

Introduction

Sidney Strickland carried out one of the earliest investigations of a 17th century site in the 1930s when he was charged with finding out as much as possible about the home John and Elizabeth Howland at Rocky Nook in Kingston, Massachusetts. He kept detailed notes and took a few photographs and much to his credit completed a preliminary report on the project within a year of the completion of the initial excavations. Since then, not much has been done material he recovered. No one can really appreciate the unique range of materials he recovered or the important information he unearthed regarding the architectural details of the house. The following report is a preliminary attempt to draw together many different sources of data into the germ of a final report on the archaeology of this vitally important historic site. It is hoped that the more recent work conducted at the site can be soon added to this work so that finally a full report of what has been done at the site up to now can be presented.

Environmental Setting

In order to understand the Howland House archaeology, the environmental setting of the land that John and Elizabeth Howland lived on must be understood. Rocky Nook is a peninsula bordered on the west by the Jones River and on the north and east by Plymouth Harbor. It is an ideal location to harvest the natural resources of the river, the estuary at the river mouth and the salt water of the bay. It is very rocky with the underlying and outcropping bedrock being gneiss, schist and granite. One large exposure of bedrock is at the north tip of the Nook while another, called the Fishing Point in the records, is on the eastern shore at the east end of John Howland's land.

Six types of soil are present within John Howland's bounds on the Nook (**Table 1, Figure 1**). These soils would have determined what crops were planted where and what uses the different areas were put to.

Table 1. Soils types on John Howland's land at Rocky Nook

Soil #	Type	Rock		Slope	Use
73A	Whitman Loam	Extremely Stony	Poorly drained	0-3%	Wetlands
309B	Moshup Loam	Very Stony	Very deep Moderately well-drained	3-8%	Prime Farmland
427B	Newfields Fine Sandy Loam	Extremely Stony	Very deep Moderately well-drained	3-8%	Forest and farmland
453B	Gloucester-Canton Complex	Extremely Bouldery	Very deep well to excessively drained	3-8%	Forest, farmland, pasture
623B	Woodbridge Scituate Urban		Very deep Moderately well-drained	3-8%	Forest, farmland, pasture
635C	Canton Urban	Rock Outcrop		3-15%	Forest

Overall, the area was well suited for sheep husbandry and limited crop farming. John Howland had numerous crops present in his inventory: hemp, hops, Indian corn, rye, wheat, barley, and beans. All of the crops prefer deep well-drained loams and the soil conditions on John Howland's land except for the rock outcrop and the wetlands would have been good for all the crops he grew, especially if he was rotating the crops between fields each year. The rock outcrop may have been

used as forest land and the wetlands, especially the one near the spring, could have been used for retting the hemp for fiber production. In his probate it was recorded that he had the following amounts of the following crops:

Crop amount	Rough Acreage Needed
20 bushels or thereabouts of Indian corne	1 acre
4 bushels of Malt or thereabouts	3 acres
4 bushels of Rye or thereabouts	1 acre
6 bushels of wheat or thereabouts	1 acre
2 bushels and an half or barley or thereabouts	1 acre
1 peck of beans	1/4 acre

In addition to these crops, his probate also showed that he had some hemp and some hops in his inventory. We can say maybe another 1 acre together for these crops.

He also had a large supply of livestock. They would have been fed marsh hay in the winter, but would have been on pasture in the other seasons. The following list is the number of animals he had and a rough estimate of the number of acres needed to raise them:

2 mares and one colt	3 acres
4 oxen 4 cows	16 acres
2 heiffers and 3 steers of three years old	10 acres
2 two yeare old heiffers 2 yearling calves	8 acres
13 swine	Would have ranged in the woods and on the beach
45 sheep young and old	12 acres

The planted crops would have needed at a maximum 8 ¼ acres and the animals would have needed 48 acres making a total of 56 ¼ acres of his property in use. His homesite measured approximately 3 acres, for a total of 59 ¼ acres in use with the remaining land, 40 ¾ acres, as wood lot. These numbers are probably in the extreme upper end of how much land was in regular use on his Rocky Nook farm, since one has to consider that he also owned other pieces of land that he may have farmed, which would have increased the amount of woodland available close to his home.

Land Ownership and Transference

Following Strickland's excavation at the Howland House, A. Rodman Hussey Jr. conducted a deed/title search and determined that some of the lines established by conveyances from James Howland appear on the land today and some represent the original boundary lines between John Howland's land at the north end of Rocky Nook and John Cooke's land in the south half of the Nook. On February 2, 1638 John Jenney conveyed to John Howland land and buildings at Rocky Nook "belonging laid forth for the said Mr. Jenney's share with that which was Philip Delanoy's allowed him for want of measure and the five acres of meadow adjoining". It is not known when or how Jenney acquired the land, but I suspect that it was in 1627 when Plymouth Colony determined that everyone who was present for the first division in 1623 should receive their original allotted lands in addition to 20 more acres (five in breadth and four in length) (PCR Vol 11: 4-5). The lands were to be laid out to the north and south of the lands laid out in 1623. The northern half of Rocky Nook, the land that John Howland eventually owned, measures approximately 120 acres. This was

probably Jenny and Delanoy's lands (which would have been a total of 120 acres) or John Jenny and his family's share. These grants in the second division were probably recorded somewhere but that record has been lost. In the 1930s, Bertram White postulated what the layout of these lands would have been and determined how much each family would have received and where it would have fallen (White's research was included in Strickland's report to the Howland Society in 1938).

The next record that mentions John Howland's land was on December 14, 1661 when he and John Cooke, his neighbor to the south, fix the boundaries of their land. The boundary line was to run from the east side of the Nook at a heap of rocks to a lone rock on the west side of the Nook (on the Jones River). This is the line that is marked by a stone wall 100' south of the Howland house at the southern end of the property today. (this was designated the ACB line on Hussey's map [**Figure 2**]).

This land stayed in the Howland family until the early 18th century. It passed from John Howland his wife Elizabeth upon his death in 1672 and then to their son Joseph, who was living across the street, when Elizabeth moved in with her son Jabez in 1680. Upon Joseph's death in 1704 it passed to his son James. On February 13, 1716 James Howland gave 2 mortgages of land at Rocky Nook

The first was 19.5 acres beginning at waterside little south of great rock called the Fishing Rock to bay side (running along what Hussey called the ACB line). and the second was 13.5 acres adjoining the first piece. Subsequently, between 1721 and his death in 1735, James Howland conveyed away all of the land that was originally John and Elizabeth Howland's.

The parcels described by Hussey were as follows:

Parcel A: 12 acres conveyed by James Howland to John Howland May 25, 1721 (book 15 P. 198) (**Figure 3**)

Parcel B: 9 acre parcel conveyed by James Howland to John Watson August 27, 1723 (Bk 17 p. 28)

Parcel C and D: James Howland to John Rickard October 8, 1722 (bk 17 p. 27), April 10, 1730 (bk 25 p. 84)

The remaining land on east side of C and D was owned by John Watson who later acquired the Thomas Howland land as well. From early in 18th century the land enclosed within DCB made up of parcels A-D and Q known as Watson pasture (**Figure 4**). The remaining land lying NW of line ACB and shown as parcels E-P came into ownership of Benjamin Lothrop.

On April 19, 1735 James Howland conveyed to his son John Howland 20 acres of land at Rocky Nook and in 1735 John conveyed this to Benjamin Lothrop. On September 19, 1735 he conveyed all real estate, the whole of his farmstead, about 15 acres, to Lothrop. At Lothrop's death in 1787 he only owned parcels P and O.

Parcel P, the parcel on which the Howland site is located, measuring 3.5 acres, was assigned by Benjamin Lothrop's heirs to Elizabeth Thacher. She left it to Leonice Brewster in 1788 and it was next acquired by Leonice Bradford in 1853. She conveyed it to Alexander Holmes in 1856 and Helen Holmes got it after Alexander's death in 1894. She conveyed it to the Howland Society in 1920.

Howland Probate Analysis

We now have a better understanding of where it was that the Howland's lived, how they acquired the property, and what happened to it after John's death in 1672. The next step is to begin to understand the everyday lives of the people who lived at the site and one of the best ways to do this is through an analysis of John Howland's 1672 probate. The people charged with appraising John Howland's estate upon his death left an excellent, well-detailed probate. They stated the rooms of the house and what was contained within each. Reading the probate, you can virtually follow along in the footsteps of the appraisers as they entered the house and surveyed the estate. They entered through the front door on the south side of the house and appear to have turned left and inventoried the items at and around the hearth in what they called the "Fire room" (a.k.a the hall). John Howland's musket, long gun, and cutlass appear to have been located just

Impr 1 muskett 1 long Gun 1 Cutlas 1 belt, att 02 10 00

inside the left jam of the front door and not hanging over fireplace as is often staged in historic house museums. This would have been a strategic place for the firearms, making them ready at a minutes notice if an alarm was raised and also keeping them far enough away from the fire that the wood of the stock did not dry out too much. A musket is a standard firearm of the period, not too short (like a carbine) and not too long like the other gun, the long gun. Long guns, also called fowlers, were used with rests for fowling. Living where he was, a fowler must have come in handy for John Howland as there were reportedly a great store of fowl in Plymouth Bay. The placement of these items also indicates that the hinges for the front door were on the right and not the left door frame.

Elizabeth's hearth initially appears meagerly stocked for preparing the family meals with only an iron bar (which would have spanned the interior of the chimney and from which the hearth chains and pot hooks hung), fire shovel, fire tongs, a frying pan, and cob irons (the irons used to support the spit).

Item 1 Chimney Iron barr 2 paire of pot hangers 00 09 00

Item 1 fier shovell 1 paire of tonges 1 paire of Cob irons 00 07 00

Item 1 frying pan

1 smoothing box and Irons 00 05 06

All except for the frying pan, are the actual hardware used in association with the hearth. A smoothing box and irons were also listed near the hearth. Smoothing irons, also called sad irons or flat irons, were used to iron cloth flat.

The space around the hearth appears to have been divided between a his and a hers side. On one side of the hearth, John had kept all of his tools used for carpentry and agriculture.

Item 1 adds 2 axes 1 mortising axe 1 hoe 00 11 06

Item 3 augers 1 pikaxe 00 05 00

Item 1 hammer 1 paire of Pincers 1 Drawing knife 1 spliting kniffe 00 02 00

Item 2 Cow bells 1 old Chaine, and Divers peeces of old Iron Aules & a box 00 05 00

Item 2 presshookes 1 paire of sheep sheers 2 sickles 00 04 00

Item 1 pruning Instrument 1 peece of steele 00 02 00

Item 2 staples 1 peec of a Chaine 00 01 06

Item 2 staples 4 peeces of a chaine 00 01 06

Item 1 Dagger three knives 2 paire of sissers 1 paire of stilliyards 00 06 00

Item 1 padlock 1 thwart saw 3 wedges 1 ploughshare 00 10 00

Included here were carpentry tools (adze, axes, mortising ax, augers, hammer, pincers, draw knife splitting knife [a.k.a a froe for splitting oak into clapboards], thwart saw [crosscut saw], awls, and wedges), agriculture tools (hoe, pickax, plowshare, sickles, chains, and a pruning instrument [a billhook?]), husbandry tools (cow bells and sheep shears), household knives and scissors, and a padlock and stillyards. The stillyards may have been a larger beam type or a small pan type. One coin weight was found during Strickland's excavations and this may have been used with the stillyard. Howland appears to have kept all of his sharp instruments together, possibly meaning he would sit by the fire and sharpen his tools in the evening.

On the other side of the hearth all of Elizabeth's cooking vessels were located.

Item 3 Iron potts 1 paire of pothookes 1 Iron kettle 01 06 00

Item 2 brasse kittles 1 warming pan 01 15 00

Item 1 skimer 1 ladle 1 sawsse pan 1 brasse skillet 00 04 06

A wooden cabinet or shelves may have been located on one side of the hearth, possibly the north side against the wall in the northwest corner, where the dishes and plates were kept and possibly displayed.

