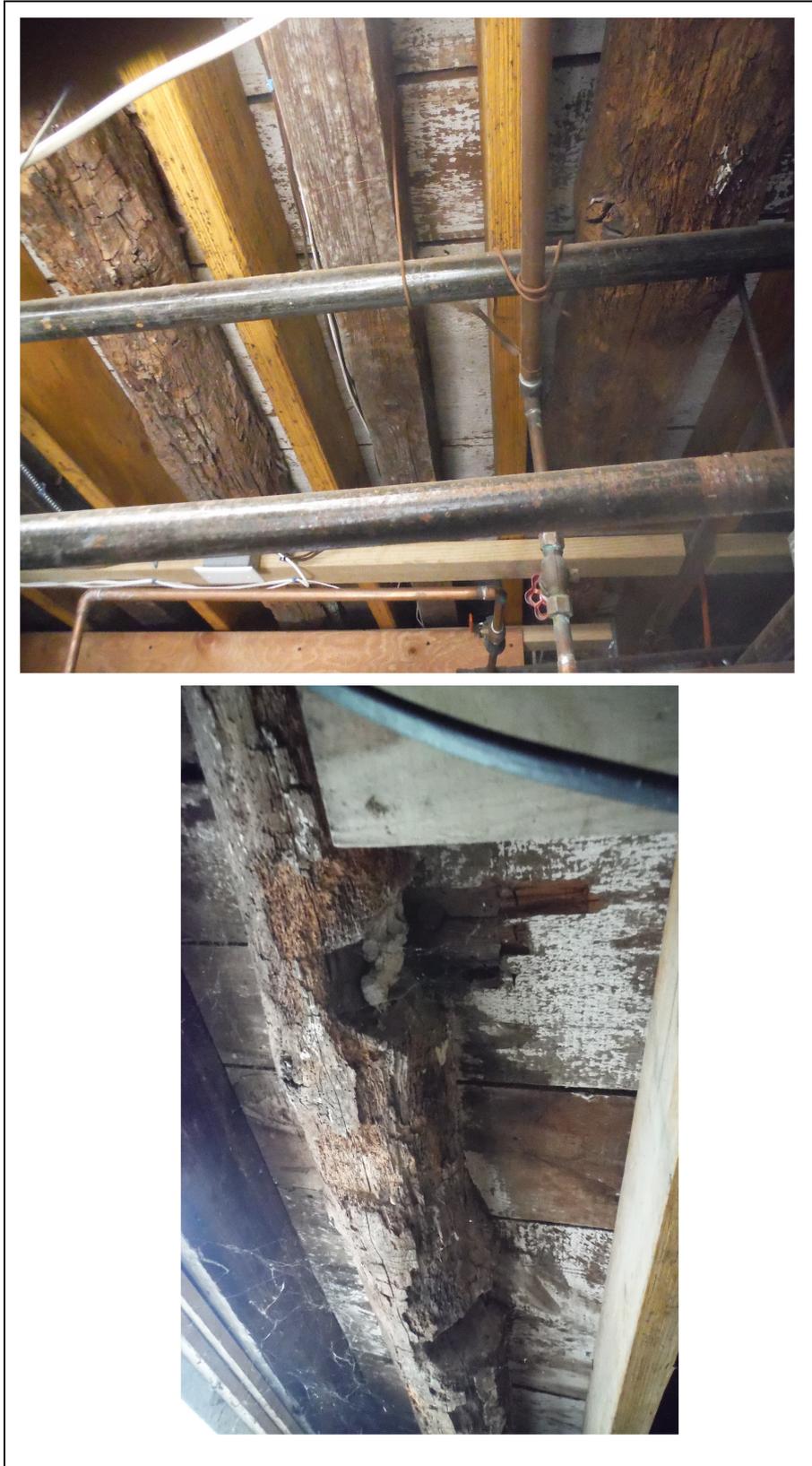


Figure 15. Joists and southern sill with notches in cellar



Figure 16. East gable room



Figure 17. East Gable principle rafter



Figure 18. Front plate/ reused tie beam



Figure 19. Artifacts beneath east gable floor



Figure 20. South side/ Front of the house overhang



Figure 21. Reused flooring to the south of the eastern chimney

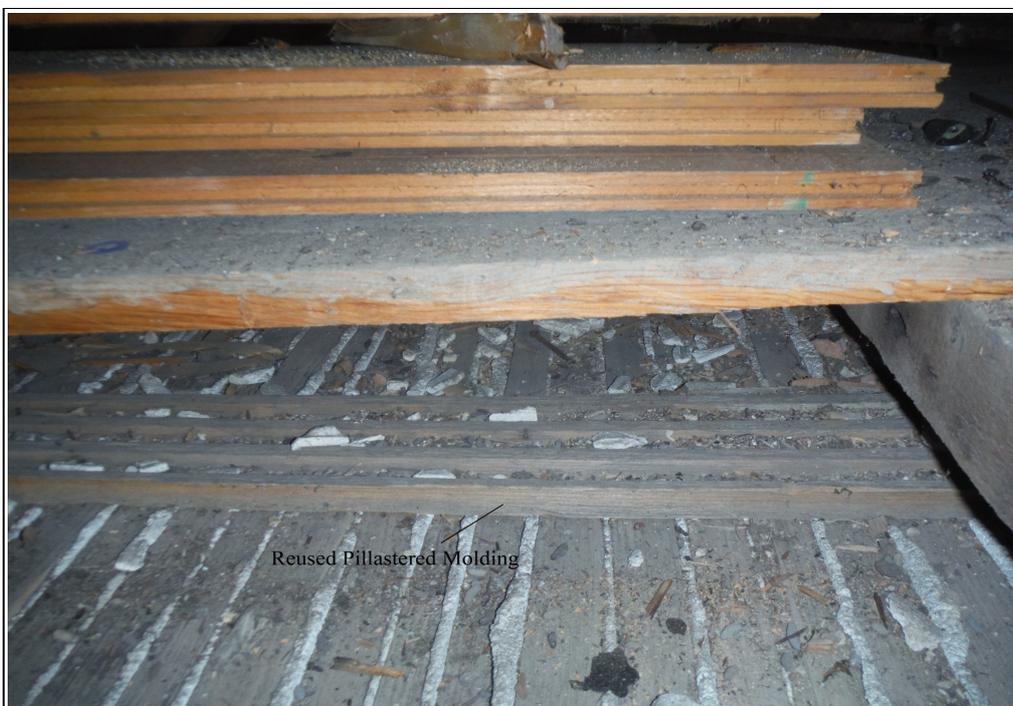


Figure 22. Reused pillastered molding



Figure 23. Western gable principle rafter



Figure 24. 17<sup>th</sup> century window opening western gable



Figure 25. 18<sup>th</sup> to 19<sup>th</sup> century block printed paper over a 17<sup>th</sup> century plastered wall