Item 6 pewter platters 3 bason 3 smale pewter thinges 01 07 00

Item a quart pot 1 candlesticke 1 beer bowle 00 05 00

Item 3 porringers 1 Dram copp 1 Tunell 00 03 00

Item 2 salt sellers 2 chamber potts 7 spoones 00 10 00

Item 1 Iron candlesticke 1 latten pott 1 Ironsockettd 00 02 00

A beer bowl was a large bowl used to share beer between people at feasts and a dram cup was a small cup for drinking distilled spirits (like a shot glass). The tunnell was a larger size drinking vessel. All the items here appear to be finer quality wares that would be display worthy as well as useful.

Probably located on the floor or in the general vicinity of the above items were a few odds and ends including a shovel iron (the iron shoe on the working end of a wooden shovel), miscellaneous old iron, and larger earthenware vessels. Also included here was a hatchell, a tool used to break hemp into fibers for making cloth.

Item 1 shove Iron 2 washers 2 old sickles and old Iron 00 02 00

Item 4 earthen potts 1 pan and 1 Jugg and earthen ware 00 02 00

Item 1 hatchell 00 05 00

Eleven books are mentioned in the inventory and these would have been placed on a wall or cabinet shelf.

Item 1 great bible and Annotations on the 5 bookes of Moses 01 00 00

Item mr Tindalls workes mr Wilsons workes 7 more bookes 01 00 00

The great bible may have been the Great Bible, the first authorized version of the Bible in English. It was authorized by Henry the VIII and was the bible that was to be used in serviced in the Church of England. It includes much from the Tyndale bible with the controversial parts removed.

The Annotations on the five Books of Moses was a book written by Henry Ainsworth, a nonconformist member of the English clergy, and published in 1616 (this book is available online for free).

Mr. Tinsdall's Works was probably the Tyndale Bible. This was published by William Tyndale in the 16th century and it was the first English translation of the bible that worked directly from Hebrew and Greek texts. It was also the first mass-produced English biblical translation and is credited with spreading reformation ideas to England. It is interesting that the Howland household included both the Great Bible and the Tyndale Bible, possibly showing the Howland's devotion to the Seperatist religion.

Mr Wilson's Works may have been a book by Thomas Wilson a 17th century Anglican priest known as a compiler of biblical reference works. One of his books was in William Brewster's library when he died in 1644. Wilson published a number of books and it is not known which was in the Howland's library. Examination of Elizabeth Howland's will led to the probable identification of this book as being Wilson on the Romans (Thomas Wilson's Commentary on the Epistle to the Romans)

Unfortunately, the titles of the remaining seven books in the library were not listed, but by looking at Elizabeth Howland's will, at least one of the missing titles may be identified. When Elizabeth died in 1687/88, she left the following books to the following relatives:

- her son John received Mr. Tindale's Works
- her son Isaack received Wilson on the Romans
- her son in law Mr James Brown received the great bible
- her daughter Lidia Brown received her small bible and a book of Mr Robbinsons Workes called
Observations Divine & Morrall

John Robinson was, of course, the pastor of the Seperatists who established Plymouth. His work *New Essays; or Observations Divine and Moral, Collected out of the Holy Scriptures, ancient and modern writers, both divine and human; as also out of the great volume of men's manners: tending to the furtherance of knowledge and virtue* was published in 1628 and is available online at Pilgrim Hall's website.

A final book was Elizabeth's small bible, which may have been included in the account of the books of John Howland when he died.

The other books that were in John Howland's inventory may have been divided among his children upon his death. Examination of their probates may reveal other titles that may have been in the Howland's library. Elizabeth also had a small cupboard in her inventory. This may have originally held the Howland library.

After leaving the northwest corner of the house, the appraisers may have entered the north ell where the following items may have been located:

Item 3 wheeles 1 cherne 1 straning Dish 00 13 00
Item 3 cheesfatts 11 trayes 1 kinnell 00 05 06
Item 3 pailles six tubbs 1 ladle 1 cheese ladder 00 14 06
Item trenchers Roleing pins and some smale things 00 02 00
Item 3 Chaires stooles old barrells 3 Cushens 00 07 00
Items 3 beer vessells 00 04 00

The north addition would be the location of the buttery (where liquids are stored) and a dairy house and in the case of the Howland house, it appears to have served both purposes as well as being a storage location for spinning wheels, rolling pins, and trenchers.

The second room designated in the probate is the inner room (a.k.a. the Parlor) where John and Elizabeth's bed was located. In this room we find clothing, linens, and cloth, as well as the bed and its appurtenances. Clothing and linens were probably stored in chests.

his wearing appaarell

Item 3 hatts 00 16 00
Item 3 great coates 02 00 00
Item 1 suite of cloth 03 00 00
Item 1 serge suite 01 10 00
Item 1 homespon suite and wastcoate 00 15 00
Item 1 suite 00 12 00
Item old clothes 00 06 00
Item 2 red wastcoates 01 05 00
Item 6 paire of Stockens 01 00 00
Item 1 Jackett and one paire of Mittens 00 13 06
Item 1 holland shirt 00 12 00
Item 4 shirts 00 18 00
Item 4 holland capps 4 Dowlis capps and 4 other capps 00 10 00
Item 2 silke Neckclothes 00 07 06
Item 1 paire of bootes 2 paire of shooes 01 00 00

John Howland's clothing was fairly standard for the period- stockings, shirts, suits (a garment consisting of a waistcoat and breeches laced together), jacket, mittens, and silk neckcloths. In the late 17th century, the neckcloths, a garment like an cravat, replaced the neck ruffs that were popular in the early 17th century. The exceptional thing in John's inventory is the number of hats (n=3) and caps (n=12). Hats are full brimmed head coverings, and having three is not that exceptional, but having 12 caps is something not seen in other inventories. At least two types are present, Holland caps (caps made of dull finished linen) and dowlis caps (caps made from a coarse linen cloth from France). The caps referred to may be embroidered or plain night or informal caps or women's caps that John had imported for sale. John Howland may have been bald and owned a variety of hats just like people do today with baseball caps. You need to keep your head warm somehow and wearing a cap, embroidered or plain, would be a good way to do it.

The next entry in the probate is for items "In the said Rome". It is unclear if they mean back in the fire room or in the same room, the inward room, that they were just in. All the items in the this section are sewing related and probably represented the raw materials that Elizabeth used to make at least some of their clothing.

Item 4 remnants of clothe 00 19 00

Item 2 yards of serge 00 10 00

Item 3 yards 1/2 of carsey 01 15 00

Item 4 Dozen of buttons 1/2 10 skines of silke 3 yards of Manchester 00 04 00

Item 17 yards of fflax and cotton cloth att 02 11 00

Item 1 peece of fine Dowlis 00 08 06

Item 1 remnant of licye woolsey 00 08 00

Item about 16 yards of several remnants of homade Cloth vallued att 03 10 00

These materials may have been stored in a chest and include both imported and homemade cloth. No loom is mentioned in the probate, so they were probably not making their own cloth, but with the wool and hemp present in the inventory, they were at least raising the raw materials and processing it, possibly to sell to someone else who would weave it. they then would have bought the homespun cloth.

Material types present included serge (a twilled fabric with diagonal lines on both sides- worsted serge was used for coats and silk serge was used for linings), carsey/ kersey (coarse woolen cloth), silk, Manchester (a woolen fabric that looks like corduroy), flax and cotton cloth (a.k.a fustian cloth), dowlis, licye woolsey/ linsey woolsey (a coarse twill or plain-woven fabric with a linen warp and a woollen weft), and homemade cloth.

The appraisers were again in the inward room where they recorded a number of pieces of furniture as well as linens, bedding and beds.

Item 1 pound of woolen yerne 00 03 00

Item 1 paire of sheets 01 05 00

Item 2 paire of sheets 01 10 00

Item 1 paire of sheets 1 halfe sheet 01 05 00

Item 1 paire of sheets att 00 10 00

Item 1 paire of holland pillowbeers 00 08 09

Item 2 paire of pillowbeers 00 15 00

Item 3 pillowbeers 00 06 00

Item 1 Table cloth and 7 napkins 00 13 00

Item 10 towells 00 07 00

Item 4 smale Table clothes 00 04 00

Item 2 smale pillowbeers 00 01 6

Item 1 Table and 2 formes 00 10 0

Item 1 cobbert and a framed chaire 00 08 0

Item 4 chest and 1 settle 01 00 00

Item 1 bedsted and box and coard 00 12 0

Item 1 seifiting trough and 2 seives 00 04 0

Item 1 glass 2 glass bottles 2 earthen potts 00 03 0

Item 1 wineglasse gallipotts and spectacles 00 02 0

Item 2 paire of coards one bed cord 1 fishing line 00 05 06
 Item some hobnailes & twelvepeny nailes 00 02 00
 Item 5 peeces of Dresed lether one peece of taned lether 00 06 00
 Item a smale prcell of hemp and hopps 00 02 00
 Item 3 or 4 basketts 1 brush 1 file 00 01 00
 Item Cotton woole about a Dozen pound 00 12 00
 Item 3 old caske 00 02 00
 Item 1 feather bed and bolster 3 great & 2 smale pillowes 05 00 00
 Item 5 blanketts 03 15 00
 Item 1 rugg and one blankett 01 15 00
 Item 1 blankett att 00 15 00
 Item in reddy mony 01 19 00
 Item a smale prcell of powder shott and bullets 00 03 00
 Item 1 Inkhorn 00 00 06

Many of the items were probably stored in chests or were on the bed and the table. The Howlands apparently did not sleep in a bed with curtains around it, but a simple corded bedstead. Some things seem out of place in the bedchamber such as the hops, hemp, etc. It may be that these were stored in chests or boxes in the room and were removed by the appraisers. Other items such as the glass bottles, wine glasses, earthen pots and gallipot, may have been used to treat John during the time he was dying. The presence of spectacles indicates that he had trouble seeing. The inkhorn may have provided the ink for his last will.

The appraisers then proceeded to the chamber above the first floor.

Item 1 feather bed bolster and pillow 04 00 00
 Item 2 blanketts and a Rugg 01 05 00
 Item 1 woole or fflocke bed 2 feather bolsters and a pillow 02 00 00
 Item 2 blanketts 00 15 00
 Item 1 bedstead cord and box 00 10 00
 Item 1 prcell of sheep woole about fifteen pound 00 15 00
 Item a prcell of feathers about 15 or 16 pound 00 15 00
 Item a cupple of old hogsheds and an old candlesticke 00 02 00
 Item 20 bushells or therabouts of Indian corne 03 00 00
 Item 4 bushells of Mault or therabouts 00 16 00
 Item 4 bushells of Rye or therabouts 00 14 00
 Item 6 bushells of wheat or therabouts 01 07 00
 Item 2 bushells and an halfe or barly or therabouts 00 10 00
 Item 2 ffliches of bacon and 1 third of a barrell of porke 02 00 00
 Item 1 halfe of a barrell of beeff and 2 empty barrells 00 15 00
 Item 15 pound of Tallow and Candles 00 07 06
 Item 34 pound of butter and lard 00 17 00
 Item 14 pound of sugare 00 03 00
 Item 1 halfe hogshed 00 03 00
 Item 1 pad 1 pillian 1 bridle 1 sheepskin 00 05 00
 Item 6 pound of Tobacco 1 pecke of beans 00 04 00
 Item 1 grindstone and handles 1 ffan 00 09 00
 Item 8 baggs 15s old Iron 1 shilling 00 16 00

This area was obviously used for storage and not for living, indicating that the building may have been 1 and ½ stories tall and not a full 2 or 2 ½ stories. The chamber served as a storage place for food stuff and extra bedding and beds as well as wool and animal furniture. The grindstone and handles were probably used to sharpen tools.

Once they finished inside the house, the appraisers moved outside and placed values on the livestock and parts of a wagon.

Item 2 mares and one colt 03 00 00

Item 4 oxen 4 cows 24 00 00

Item 2 heiffers and 3 steers of three years old 12 10 00

Item 2 two yeare old heiffers 2 yearling calves 03 10 00

Item 13 swine 04 15 00

Item 45 sheep young and old 15 00 00

Item the one halfe of a paire of Iron bound wheeles and cart and 12 bolts 2 shakles 02 02 06

Item 1 paire of hooles and a staple 00 01 06

Item 1 bullockes hyde 00 14 00

Item a cannooe 00 05 00

Unfortunately they did not indicate the presence of any outbuildings, but it is unlikely that all of these animals would have just been milling about in front of the house. The horses would have needed a stable, the cattle would have needed a cow house, the swine may have had a pen and hog house, and the sheep may have had some sort of shelter in the field they were in. All the animals would have needed a barn for the storage of hay and any feed that may have been used for them. The canoe may have been located at the water's edge somewhere and the cart parts, hooks and bull hide may have been in the barn.

Overall, John Howland's probate provides a wealth of information about the household in the late 17th century. They appear to have been independent and fairly self sufficient while still relying on the local and foreign markets for cloth to make into clothing. They were educated and literate and probably engaged in the kind of religious discussions that the Seperatists were known for. Their probate is so well organized that it would quite easy to create a virtual reconstruction of the house using either a computer model or series of drawings or paintings that could show the items that were listed within the structure that Strickland found and interpreted. You close your eyes and imagine 80 year old John Howland sitting by the fire in his cloth cap, wearing his spectacles, reading Ainsworth or Wilson and contemplating predestination and the deteriorating relations with the Native people that he was among the first to greet.

Narrative of Strickland's Excavations

The knowledge that John and Elizabeth Howland lived on the site and even what was in their household was presumably known to Sidney Strickland prior to the start of his excavations in 1937. What he hoped to do, which is also what the present author wants to do, was to fill in some of the intimate details about John and Elizabeth's daily lives. The following is a narrative of Sidney Strickland's 1937 excavation of the John Howland Site. It is based on Strickland's field notebook and is presented without much interpretation. Any of the current author's interpretations or comments have been added in parenthesis in the report. Strickland also conducted excavations at the site in September to possibly November in 1938 and possibly in 1940. Notes and locational

information becomes increasingly poor as the excavations went on. The 1937 notes were very detailed regarding what was found, where it was found and other important observations. The 1938 excavations were conducted further to the south of the house and were more limited. Notes are present for the September excavations but there are artifacts present in the collection that are dated October and November of that year, so excavations must have continued, at least sporadically. Evidence of the 1940 excavation is present only in the form of date notes accompanying artifacts in the Plimoth Plantation collections. It is not known where these pieces were found.

1937 excavations

Thought was first given to excavating the walls and cellar of the presumed John Howland house at Rocky Nook when Strickland was preparing for the Pilgrim John Howland Society Meeting on August 28, 1937. The idea was to excavate the site to gain insight into the life and household effects of John and Elizabeth Howland. Strickland discussed the matter with the society president, Mr. William Howland, and General Charles R. Howland. The matter was well received and General Howland agreed to cover the expenses to excavate the house site. On August 28th, Strickland visited the site with General Howland and they located what they presumed was the house site and traced the general boundaries as indicated by the ancient stone wall present.

Strickland's excavations at the Howland site were carried between September 20th and October 16th in 1937. The excavations began with Sidney Strickland, the director and recorder, and Alphonso Letourneau, described as a French Canadian, being present.

Strickland noted that up to nine cedar trees that were 25 to 30' tall were located within the foundation and that between four to five inches of black soil with sod on top, covered the foundations. Four of the cedar trees were found concentrated on the south half of the chimney.

Excavation began along the east wall continued throughout the morning with the length ultimately being established at 25' 4". At some point the southeast corner was reached and excavation continued to the west along the south wall. At 1:15 pm Letourneau encountered what was interpreted as a large circular threshold of what was presumed to be the main entrance on the south side. Artifacts encountered around the threshold included small pieces of brick and four pieces of and "old earthenware bowl" right in front of the threshold. Clam or scallop shells were found scattered about the wall as well. At 2:20 pm, Letourneau found the first significant artifact- the "pap" spoon found just inside the threshold. It was described as lying at the side of or just below the sill between the entrance step and the inside stones. These stones were described as being large and very smooth. Possible evidence of the destruction of the house was found near the threshold, where the first pieces of charcoal were uncovered. By 3:15 pm excavation had continued along the south wall towards where the southwest corner was expected to be, but instead of a well defined corner, a large amount of brick was recovered, indicating the possible area of the chimney fall and obscuring the corner. Excavations concluded on this first day at some time after 4:10 pm when Christopher and Jane Hussey and Arthur Kelley visited the site.

On the second day of excavation, September 21st, having established the locations of the south and east walls, Strickland began at the presumed southeast corner of the foundation and proceeded north searching for the west wall. By 9 am. the southeast corner was abandoned and the search began for the north wall, starting at the presumed location of the northwest corner. Strickland noted that the sod was eight to twelve inches thick here. Sidney Strickland, S.T. Strickland and Arthur Kelley (and

possibly Letourneau) were joined by Charles Strickland. S.T. Strickland and Kelley left at 12:30 as the digging continued along the north wall. The diggers reached a point along the north wall that possibly marked the location of the return of the west wall, having to remove a pile of stones placed there by local boys for a campfire. Excavation continued south along the west wall from this point. An iron pintle was found 6' south of the northwest corner along the wall. Excavation apparently also continued along the south side near the presumed threshold location, as a piece from a clay pipe bowl and stem were found here at 4:15 pm So ended the second day of excavation.

Charles R. Strickland and Letourneau began the third day of excavation, September 22nd, at 7:45 am by clearing the stones in the chimney area. The bricks in this area were mixed with clay, of which the excavators saved a sample. At 11 am, part of the team was working at the front (south side) door where they found a piece of a strap hinge and a clay pipe marked LE (the mark of Llewellyn Evans of Bristol England who produced pipe from 1661 to 1687) 6' to the east of the front door. The team was joined at 1:15 pm by a Mr. Doten. Excavation ceased along the south wall 11' from the center line of the front door. A wrought iron hook was found between the door and the point 11' away from it along the wall. At 4 pm the return of the west wall was found 12' from the center line of the front door. the fireplace was found to start 4'6" north of the southwest corner and projected 18" into the house. The fireplace was found to have a foundation of stone and a hearth of brick tile. A 10 1/2" diameter hole in the tile was found in the corner.

On September 23rd, Charles Strickland, Letourneau, and Doten cleared the chimney area up the west wall to the northwest corner and along the north wall inside where they posited the cellar may have been located. Strickland then focused on uncovering the fireplace, Doten cleared inside the east wall and Letourneau worked along the outside of the north wall, discovering what proved to be the retaining wall for the cellar hole. This was located 8' north of the north wall and was found to parallel it. In front of this retaining wall he found pieces of a glazed pottery bowl that had been broken by a rock from the north wall that had fallen into it. In the afternoon, Doten found a piece of oak charcoal against the cellar wall and Letourneau found what proved to be teeth from an animal jaw found in the cellar hole.

Letourneau, Doten and Charles Strickland continued to excavate within the cellar hole on September 24th. In the morning they focused their efforts on the area between the north cellar wall and the north wall of the house. Charles Strickland later continued excavating the fireplace. Strickland found the north end of the fireplace 9'2" from the south end and appeared to line up at the north end with the cellar retaining wall. At 11 am Letourneau began digging outside of the retaining wall to the north of and opposite the fireplace. Doten had been excavating in the cellar hole, but at 3' down from the surface, had reached the gravel subsoil. At 2 pm the north end of the fireplace opening was found. The entire opening was measured and found to be 10' 21'2" wide between the brick piers and 3' 9 3/4" deep. Sidney Strickland arrived at the site at 2:20 pm

Buoyed on by the discoveries of the previous day, September 25th field work focused on continuing the excavation around the chimney. Once excavation of the hearth was completed, it was covered with boards for protection. Clay from the chimney was removed to the west of the excavation. Sidney Strickland worked in the lean to cellar and found pieces of a dish or bowl with a large roll at the edge (possibly a milk pan) at the northwest corner. At 10:30 am Charles Strickland encountered a piece of flattened out metal in the center of the hearth and what was interpreted as a possible spur and another "pap" spoon were found by Doten at the southeast corner of the hearth. Charles Strickland found a second spoon in the clay at the center of the hearth at 11:55 am. This spoon had a

simple knob at the top of the handle. The overall length of the spoon was six inches and the bowl was two inches wide. An iron clasp was recovered six feet from the southeast corner of the hearth and two iron wedges were found inside the east wall of the house four feet north of the south wall. Mr. and Mrs. Edwin K. Jump and Mr. Baxtram White arrived at the site at 10:30. Sidney Strickland and Mrs. Jump excavated a large bone from the north wall of the cellar hole and large fragments of clam shells and charcoal were found in the cellar as well, prompting the excavators to speculate whether there may have been an earlier Native fire pit at this location. The team was also visited on this day by Winthrop Coffin and Eliot Hedge, the latter whom arrived as a worker.

Sidney Strickland and Mrs. Jump began work on September 26th in the lean to cellar where he found nails, a six inch square piece of pottery and a pair of long teeth, all in the west end of the cellar. The floor of the cellar hole, which was identified as being unquestionably the result of Native occupation, was excavated with the black layer continuing (outside of the cellar hole?) to the west. One small piece of what was believed to be Native pottery was found in association with this burned layer. Back in the hearth area, at 11 am, Charles Strickland, working with Bert White, found a piece of iron measuring 15 1/4" x 11 1/4" with a clasp hinge on it which was interpreted as probably being the lid of a strongbox (but which has since been identified as a tasset from a suit of pikeman's armor). The piece was excavated very carefully and finally removed at 3 pm Mr. Jump worked at the threshold and found two pieces of a pottery vessel base and a pipe bowl and stem. Bert White and Eliot Hedge, who were excavating at the opening of the hearth, found an "old pottery dish, yellow glazed on inside" (possibly Staffordshire slipware c. 1675-1775).

The excavators present on September 27th consisted of Letourneau, Doten, Charles Strickland, and a new digger named Frank Balboni. Letourneau worked on clearing in back of the entry stone paving. Doten and Balboni cleared on the inside of the original north wall from the northeast corner. At a point 16' west of the northeast corner, Doten found a pit on the inside of the north wall approximately 12" below the surface (could this be a posthole?). An iron band was found either in or near the pit. By 10:30 am the entire hearth of the fireplace was finally cleared out. Some stones were found to be missing from under the fire hearth at a point two feet in from the south end, leaving a pit which was full of ash, charcoal and red clay. The missing stone that covered this pit may have been found just in front of the outer hearth. The "strong box lid" was found right next to this pit. From 2 to 4:30 pm Balboni, Doten and Charles Strickland removed the fallen stones and stumps from the back of the fireplace while Letourneau excavated through four to six inches of very black loam in the area in front of the fireplace and five feet out from the hearth down to gravel.

Excavations were suspended for two days as measurements were taken and meetings were held with the neighbors.

Excavations continued on September 29th when Charles Strickland, Letourneau, and Doten continued to remove stumps from the south wall of the chimney, finding a wrought iron piece in the shape of a hook and a possible table knife in the process. The outer edge of the chimney was found five feet from the south corner. Letourneau found a large piece of iron, possibly a chain link, five feet west of the chimney at the south end.

On September 30th, Letourneau and Sidney Strickland excavated at the north end of the rear of the chimney. Strickland worked east of the hearth, where he excavated a large flat stone, measuring 18 x 28", which he interpreted as possibly one of the paving stones of the floor. Paul Weber, a photographer, arrived at the site at 10:30 am to photograph the excavations. At 11:15 am the crew

took a break and visited John Howland spring, located 160 paces to the north of the Hornbeam tree. After noon, Letourneau continued work on the west side of the chimney, working around a cedar stump and finding a chert (?) arrow point possibly of the Levanna or "later Algonquin" style. It measured 2 1/2" long and 3/4" wide. Sidney Strickland worked at the southwest corner, where he encountered about six inches of clay under the sod.