Figure 26. 19<sup>th</sup> century lithographs in the west gable of the attic



Figure 27. Salt box principle rafter



Figure 28. Joining of salt box rafter and tie beam



Figure 29. Whitewashed falling brace



Figure 30. Vaulted ceiling



Figure 31. Signed board associated with vaulted ceiling

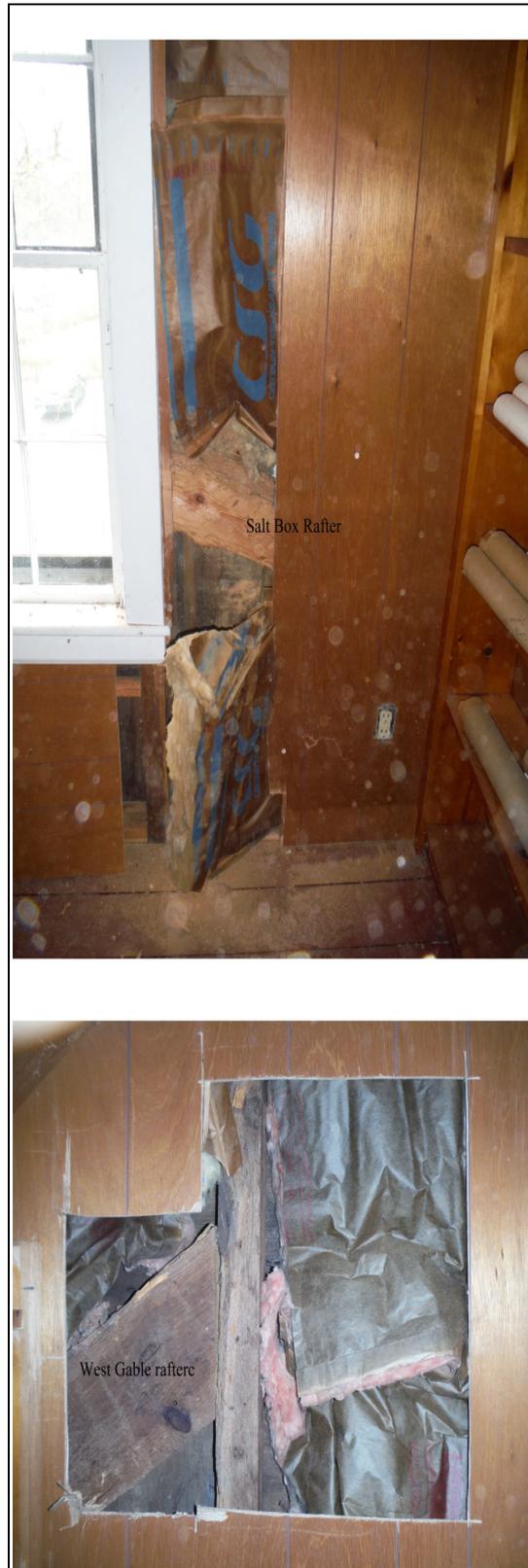
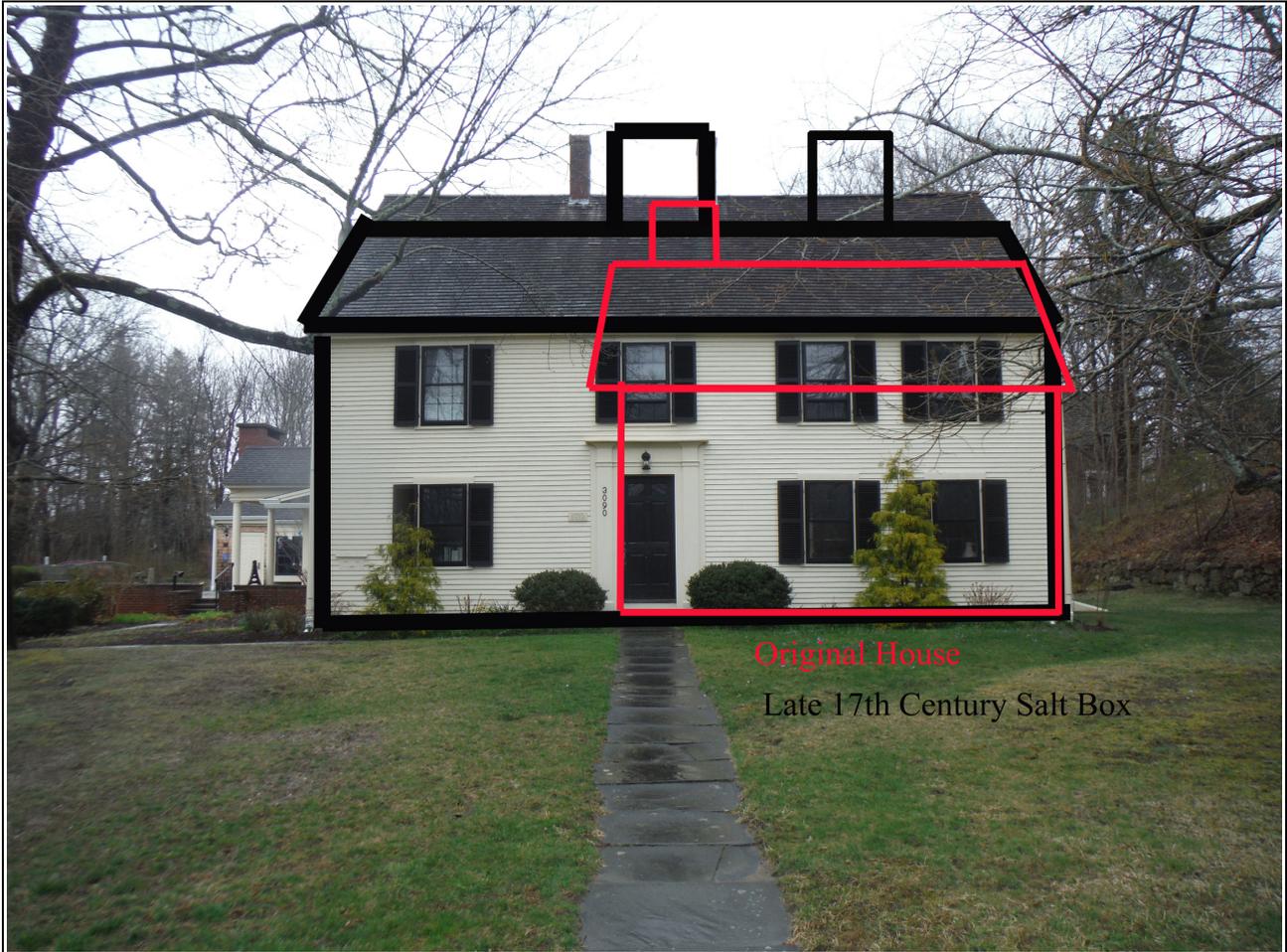


Figure 32. Western gable room principle rafters



Original House  
Late 17th Century Salt Box

Figure 33. Front view of Sturgis Library showing hypothesized extent of original house



Figure 34. Western gable view of the Sturgis Library showing hypothesized salt box roof line



Figure 35. Various building phases visible when shingles were removed