October first found the crew focusing their efforts on clearing the interior of the house. Letourneau continued working around the stumps at the chimney with Bert White joining him in the endeavor. Doten found a horseshoe inside the house 12" from the south wall and three feet from the inside of the threshold stones. Doten found a knife blade at the south wall two and one half inches from the inner stones and one inch below the stones at the wall. Doten also found a mouth harp three feet outside of the south wall and four feet from the threshold. The excavation records at this point mostly contain notations of where various individuals were excavating and a gross summary of what they found.

On October second Sidney Strickland found a 1 7/8" long end of a "pap" spoon (with the flat disc missing) directly south of the south wall running off the chimney about eight inches below the surface and 5'6" out. He also found a heavy (presumably meaning large) nail 4'10" south of the front wall and 2' west of the west line of the south wall of the chimney. Mr. White found what appeared to be 2" long iron bolts in the floor of the house about 5'6" north of the south wall and 10'6" north of the southeast corner. Another large spike was found by Strickland 6' out from the west end of the wall, opposite the west side of the chimney, and a second large nail 10" below surface on top of the subsoil in the southwest corner.

Excavation continued on October 4th with the focus being within the foundation and across the front (south) side. An iron pintle was found 16' west of the east wall and 21/2' south of the north wall, in approximately the same general area as an earlier pintle find (see September 21st). A concentration of charcoal was found eight feet north of the south wall and 16' west of the east wall (possibly representing part of a burned floor joist?).

Work on October 5th continued inside the floor plan and at a point 81/2' from the north wall and 17' west of the east wall, a concentration of charcoal was encountered. More charcoal was found 10' from the south wall and 15' from the east wall. A white quartz projectile point (of the Squibnocket Triangle form) was found 7' south of the north wall and 18' west of the east wall. The largest piece of charcoal recovered from the excavation was found on this day at a point six feet from the hearth and three feet south of the north wall. The handle of another "pap" spoon was recovered seven feet south of the south wall and 11 feet from the west wall. It was 2 3/4" long.

Work at the site had progressed outside of the house by October 6th. On this day Letourneau found an iron hoe in front of the threshold, just east of the center and eight inches below the surface, just on top of the subsoil. It measured 5 1/4" long and 5 1/2" wide. The greatest occurrence of artifacts on this day were to the west of the entrance. Two copper pins were found together along the front of the house.

On October 7th, work focused on an area two feet from the threshold and worked south along the south wall. Doten worked to a point 10'6" south of the south wall of the west outside wall of the chimney, to a point north and south across the east face of the fireplace hearth. A knife blade was found on the north south line of the front of the fireplace hearth and 10' from the south wall. Just

west of this knife, and astride an 18" long flat stone, two pieces of blue glazed pottery (Westerwald mug-one with slight ridges and one with a broken place such as where a handle was located) were recovered.

Work resumed on October 9th when Letourneau worked from the southeast corner in a strip two to 2 1/2' wide. He found 18 nails directly along the face of the south wall for a distance of 18" from the southeast corner and an iron hinge nine feet south of the south wall and 11' west of the east wall. Doten worked on the outside of the wall in a strip as well. He found an iron hinge six feet south of the threshold. Mr. White worked 11 1/2' from the south wall and one foot east from the west wall. Between 3 and 4 pm, a concentration of stones were encountered 6'6" south and 5' west of the south east corner. Sidney Strickland found a scythe 9' south and 6'6" west of the southeast corner between 4 and 6" below the ground surface and lying across the stones found earlier.

Work on October 11th focused on the newly discovered stone work located to the south of the house. Twenty-one pieces of pottery were found 12' south of the south wall of the house near the stonework while at a point 12' south, 26 pieces of pottery were found.

On October 13th, a copper coin was found 13' south and 18' from the east wall, directly in front of the threshold. It was dated 1694, bore a harp on the reverse, the head of a woman on the front, and was very worn. More stonework was found 45' south of the southeast corner in association with pottery, glass, brick and a few nails.

A concentration of red pottery (redware) was found on October 14th at a point from the 15' line, 13 to 14' from the west wall by Mr. white. Letourneau worked a strip 16' south and one foot east of the threshold and found part of an iron handle of a skillet and later the handle of a trivet. He also found a brass or silver button, possibly heat affected, and another piece of gray pottery. Doten worked 17' south and 12' east of the west wall and found red pottery, glass and yellow glazed pottery. Mr. White worked "above" the east wall, two feet south of the north wall of the large room and found two arrowheads, nails, red pottery and wood. He laid the gravel (subsoil) bare at 8" below the surface. Across the south side of the house the gravel was found to occur at 10 to 14" below surface, possibly indicating the soil where the house was had been stripped.

Doten, on October 15th, found a wrought iron hinge of the clasp variety used on chests (possible armor hinge?) 17' south and three feet from the west wall. Mr. White worked along the east wall, four feet north of the southeast corner and found a large fragment of red pottery and many nails close to the wall. Sidney Strickland worked along the north south wall of the stonework to south, clearing the same. In the afternoon, Doten worked 19' south in line with the west wall, and found a large 6 1/2" x 1 1/4" hinge and two teeth. Mr. white finished excavating along the east wall and found 14 more pieces of red pottery. Messrs White and Letourneau found a 5/8" diameter metal button 15' from the east wall and 17 1/2" south of the south wall. Sidney Strickland worked on the southeast corner of the possible barn to the south of the house, 26' south of the south side of the house. On a line 7' west of the southeast corner of the house he found a piece of flat iron 3 1/2" long and 1 1/2" wide close to the wall.

The last recorded day of excavation was on October 16th. On this day the team worked a line 20' south of the south wall and out to 24' south. The entire front across the south up to the 20' line was excavated. The southwest corner was carried to the 24' line for a distance of 12'. The wall of a possible shed was found 8' south and 6' west of the southeast corner, and running southerly for

some 17' was laid bare. during this clearing, three more piles of stones were encountered. One was directly in the center of the possible shed wall and was about 5' square. the stone at the edge seemed to have been placed on edge. Several large pieces of window glass were found 21' south and 18' east of the west wall abutting the chimney, possibly being evidence of the original height of the wall.

Strickland found the remains of a yellow dish on the hearth at the southwest corner that had been demolished by a falling stone. In the lean to cellar, the remains of a number of possible milk dishes were found. They had been crushed by falling frame work of the floor and were left undisturbed. Nails constitute the largest class recovered, followed by pottery, and fragments of clay pipes third. many pieces of window glass were found as well.

The dimensions of the building uncovered by Strickland are as follows: the hall is 16'6" by 31' the fireplace is 10' 2 1/2" in width by 3' 93/4" deep.

Strickland formalized the findings that he had outlined in his field notes in a report presented to the Howland Society in 1938. Strickland noted that prior to his excavation, the cellar hole for what was presumed to be John Howland's house was visible. This indicates that the house was not purposefully removed and the site filled and leveled for use as pasture or agriculture, it was left to fill naturally. Excavation found the archaeology buried beneath 6-18" of sod and soil that presumably had built up since the site was abandoned.

Upon completion of the clearing of the foundation, Strickland noted that the house looked like a classic English cottage, providing strong evidence for the idea that the early colonists erected buildings that they were familiar with and did not undertake to create a new architectural style in the New World. He compared it with buildings shown in Nevil's *Old Cottages and Domestic Architecture of Southwest Surrey* (1889). This book is available for download at Google books. The image he specifically compared the Howland house with is shown in **Figure 5**.

One significant artifact that he noted was an unworn seal and baluster spoon found between the threshold and the inner floor of the house. This may have been placed here purposefully to protect the house from misfortune and evil (such as witches) or it may have been lost here. A total of three 17th century spoons were found by Strickland.

The cellar was found to contain many fragments of pottery and window glass, the latter which Strickland interpreted as having come from a casement window located on the east wall of the northern addition below which the cellar was located. Strickland identified some of the pottery as being milkpans that had been crushed in place by falling timbers of the house.

Within the house, Strickland found three stones within the entrance as well as abundant evidence that stones from the chimney and possibly the floor had been upturned or removed by relic hunters. He postulated that at least part of the interior floor, possibly the part in the fire room, had been paved with flat stones.

Bricks were found in front of the fireplace, and Strickland concluded that they may represent two brick piers that held the lintel at the front of the hearth. He reported that no traces of plaster were found within or around the house.

Strickland compared the architectural details that he saw at the Howland house with those of the Norton House (ca. 1691) in Guilford, Ct. (**Figure 6**). The chimney and most of the west walls of both houses are stone laid up in clay mortar. The Norton house is framed with oak, as Strickland assumed the Howland house must have been. The exterior of the Norton house is of plank frame construction with planks put up vertically spiked to the frame and then covered with clapboards, just as he felt the Howland house probably was.

Excavation of the south side of the house continued out for a distance of 18-20' from the south wall due to the abundance of artifacts here (**Figure 7**).

Strickland concluded that, due to the abundance of domestic and architectural artifacts, that the house burned, just as the Howland family oral history told. The chimney was interpreted as collapsing at this same time, falling to the west in the general direction of the house collapse. The theory that the house burned was found to be confirmed by the location of 17th century window glass on the west side of the east wall, the location of nails and spikes to the southwest of the south wall, and the presence of an almost complete "yellow glazed dish" crushed by a hearth stone in the southwest corner of the hearth all offer strong evidence of burning and collapse of the building.

Strickland concluded that the Howland's house was probably what he called "truly and English Farm". He felt that the whole farm with a barn and outbuildings, would have been surrounded by a palisade and that a gate would have been located at the northeast corner of it leading to the spring located 35 rods to the northeast.

1938 Excavations

The 1938 excavations began on September 3 with work commencing 22 to 24' south of the south wall and 3' west of the centerline of the front door. All measurements throughout this years excavations were made from the center line of the front door or from the east wall of the house.

Work on September 5 was described as being 22-24' south and 6-8' west of the line for the east wall, just in front of the barn wall.

Work was again conducted near the west wall of the barn, 10' west of the line of the east wall on September 14th.

A large stone was encountered 28-30' south and 9' west of the front door centerline. This stone extended to 6' west of the center line at 29' south of the south side of the house.

A 1685 coin was found on September 18th 24' south and 7' east of the of the centerline (3' west of the west side of the barn). Strickland described it as an English copper farthing

A new north to south running wall was identified on September 26th. This wall started at 29' south and 7' of the wall was exposed. The stones of the wall had just a few inches of soil over them and many brick fragments were associated with them.

At 34' south of the south wall just east of the centerline, a concentration of very smooth stones just over 4" long were found.

The furthest excavation area that was recorded for the 1938 dig was at 38' south and 2-4' west of the centerline (**Figure 8**).

1939, 1940, 1963 Excavations

The only information about the excavations carried out after Strickland's 1937-1938 excavations are the dates 1939, 1940, and 1963 marked on bags in the collection. It is not known who carried out the digs or where the excavations happened. The 1963 dig (9/27/63) is believed to have been carried out by the late Dr. James Deetz when he was at Plimoth Plantation. The finds from these digs are limited, and the work carried out does not appear to have been too extensive.

Strickland Artifact Distribution

Strickland's notes are detailed enough that some simple distribution analysis could be carried out for a few classes of artifacts. When the distribution of tobacco pipe fragments was looked at (**Figure 9**), a few were found near the hearth, but the majority were recovered south of the front door of the house in the south yard. This shows that the Howlands may have sat on or near the front door and smoked. Alternately, most of the smoking may have happened near the hearth and sweepings from the hearth may have been thrown out the front door into the south yard. A slightly similar distribution of pottery sherds was also found (**Figure 10**). In this case many of the sherds were found near the hearth and the eastern part of the south yard. The metal and charcoal distribution (**Figure 11**) shows charcoal within the house and nails being concentrated in the western and south western portion of the area Strickland excavated in 1937. These two concentrations support Strickland's idea that the house burned and collapsed to the west and southwest.

Howland House Architectural Interpretation

An e-mail from Ruth DeWilde-Major (the artist who was commissioned to paint a picture of the John and Elizabeth Howland House) piqued my interest in the architecture of the house

"I happened to pick up a copy of the Oct, 2011 "Early American Life" recently and read an article on a 1670s house in East Greenwich, RI that had recently been restored. The feature that attracted me to the article was the large stone fireplace which I believe may have been very much like the one on John Howland's homestead in Kingston. (The home I painted last year for the Howland Society.)

Interesting to note that when the new owners were researching the house, they found that Howlands had some part in the history of the house, though they did not mention which Howlands. I may contact them to find out. The entire back corner of the house is stone. Do you think this could be similar to the one on the Howland homestead?"

I replied that I had heard of stone-enders before (in fact in the town next to me [Fairhaven] has a 17th century house ruin that is one), but that I thought that the tradition didn't start until the later part of the 17th century. I told her that I would check some books I have and see what the architectural historians say. In the big scheme of things, John and Elizabeth's fireplace was so large that it virtually, if not literally, did take up the whole end of the house.

Could it be a stone-ender? What does that mean anyway?

A quick internet search brought up the most basic of information:

"History Rhode Island was first settled in 1636 by Roger Williams and other colonists from England. Many of the colonists came from western England and brought the prevalent British architectural ideas with them to New England but adapted these to the environment of Rhode Island. The colonists built "stoneenders" which made use of the material that was in abundance in the area, timber and stone. Rhode Island also had an abundance of limestone (in contrast to the other New England states), and this allowed Rhode Islanders to make mortar to build massive end chimneys on their houses. Much of the lime was quarried at Limerock in Lincoln, Rhode Island. Only a few stone-enders remain in the 21st century. Architectural restorer, Norman Isham restored several original stone-enders in the early 20th century, (see: *Clement Weaver House and Clemence-Irons House). Armand LaMontagne, a Scituate sculptor, handbuilt a large 17th-century style stone-ender off of Route 6 in Scituate, Rhode Island in the 1970s.

Description of a Stone-ender

Stone-ender houses were usually timber-framed, one and one-half or two stories in height, with one room on each floor. One end of the house contained a massive stone chimney, which usually filled the entire end wall, thus giving the dwelling the name of "stone-ender." Robert O. Jones, in the Statewide Historical Preservation Report K-W-1, Warwick, Rhode Island, in 1981, noted that the windows were very small "casements filled with oiled paper" and that "the stairs to the upper chambers were steep, ladder-like structures usually squeezed in between the chimney and the front entrance." He points out that a few houses may have had leaded glass windows, but that was very rare.

List of early extant Rhode Island stone-enders (2010)

Clemence-Irons House, Johnston, Rhode Island 1691

Clement Weaver House, East Greenwich, Rhode Island 1679

Edward Searle House, Cranston, Rhode Island 1670-1720

Eleazer Arnold House, Lincoln, Rhode Island 1693

John Bliss House, Newport, Rhode Island ca. 1680

John Tripp House, Providence/Newport, Rhode Island 1720

Smith-Appleby House, Smithfield, Rhode Island, 1696 (chimney later modified)

Thomas Fenner House, Cranston, Rhode Island 1677

Valentine Whitman House, Lincoln, Rhode Island 1694"

(Wikipedia [where everyone starts their online research these days. Right?]

<http://en.wikipedia.org/wiki/Stone-ender> accesses February 17, 2012)

Alright, so stone-enders are common in Rhode Island due to the prevalence of settlers from western England and the natural sources of limestone (which could be burned into lime), which allowed for the tight mortaring of stone. They were timber-framed and ranged in size from one and one-half to two stories high with one room on each floor. The name of course was derived from the fact that one end of the house was a massive stone chimney.

Pretty basic information. The first question now was, how does this match up with the Howland House? As you can see in the following drawing made by the Howland House excavator Sydney Strickland, the western wall of the house is all fireplace and the remainder of the floor plan is one large room. By gross visual comparison, it looks identical to a Rhode Island Stone-Ender. I know that they were not limited to Rhode Island, as there was one in Fairhaven and another in nearby

Westport, and then I found a reference that said that this style was common in southeastern Massachusetts, Rhode island and Connecticut, so being present in Kingston would be no stretch of the imagination. But what about the date? The houses referenced by Wikipedia from Rhode island dated to the late seventeenth to early eighteenth century while the Howland House dates as early as 1638 if we say that John built or had it built, and possibly as early as 1633 if we assume that the original owner of the property John Jenney had it built right after he arrived in Plymouth in that year. Is this too early for a stone-ender? Beats me. But let's look at where they came from and why they were built (there is always the possibility that John Howland updated his house later in the century and turned something earlier into a stone-ender but let's leave that alone for now).

Stone-enders in New England are not a New England creation that just appeared out of nowhere. They evolved to fit the New England conditions from a tradition in Old England. Specifically, they are believed to have derived from traditions in the West of England where there are lots and lots of stone to build with, just like Rocky Nook. Using the locally available materials, builders constructed buildings that had traditional English forms but were made with what they had available. The life of the seventeenth century family was centered around the farmstead, the croft and the toft, much like their Medieval fore bearer's lives were. The croft was the messuage as it was often called in Plymouth Colony records, the land immediately surrounding the house. This land was often set off from the surrounding land by means of ditches, walls, or hedges. It contained the house, house garden, barn, and outbuildings belonging to the family (Hanawalt 1986: 23). The toft was the house itself. Together, the toft and the croft formed the family's homestead. The house itself could take several forms in Plymouth Colony from the basic cottar/ cot/ cottage which was a one-room/ one bay structure that often measured about 16 x 12' in Medieval times to longhouses of around 33 by 13 feet, to central chimney plan houses common in East Anglia in Old England (Hurst 1972: 104; Hanawalt 1986: 32.; Cummings 1979). The Cot was typically considered appropriate for those of lower social scale in the Middle Ages, but by the time of the settling of Massachusetts, it was often found to be a "starter" home for colonists.

Longhouses evolved out of Medieval houses that sheltered both man and beast, people at one end in the house and animals at the other in a byre, all under one roof. They were typical Medieval peasant housing that were common in many regions of England and absent in the central Midlands, East Anglia and Kent (Hanawalt 1986: 33). The differential distribution has been attributed by some to the latter areas ability to produce abundant amounts of grain which resulted in abundant straw for bedding in crew yards versus in byres (Hanawalt 1986: 33). In all cases, wealthier peasants planned their homesteads as farms, one house for people and barns, stables, and ancillary support building set separately and either at right angles to the house or in line with it. Laying out the farm in this way created a yard in front of the house and barn where animals could be cared for and protected. The linear arrangement of support buildings was more common in the north and southwest of England while the L-shape courtyard pattern was common elsewhere with more diversity as one moved south (Smith 1982: 65). The farm was typical of the more prosperous villagers such as the yeomen farmers (Hurst 1972: 107).

In Massachusetts Bay, single bay cottages were common throughout the seventeenth century and into the eighteenth (Cummings 1979: 22). A 1640 contract stipulated that the house to be built was "16 foot long and 14 foote wyde...the Chimney framed without dawbing to be done with hewen timber." (Cummings 1979: 22). Cummings found that of the 79 dwellings whose dimensions were recoded in documents from 1637 to 1706, 39 were single-bay cottages with only two being less than

15 feet square (Cummings 1979: 22). Seventeen of the measured from 22-28 feet long and 18-20 feet wide (Cummings 1979: 22). These small houses appear to be limited to individuals with limited means with estates ranging from £15-163 (Cummings 1979: 22). This was not always the case though, as deputy to the General Court John Whipple also had a single-bay house (Cummings 1979: 22).

In England it has been found that during the Late Medieval to Post-Medieval period the single chimney/ hearth house was the most common form in much of England, making up to 70% of the houses during this period (Barnwell and Airs 2006). There has also been found a clear relationship between the number of fireplaces and the wealth of the occupants, a trend that continued into the Victorian period when the average laborers cottage measured 12' square (Barnwell and Airs 2006: 76). During the period 1600 to 1637, 40 cottages on Brigstock Little Park, Northhamshire measured 3 x 3.6 m (10 x 12') and cottages built on the waste at Urchfont, Wiltshire between 1606-1639 averaged 3 x 4.25 m (10 x 14') and the simple late 17th and 18th century cottages probably cost between £3-24 to build (Barnwell and Airs 2006: 76).

Here is a comparison of house sizes from a few sites in Plymouth Colony that are similar to the Howland House:

-John Howland House ca 1638	17'6" by 33' for the hall and 9' x 25' ell
-Ezra Perry II House (Aptucxet Trading Post Museum) ca. 1676	25.3 x 27.6 for hall and 21 x 15' ell
-Isaac Allerton House ca 1632	20 x 22'
-Stephen Wing House ca 1640	20 x 20'

So the Howland House is typical of a seventeenth century English cottage- a one room structure that was one and one half to two stories tall with a fireplace at one end, and especially of a West Country tradition, the same place from where that the Rhode Island stone-ender is believed to have originated. But what about the connection with building traditions in the west of England? John Jenney was from Norwich, about as far East in England as one can get and John Howland was from Fenstanton, Huntingdonshire (Cambridgeshire), England, north of London, northwest of Cambridge and just west of Norwich, again, the East of England. Both of these areas were known for building traditions based on timber- post-in-ground/ earthfast and timber-framed with sills resting on low stone foundations. Not so much for building whole house walls out of stone. It presumably wouldn't have been something that they were familiar with. Where would a West Country tradition of building have come from in Plymouth Colony?

The first documented carpenter, who survived the first winter anyway, was Francis Eaton. He was from Bristol in the West of England. Ah, a West of England connection! Could he have built the Howland House? No, he died in the smallpox outbreak in 1633. Were there other carpenters (ideally I guess we are really looking for masons not carpenters, but basically I think we are looking for people who would have been familiar with the building traditions of the West of England. Looking at the Plymouth Colony probates, 50 people were found who had carpenter and joiner tools in their inventories:

Carpenter/ Joiner Tools Origins (West and Southwest origins bolded)

John Alden	Essex
Roger Annadowne	?
William Blackstone	Gibside, Whickham, Durham County
Richard Bowin	Llwyngwair, Pembroke, Wales
Myles Standish	Lancashire
James Browne	Plymouth
Jacob Cooke Sr.	Holland
William Ford Sr.	?
Gobert Gobertson	Holland
John Howland	Huntingdownshire
William Kemp	Hampton, Middlesex
James Lindale	?
Abraham Martin	Essex (related to Christopher Martin?)
Moses Simons	Holland
Nicholas Snow	Hoxton Middlesex
John Sutton	Attleborough, Norfolk, England
Thomas Walley	London?
Thomas Walley Jr	Barnstable, MA
Will Wright	Austerfield, York
Francis Eaton	Somersetshire, England
Peter Browne	Great Burstead, Essex County?
Kanelm Winslow	Droitwich, Worcestershire
Martha Harding	Northampton
Rich Lanckford	?
John Thorps	Polestead, Suffolk
Hiller (carpenter)	Sussex and Kent
Walter Knight	Staplegrave, Somerset
John Briggs	York
Joseph Holiway	married woman from Somersetshire
Richard Church	Oxford
Phineas Pratt	Salisbury, Wiltshire?
Webb Audey	?
Goodman Lettice	Ecclesfield, Yorkshire/ Leighton, Lincolnshire
Francis Godfrey	Bath, Somerset
Henery Andrews	Northamptonshire
Joshua Pratt	Salisbury, Wiltshire
William Carpenter	Amesbury, Wiltshire
Samuel House sr	Eastwell, Kent
James Wyatt	Priston Somersetshire
Thomas Lumbert	Thornecombe, Dorset
Richard Sparrow	Panfield, Braintree, Essex
Joseph Wormall	?
John Brown Sr	Great Burstead, Essex County?
John Damon	Kent, England
Jonathan Winslow	Droitwich, Worcestershire
Joseph Carpenter	Amesbury, Wiltshire

Nathaniell Peck	Hingham, MA
Richard Taylor	?
John Cole	Plymouth MA
John Bartlett	Plymouth MA

Having carpenter or joiner tools did not necessarily mean that they were house carpenters, many probably used their tools around their farms.

The breakdown of where these people originated from is as follows:

East Anglia		North England	
Essex	5	Durham	1
Norfolk	1	Lancashire	1
Suffolk	1	York	3
Middlesex	2		
Holland	3	Plymouth Colony	5
Central England		Southwest England	
Huntindownshire	1	Somerset	5
London	1	Wiltshire	4
Northampton	2	Dorset	1
Oxford	1		
West England		Southeast England	
Worcester	2	Kent	2
Wales	1	Sussex	1
Unknown	7		

The breakdown of which areas contributed people who knew carpentry or joinery breaks down as:

Region	Count	% of total
Southwest	10	20%
East Anglia	9	18%
Central	5	10%
North	5	10%
Southeast	3	6%
West	3	6%
Holland	3	6%
Plymouth Colony	5	0%
Unknown	7	14%

The southwest of England contributed the most with 20% (26% if you lump the west in with the southwest) while the second largest was East Anglia. Because Francis Eaton was from the West of England, and he was in Plymouth from the earliest days, it would be logical that his vernacular architecture experience would have contributed much to the early architecture of the colony.

Another early settler, Phineas Pratt, a man who had fled to Plymouth from Wessagussett and who decided to stay, was also a carpenter from the West Country.

Where else can one look to in order to find information on West Country building traditions and their transference to the New World? Newfoundland of course! The settlement at Ferryland/ the Colony of Avalon, was founded by Devon fishermen and planters and there is speculation that when it was founded in 1622 it has been suggested that the planning and construction of Calvert's colony was inspired by the Devon port of Plymouth and West Country tradesmen carried out the construction (Gaulton 1997: 111-112). The building at Ferryland are overwhelmingly of masonry construction, at least for the chimneys and foundations.

Excavated houses in Newfoundland appear very similar and share several key features with John Howland's:

- dimensions were greater in length than width (**Table 2**)
- house measurements were very similar to the Howland house
- they sit on dry laid stone foundations
- they were timber framed
- the interior space was an undivided open floor plan
- one gable end wall was taken up by a large stone fireplace and chimney
- doors were generally placed in the southwest corner of the house

Table 2. Comparison of house sizes at Ferryland Newfoundland and the Howland House

	Length	Width	Hearth Size	Door Location
Renews House	20' (6.1 m)	13.6' (4.1 m)	3.6 x 2 m	SW corner
Ferryland Area D	39' (12m)	17'6" (5.4m)		SW corner
Ferryland 2	30' (9 m)	15' (4.6m)	2 x 1.5m	
Londonderry	30' (9 m)	15' (4.6m)		
Pennsylvania	30' (9 m)	18' (5 m)		
Cupids Cove	36'	12'		
Ferryland Mansion	44'	15'		
Howland	33' (30' 10" without chimney)	17'6" (5.4 m)	3.9 m x 1.5 m (13'2 1/2" x 5')	SW corner

It is believed that the Newfoundland houses were built in a West Country (especially Devon) tradition (Brunskill 1997: 175, 177; Innocent 1916: 118; Beacham 1990). Placing the heat source at the gable end had been common throughout England, and especially in the West Country, since Tudor times and the size and location of hearth is indicative of the household's requirement for cooking and heating and of origin of house's builders and/or occupants (Brunskill 1997:56; Blades 1981:45; Barley 1990: 65, 79; Barley 1961: 49; Nixon 1999).

But what about the masonry? While interior portion of hearths and chimneys could be put up with clay, the parts that were outside of the houses needed lime mortar. 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 seas shells to produce lime which was mixed with the clay to produce mortar. Lime was necessary for the mortar to make it waterproof. 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 of 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 practice 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 eighteenth 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 (Fiske 1922: 36). So whoever built the house for John Jenney or John Howland could have put up the chimney and the west wall with shell lime mortar and, in fact, pieces of shell-tempered mortar were recovered from the Howland site, confirming that this was the mortar used for the walls.

But were there masons in Plymouth Colony who could have erected such a wall? Nicholas Snow, who arrived in 1623 aboard the *Anne* or the *Little James* from Shoreditch, London, and Samuell Fuller, both of whom died in the 1670s but were in the colony much earlier, had mason's hammers in their probate inventories. This may mean that they practiced masonry and it also means that other people who were mason's were probably also present in the Colony from an early date.

Additionally, archaeological excavations by Strickland recovered fragments of a North Devon oven and lots of fragments of North Devon gravel-free baluster jars, North Devon gravel-tempered milkpans, and North Devon scraffito. This site, in fact, has the only evidence of a North Devon oven in New England and more North Devon gravel-free baluster jar fragments than any other New England site. Many of the red bodied earthenwares which reached New England came from the southeast of England in the West Country (Devonshire and perhaps Dorset) (Hume 1969:102). These included tall black glazed mugs with two or more handles called tygs which were produced from the 1400s to ca. 1650 and slipwares produced at Wrotham in Kent from 1612 to 1700 (Hume 1969:102). Wrotham slipware had a glaze that was darkened and a thinned clay solution, called a slip, was applied in sprig molded pads containing initials and dates (Hume 1969:103).

The West Country of England, mainly around the towns of Barnstable, Biddeford and Great Torrington also produced a type of earthenware that has come to be known as North Devon gravel free ware. This ware is easily distinguished by the color of the exterior versus the interior. The exterior was fired in an oxidizing atmosphere in the kiln and as a result it attains an orange or red. These vessels were fired upside-down in the kilns, with result being the interior having been fired in a reducing atmosphere, free from oxygen. As a result the interior is often a gray fired body with a mottled yellow to olive brown glaze (Cranmer 1992:85). These vessels have long been thought to have only been produced during the late seventeenth century, but their recovery from sites such as the Plymouth trading post at Pentagoet (ca. 1629), Martin's Hundred in Virginia (1622) and from the wreck of the *Sea Venture* (1609) pushes their dates of manufacture back into the first quarter of the century (Cranmer 1992:85). Their recovery from sites throughout the century shows that they were produced for a long time range. Most of the vessels take the form of baluster jars. These vessels have a constricted neck on which a paper or cloth cover could be tied. It is theorized that these vessels were shipped either empty or filled with pickled fish to the colonies.

Was the Howland House a Rhode Island Stone-Ender? Technically no, but it appears to have originated from the same West Country vernacular architectural tradition that the later Rhode Island Ston-enders did. The floor plan is similar to the traditional stone-ender and to the stone-ended houses excavated in Ferryland, Newfoundland, a place that could be called the West Country in the New World. The West Country origin of the architecture at the Howland site as well as the numerous West Country/ Devon artifacts recovered begs the question of why and how did all this West Country end up in Kingston?

One answer may be that John Howland, a man that acted as Plymouth Colony' trading agent at the Cushnoc trading post in Maine, may have established trading connections with the West Country through that position in Maine where he would have come in contact with West Country fishermen and traders. He may have even traveled to Newfoundland or the West Country and liked what he saw, then deciding to recreate it in Kingston. We are not exactly sure when the house that Strickland excavated was actually built. It may have been built by Jenney, who himself could have had West Country trading connections, liked the look and practicality of the West Country architecture, or had hired a housewright and/or mason from the West Country (we know that West Country carpenters were here from the start of the colony). The construction of the west wall of the house completely out of stone may have been a practical response by either Jenney or Howland to the stoney nature of Rocky Nook. When given a bunch of lemons, you make lemonade. When given a bunch of rocks, you make a stone-ended house that is on a stone foundation.

But, was the stone ended house the first house built on the site? Findings from other sites such as the Isaac Allerton/ Thomas Cushman (Kingston ca. 1627-1633), the Richard Taylor (Yarmouth ca. 1646), and the Stephen Wing (Sandwich ca, 1640) houses have consistently shown that the first house erected when colonists were initially setting up house on a new property, were not fully framed fine, fair houses, but relatively temporary affairs without proper foundations. The houses identified at these three sites were all found to be of post in ground/ earthfast construction.

While the finding of this earlier house at the site changes the accepted interpretation of the what is represented by the standing house, the most interesting finding is the construction technique that was used to build the house found in 2014. The building was found to have been built using posts placed in the ground not with a traditional stone foundation on which wooden sills would have rested. The post holes were evidence that the original house on the site had been built using a technique that is rarely found in New England. The posts that formed the framework of the house were originally seated within these post holes. Using in the ground posts is a construction technique called "post-in-ground" or earthfast construction, construction where the framing members of a building are "standing or lying directly on the ground or erected in post holes" (Carson et al 1981: 136) (**Figure 12**). Essentially what was done was that holes were dug where the posts were to be seated. After the holes were dug, the framework for the walls of the structure was constructed on the ground adjacent to post holes. When the walls sections were completed, they were raised up and slid into the post holes. The wall sections were secured into the adjacent wall section and the whole framework tied together to create a box like framework for the structure. The roof timbers were then raised onto the top of the walls and the roof and interior floors framed. This was an ancient technique, dating back to the prehistoric times in Europe and is believed to be the technique used for the construction of the first houses at Plymouth in 1620-1621.

Cary Carson, Norman Barka, William Kelso, Gary Wheeler Stone and Dell Upton described earthfast architecture in the southern colonies as being an impermanent form of architecture that

was inferior to framed construction and which, in the early seventeenth century, was seldom used in England and was only used in extreme cases in the New World (Carson et al 1981). They posited that the early settlers used earthfast architecture as a quick and expedient way to raise a structure in the first years of colonization, but that settlers who remained in a colony would have preferred, and in many cases replaced the earlier earthfast structures, with more permanent and structurally sound framed houses when means and position afforded it. Earthfast architecture was used from the start in places like Jamestown, Virginia (1607) and St. George's fort, Maine (1607), and it continued to be used throughout the 17th and 18th century for impermanent architecture. Builders who used decay resistant materials like oak could expect a post-in-ground house to last anywhere from 30 to over 50 years (Carson et al 1981: 156-158).

There are three different types of earthfast architecture: sill on ground, free set post, and bent set posts. The simplest way to build a structure is by merely setting the sills of the building directly on the ground with nothing being between it and the earth. While this is a quick way to build a building, the sills will quickly rot. Building a structure with free set posts means that individual posts are placed in the ground free of any other framing members. Following their planting, the upper end of the posts are trimmed to similar heights and are then framed together with horizontal timbers connecting the vertical posts. A structure can be built with as few as four posts in this manner, one at each corner, or it may be constructed using several posts closely spaced on each side. The posts are then joined together by exterior clapboards with very limited additional framing being present. When a building is constructed with closely spaced posts (averaging five feet or less between them [this being the average length of clapboards]) it is said to be of palisade or puncheon construction. Quick to build and described by archaeologists as “ephemeral structures raised around a gaggle of earthfast uprights” (Carson et al 1981: 125).

Bent set framing involves connecting two hewn vertical members (posts) to a hewn horizontal member (the plate or tie beam) on the ground and then raising the whole assembly (referred to as a bent) up as one unit, sort of like an Amish barn raising. The post holes for a free set post structure are generally round to slightly oval and are just slightly larger than the post that was seated into it (**Figure 13**). The bottom depths of the holes will have much more variability because the bottom depth does not matter as the tops will be cut to length after they are set up. The holes for a bent set structure are much roughly oval and larger, averaging four feet or more in length and they will all be of very similar depths (**Figure 13**). This is due to the fact that when raising a bent it must be slid into the hole and then raised up. The bent must be level when in place so that the framing for the house will not be skewed. Bent set construction requires much more forethought and planning than free set post construction, which in turn requires more planning than puncheon construction.

The colonists at Plymouth erected an earthfast structure for trading at Aptuxet on Cape Cod in 1626, and quickly abandoned the site and focused their trade on Maine. In 1635, William Bradford described a hurricane that struck the colony: “This year, the 14 or 15 of August (being Saturday) was such a mighty storme of wind and raine, as none living in these parts, either English or Indians, ever saw. ... It caused the sea to swell (to the southward of this place) above-20-foote, right up and downe, and made many of the Indians to clime into trees for their saftie; it tooke of the horded rooffe of a house which belonged to this plantation at Manamet, and floted it to another place, the posts still standing in the ground” (Bradford 1912: 213-214). So even though this storm blew down many hundreds of thousands of trees, the posts that were put in the ground nine years prior, still remained, although the rest of the structure was gone.

Work in the 1990s by Emerson Baker, Robert Bradley, Leon Cranmer and Neil DePaoli in Maine, has led to the realization that the use of earthfast construction was not limited to the seventeenth century, but continued into the second quarter of the eighteenth in Maine, which correlates with Carson et al's findings in the Chesapeake (Baker et al 1992). Baker et al see earthfast architecture in much the same way as Carson et al- a quick solution to the initial need for protection from the elements and one which would be replaced with better accommodations when time and finances allowed. They also added that the society in Maine was unsettled until the eighteenth century which correlates with presumed end of the earthfast tradition there.

As evidence of the occurrence and prevalence of earthfast architecture in Maine, several sites are used as examples. The Cushnoc Site in Augsuta was a trading house built by Plymouth Colony settlers in 1628. The building is of a longhouse style and was constructed with bent set posts (**Figure 14**). The overall dimensions are 20' wide by 44' long with each bay being approximately 15' long by 20' wide. Intermediate posts set between in the middle of the long side of the center bay were interpreted as being associated with a cross-passage corridor. A post set ~3-4' east of the west end of the building was hypothesized as representing a support for a daubed fire hood associated with the hearth. No traces of burned soil remained associated with the hearth location.

Another earthfast house in Maine was the MC Lot site, located a mile north of the mouth of the Pemaquid River (**Figure 15**). This was also a trading house, having been built ca. 1640 and lasting until the 1670s. The building was L-shaped and its overall length was 50' and the width of the main section was 23.5'. The northern ell measured 17 x 13' and had the best evidence of free set post construction. The remainder of the building may have been built by setting sills in trenches or with a combination of trench set sills and free post construction. A narrow 4' wide passage ran along the entire length of the eastern side of the house and a paved cellar measuring 13.5' x 18' was located at the eastern end of the main building. No evidence of a hearth was found, but excavation was somewhat limited at the site. The shape of the house was similar in shape and configuration to the Clark and Lake trading house at Arrowsic built in 1654 (**Figure 16**). This house had stone footings instead of being earthfast and measured 20' wide by 65' long. It had a cellar measuring 20 x 20' located at north end on the opposite side of the hearth wall. The hearth measured 15 x 5' and was paved with flat stones. A 4' wide passage ran along the west side of the house and a 5' wide passage separated the hearth from the cellar hole.

Fewer earthfast structures have been excavated in Plymouth Colony than in Maine or the Mid-Atlantic and southern colonies but those excavated show a range of sizes and techniques of construction. The first post-in-ground house to be excavated was the RM/ William Clarke homesite in Plymouth (**Figure 17**). The site is located on a knoll overlooking the Eel River on the property of Plimoth Plantation. The site was built in the 1630s and destroyed in 1676. Clark was a merchant and there is abundant evidence for trade with the Natives- beads, scissors, knives, brass scrap, tobacco pipes, bale seals (cloth), as well as the historic record that talks about the Natives visiting him (for trade?) right before they attacked. The house was probably his trading house and residence, just like the houses in Maine.

Excavations were carried out in the 1940s by Plimoth Plantation's founder Harry Hornblower and later by Carl Fernstrom of Harvard University. In the 1960s, Dr. James Deetz excavated at the site and limited work was done near the house by the Plantation in the 1980s. The excavations revealed that William Clarke's house was of a longhouse form measuring 54 feet east to west by 18 feet north to south. It had been constructed using the free set post earthfast technique and evidence for the

earthfast construction was most visible in the western half of the structure where a total of five post holes of varying depths were uncovered. No postholes were identified in the eastern half of the structure but here a series of four clusters of rocks, identified in the field as foundation piers for sills, were identified. It is not recorded that these foundation piers were excavated and it is possible that they represent the location of rotted posts that were supported by stones. This was found to be the case at the Duxbury Second Meeting House (1707-1783) where at least two of the structures original posts were either removed or had rotted to the point that they had left a hole in the ground that was filled with irregular shaped pieces of granite. It is possible that when a post rotted in a structure such as this, the lower portion of the rotted post was sawn through and the post was removed from the post hole with the hole subsequently being filled with stones.

Posthole and foundation pier spacing appeared equal at the site with both elements being spaced regularly at nine feet center to center on the north and south sides and six feet on the east and possibly west sides. The six foot spacing on the eastern side may be related to the presence of a smoke hood at this end of the house whereas on the western side there may have been only one post spaced 9 feet from the corners. This spacing creates a house with either three bays that were 18 x 18', two bays of 27 x 18', or an eastern bay measuring 27 x 18', a 9 x 18' cross passage and an 18 x 18' western room. It is believed that a cross passage existed between the rooms in the center of the house. A wood lined cellar hole measuring 8' square was identified under the floor in the western room. The hearth was located in the eastern room close to the eastern gable end. At least two additional post holes were identified on the southern side spaced 9 feet apart and 8 to 9 feet from the main house. These posts may represent a porch or shed attached to this side of the building. The posts at the Clarke house appear to have been free set.

The second Plymouth Colony earthfast house was the C-21/ Allerton site in Kingston, excavated in 1972, and dating to the 1630s to 1690s (**Figure 18**). Background research determined that the site was originally settled by Isaac Allerton in the late 1620s to early 1630s and subsequently was the home of his daughter Mary and his son-in-law Thomas Cushman. Excavations by James Deetz identified at least 28 features, some of which appear to have been given a feature number but were subsequently determined to be unworthy of further comment. Two sections of palisade trench, three house corner post holes, two possible shed or lean to post molds, another small post mold, a cobble hearth, and an E-shaped series of sill/ joist stain, were all associated with the first occupation which is believed to have begun as early as the late 1620s and was associated with the Allerton, Prence, and the early Cushman occupation. The cellarhole and a fenceline slot-trench were associated with the second, post 1675, occupation by the Cushmans. Several pit anomalies in the north yard and one anomaly in the west yard are believed to be prehistoric in origin.

Excavation of the cellar hole resulted in the recovery of a ca. 1690 wine bottle at the bottom of it, indicating that it was filled after this time. Cellar hole excavation also resulted in the identification of a stone hearth floor that had been barely cut by the southeast corner of the cellar hole (Deetz and Deetz 2000:228). The hearth was composed of heavily burned cobbles and was situated at a different angle than the cellar, indicating that it belonged to an earlier house. It was aligned with the deep possible palisade trench, making it probable that it was associated with that feature. The possibility that two houses were present at the same location was later confirmed when four large post molds measuring up to 10" in diameter were identified aligned with the hearth and the possible palisade trench. These post holes outlined a house measuring 22 by 20 feet with a chimney located at the eastern gable end. Three smaller posts were located to the south of the house and are interpreted as a shed attached onto this side of the house. The main structure appears to have been a

square with free set posts at the four corners. The excavations were somewhat limited and the house may have in fact been larger, extending further to the east into an area not excavated.

A third 17th century site was excavated in the 1970s but very little is known about the excavations that were carried out by archaeologists from Plimoth Plantation. This site, the C-14/ Edward Winslow (1630s-1670s) house, was never written up and aside from feature drawings and artifacts, little information exists on the dig. Reconstructive work by the author revealed that the various features appear to show another house of longhouse form measuring 18 feet east to west by at least 32 feet north to south (**Figure 19**). It appears to have been constructed using free set posts set approximately 6-8' apart. A chimney bay may have been located at the south end of the house where a series of posts were closely spaced and outlined an area 6' wide along this end of the house. The paucity of notes on this site limit what can be reliably said about the house.

The use of earthfast construction continued, at least in a limited fashion, into the 18th century in Plymouth Colony, as evidenced by the Second Meeting House Site in Duxbury (1708-1785) (Chartier 2008). When this site was archaeologically tested in 2008, the location of the building was suspected but no details were known about the construction. Testing identified five postholes on the northeastern and southeastern sides (**Figure 20**). The posts were spaced between two and five meters apart and appear to have been free set. The postholes had been filled with rocks at some point after the below ground portions of the posts had either been removed or rotted in place. Foundation trenches were found to run between the posts. Either a brick or stone foundation would have been placed within these trenches. The entire building was found to measure 30 x 40'. The use of earthfast architecture for the second meeting house may be interpreted as a response to financial constraints in the town in the early eighteenth century and possibly a plan to build a temporary meeting house that would serve the town's needs until funds could be acquired to build a more permanent one. Due to the fact that the first meeting house was located in what would eventually become the Myles Standish Burial Ground, possibly hemmed in by three quarters of a century of burials and generally in need of replacement, the first meeting house could not be expanded or rebuilt, and a site nearby was selected. Possibly in an effort to reduce cost, earthfast was selected as the method to use to build, with the idea being that it would be replaced or at least upgraded over time. This was in fact what occurred. The second meeting house was built in 1707 with 180 pounds being raised for the project. Following the original construction, resulting in a 30 x 40 foot structure, additions were continually made. In 1713, a seat was allowed to be built in it, and in the same year a fence was built around it. The possible impermanence of the second meeting house may be evident when, 25 years after it was built, it was found to need repairs, and in 1742 the rear was shingled. By 1745 the possibility of building a new meeting house was being discussed, but due to financial constraints, it was determined that instead the structure should be enlarged with the work done at "the cheapest rate".

The use of earthfast architectural techniques has been hypothesized as providing a quick and relatively cheap way to build structures that may not have been meant to be permanent abodes. The need to quickly erect a structure that could be lived in until the time when a better constructed and more permanent building (one that rested on a foundation raised off of the ground and thus not prone to decay as quickly) may have contributed to the use of this technique during the initial occupation of all kinds of 17th and 18th century sites. It is assumed that the owners of the earthfast structures would have wanted to eventually have a fully framed, fine, and fair house as their permanent home, but due to financial limitations, the death of the head of the household, or just the fact that life gets in the way of living (the best laid schemes of mice and men often go awry), the

buildings were not replaced until they may have been beyond repair. Repairs were made during the original earthfast building's life, posts were added and replaced, stones replaced rotted post sections, and additions were made to accommodate for growing families and changing needs, but eventually the buildings were either purposefully razed and replaced, burned down, or were demolished.

It would be completely consistent with the findings from these other sites, to find that John Jenny's original house was of earthfast construction. It seems that the colonists wanted to quickly erect an building when initially occupying a property. After maybe 20 to 40 years, they would have expected to have replaced this original pioneer house with a more permanent framed house. This did not always happen though, as money, labor shortages, and probably just the simple matter of life getting in the way of living, caused them to continue to be used long after their use life may have been over. It is possible that John Jenney's original occupation may have been to the north of the house excavated by Strickland, closer to the top of the knoll. Only further testing in that area could determine if this was true or if Jenny decided to put all his eggs in one basket and invest right from the get go with a framed house.

Artifact Analysis

Now that we understand the land where they lived, the house that they lived in, and the excavation that was carried out at the site, we are able to examine the actual pieces of material culture that have been left behind at the site. A total of 17, 906 artifacts are in the C-3 collection housed at Plimoth Plantation that have a high degree of certainty to have come from the 1930s or 1970s excavations at the Howland Site. The collection is a mixture of natural stones, Native artifacts, 17th century material consistent with what would be expected to be found in John and Elizabeth Howland's household, 18th and 19th century material that appears to have come from a later occupation or from dumping episodes, and modern trash. While it is believed that most of the material came from the site, the final determination that it all came from here should still be viewed with a degree of caution.

Prehistoric Artifacts

The land where John and Elizabeth Howland lived was originally settled by Native people by at least 4,000 BP and eight archaeological sites are on record in the Massachusetts Historical Commission archaeological site files for Rocky Nook proper. These sites include two intensively occupied Late Archaic sites (4,000-2,000 BP) with pits, lithic debitage concentrations (stone chip piles) and hearths and a shell midden north of Gray's Beach. It would not be surprising if the entire area of Rocky Nook was found to have been occupied at one point or another in the prehistoric past. The occupation probably focused on shellfish gathering and sea fishing off the Fishing Rocks and in canoes off the east coast, exploitation of the anadromous fish runs and tidal net fishing up the Jones River on the west coast.

Seventy-two natural, unworked stones were found in the collection. It is assumed that these were collected by the excavators either as curiosities, or because they thought that they may be prehistoric artifacts. The pieces are rounded cobbles or flat angular pieces of granite, gneiss, schist, shale, quartz, quartzite, and puddingstone/ conglomerate.

Eighty-seven pieces of Native pottery were analyzed. Soft paste pottery was made by Native people in eastern Massachusetts from at least 3,500 years BP and the various stylistic and technological traditions and techniques can provide relative dates of manufacture. Two of the

pieces were tempered with grit and gravel and the remaining 85 pieces were tempered with shell. Grit/ gravel tempering was used earlier than shell tempering, but eventually pieces tempered with either grit/gravel or shell were in use at the same time. The use of different tempers may be related to different uses- soaking versus boiling, simmering versus boiling, storage versus cooking. **Table 3** shows the characteristics of the five vessels that were identified. Additionally, fragments of what appear shell tempered clay that is in the process of being made into pottery was also found.

Table 3. Native pottery from the Howland Site characteristics

Temper	Rim Dia.	Body Dia.	Rim	Body Finish	Decoration
Grit/ Gravel	20 cm		Pointed		None
Grit/ Gravel	22 cm	24 cm	Flat		Notched top of Rim Cord decorated Neck
Shell	22 cm			Smooth interior and exterior	Incised line on exterior
Shell	24 cm		Squared	Smoothed interior cordmarked exterior	Hatched top of rim Vertical dentate body decoration
Shell	24 cm		Flat to Rounded		Undecorated

These vessels are all believed to date from the late Middle to Late Woodland periods (1,500 to 500 years BP). The presence of pottery at the site indicates that this location, and probably Rocky Nook in general, was probably a summer encampment, possibly a resource procurement area related to the larger Bay Farm Site located just across the Jones River from Rocky Nook. Activities such as shellfishing, fishing, and possibly agriculture may have been carried out here. Pottery production may have happened as well.

Ten pieces of fire-cracked rock, rock that had been placed purposefully in a fire for the purpose of heating it to use for boiling water, were recovered. These most probably date to the Native occupation and are common on sites of all periods.

Seven stone objects (plummet, net weight, atl-atl weight, gorget, smoking pipe, a graphite paintstone, and a pestle) were found that were manufactured by means other than chipping. Two fishing tools- one plummet for a hand line and one net weight- were found. The net weight was probably used in a net stretching across the Jones River while the plummet could have been used in the river or the ocean, but most probably the later and in conjunction with a canoe. The atl-atl weight is a bar style, a round stone with a hole drilled through the center, used as part of a spear thrower, dates to the Late Archaic Period (6,000-3,000 years BP). It would have been used along with some of the projectile point styles recovered (the Small Stemmed points) for hunting marine and terrestrial animals. The pestle dates from any time from the Late Archaic to Late Woodland periods (6,000-500 years BP) to grind various plant seeds (bullrush, maize, etc.). The graphite piece would have been used for body decoration. The smoking pipe is made of steatite, a stone that would have to have been traded from Rhode Island or Central Massachusetts, and dates to the Late Woodland Period (1,000-500 years BP). It would have been used to smoke tobacco, mint, poke, and other local plants. The final artifact, the gorget, is a decorative piece that was probably worn around the neck either close to the neck or hanging down as a necklace. It dates to the Late Archaic Period (6,000-3,000 years BP).

Chipped stone artifacts and the debris that came from their manufacture, made up the largest part of the Native artifact assemblage. A total of 186 pieces are present in the collection, a sizable amount

considering how most excavators in the past failed to identify and save these types of artifacts. Seven types of stones were used to make tools at the site with the types of artifacts associated with each lithic type varying greatly (**Table 4**).

Table 4. Lithic chipped artifacts

Artifact	ARF	PJ	Chert	Hornfels	Saugus Jasper	Quartzite	Quartz	Rhyolite
Core							1	2
Shatter					1		27	8
Flake			1		6		1	28
Flake Fragment		1			1	2	7	57
Uniface								1
Biface	1		1				1	3
Scraper								1
Preform							2	1
Projectile Point Frag.							1	6
Neville						1		1
Stark						2		
Brewerton								1
Small Stemmed							4	
Squibnocket Triangle							2	1
Mansion Inn				1				
Greene								2
Fox Creek								1
Levanna				1			3	4
Totals	1	1	2	2	8	5	49	125

ARF- Attleborough Red Felsite; PJ- Pennsylvania Jasper

Three general classes of lithics were found: distant exotics; local exotics; and locals. Distant exotics are stones that arrived at the site that have their sources outside of Massachusetts. These include materials from New York State (Chert) and Pennsylvania (Pennsylvania Jasper). Local Exotics have their source a relative distance away from the site. These include hornfels (Blue Hills), Saugus Jasper (Saugus), and Attleborough Red felsite (Attleborough). The remaining materials, the locals, are those that could be obtained in the immediate vicinity of the site, principally as a result of collecting raw material from the glacial drift. Generally it is found that as the source of the raw material increases in distance from a site, the relative frequency of occurrence at the site inversely decreases- the farther away material comes from, the rarer it is at a site. Locals make up the largest part of the assemblage (96%), with local exotics being next most common (2.4%) and distant exotics accounting for only a very small percentage (1.6%).

The artifacts recovered by Strickland compare favorably with those recently collected by the Howland Society in 2014. During their one day excavation of what appears to be a back dirt pile at the southern end of the site, they recovered many of the same materials that Strickland did (**Table 5**). The assemblage was composed mostly of local lithics (97%) with a small amount of distant exotics (3%).

Table 5. Artifacts recovered during the 2014 Howland Society dig

Artifact	Count
Fire Cracked Rock	1
Pennsylvania Jasper CD	1
Quartz CD	12
Quartzite CD	1
Rhyolite CD	30
Rhyolite Uniface	1
Shell tempered Pottery	2
Grit Tempered Pottery	1

18th and 19th Century Material

Occupation after last Howland descendant is known to have lived on what was once John Howland's property (James Howland in 1735) was followed by an occupation to the immediate south of the John Howland homesite by unknown persons in the middle to late 18th century. No structures are shown on the property on any of the historic maps Rocky Nook beginning with the 1775 map.. The 1830 Bourne map shows one house on the Nook to the south of the project area but no house is known to have been built here after James Howland sold the property to Benjamin Lothrop. That occupation did occur is verified by the presence of two possible cellar holes to the south of the John Howland homesite and the recovery of abundant evidence of 18th century ceramics and household artifacts. Numerous 19th century artifacts are present in the collection at Plimoth Plantation and are presumed to have been recovered from the site by Strickland during his excavations. The paucity of architectural elements, especially nails, indicates that the material may have arrived at the site as refuse during dumping episodes by the people living to the south of the site in the 19th century.

The majority of the artifacts recovered by the Howland Society during their 2014 excavation consisted of 18th century ceramics and household artifacts (**Table 6**) while those in the collection at Plimoth Plantation chiefly date from the 19th century (**Tables 7 and 8**).

Table 6. Historic artifacts recovered by the Howland Society in 2014

Class	Artifact	Count
Architectural		225
	Brick	1
	Window Glass	40
	Hand Wrought Nail	178
	Mortar- Clay	5
	Mortar- Shell Tempered	1
Housewares		170
Ceramics	Creamware	1
	Redware	102
	Staffordshire Slipware	3

	White Salt Glazed Stoneware	2
	Tin Glazed	4
Tobacco Pipes	4/64" stem bore	10
	5/64" stem bore	7
	7/64" stem bore	1
	8/64" stem bore	1
	Bowl fragments	14
	Stem fragment	1
Bottle Glass	Dark Aqua Hand Blown	3
	Clear Hand Blown	2
	Dark Olive Hand Blown	2
	Aqua Mold Blown	12
Flint	Fragment	1
Button	Brass, domed	1
Shoe Buckle	Brass frame, iron tang	2
Kettle	Cast Iron Fragment	1
Faunal Remains		810
	Medium Mammal	69
	Large Mammal	5
	Cattle	4
	Sheep	7
	Swine	1
	Quahog	5
	Soft Shell Clam	706
	Surf Clam	13
Other		16
	Charcoal	13
	Flat Iron Fragments	3
Total		1344

Table 7. 18th and 19th century ceramics present in the Plimoth Plantation C-3 Strickland collection

Class	Division	Count
18th Century Ceramics		334
Buff Bodied Earthenware (1675-1775)		27

	Bowl	1
	Mug	26
Creamware (1762-1820)		152
	Bowl	5
	Chamberpot	11
	Cup	22
	Holloware	50
	Pitcher	3
	Plate	56
	Saucer	5
Jackfield (1740-1775)		2
	Mug	2
Stoneware (1730-1775)		153
	White Salt Glazed Bowl	11
	White Salt Glazed Cup	1
	White Salt Glazed Flatware	1
	White Salt Glazed Holloware	16
	White Salt Glazed Mug	62
	White Salt Glazed Plate	3
	White Salt Glazed Saucer	5
	Fulham Mug	1
	Nottingham Mug	4
	Gray Jug	10
	Gray Chamberpot	33
	Gray Bottle	1
	Gray Jar	1
	Westerwald Chamberpot	2
	Westerwald Bottle	1
	Westerwald Jug	1
19th-20th Century Ceramics		1366
Redware		
	Flowerpot	112
Ironstone (1813-1900+)		48

	Undecorated Mug	2
	Undecorated Plate	7
	Undecorated Holloware	1
	Flow Blue Plate	10
	Flow Blue Cup	3
	Flow Blue Flatware	4
	Flow Blue Pitcher	1
	Flow Blue Holloware	1
	Flow Blue Saucer	13
	Flow Blue Bowl	4
	Molded Holloware	1
	Molded Bowl	1
Pearlware (1805-1830)		459
	Annular Bowl	24
	Annular Cup	5
	Blue Edged Plate	119
	Blue Edged Saucer	1
	Green Edged Plate	31
	Green Edged Saucer	2
	Hand Painted Bowl	23
	Hand Painted Cup	11
	Hand Painted Plate	1
	Hand Painted Saucer	13
	Hand Painted Tea Pot	1
	Blue Hand Painted Bowl	6
	Blue Hand Painted Cup	7
	Blue Hand Painted Plate	2
	Blue Hand Painted Saucer	8
	Blue Hand Painted Unknown	1
	Mocha Bowl	18
	Mocha Cup	1
	Undecorated Bowl	4
	Undecorated Chamberpot	13
	Undecorated Cup	3

	Undecorated Flatware	2
	Undecorated Holloware	18
	Undecorated Lid	1
	Undecorated Pitcher	22
	Undecorated Plate	7
	Undecorated Saucer	3
	Undecorated Unknown	87
	Spatter/ Spongeware Saucer	1
	Transferprinted Saucer	3
	Transferprinted Bowl	3
	Transferprinted Cup	6
	Transferprinted Flatware	3
	Transferprinted Plate	9
Porcelain (1800+)		41
	Knob	1
	Bowl	1
	Creamer	1
	Cup	11
	Saucer	9
	Tea Pot	1
	Unknown	1
	Canton Cup	8
	Canton Saucer	1
	Canton Bowl	1
	Canton Plate	6
Hotelware (1900+)		2
	Bowl	2
Rockingham (1830-1930)		9
	Tea Pot	9
Yellowware (1830-1930)		186
	Annular Cup	9
	Annular Bowl	13
	Annular Plate	1
	Mocha Bowl	16

	Mocha Mug	3
	Transferprinted Cup	1
	Undecorated Bowl	27
	Undecorated Creamer	9
	Undecorated Cup	1
	Undecorated Pan	1
	Undecorated Unknown	105
Tin-Glazed (1900+)		1
	Figurine	1
Whiteware (1820-1900+)		526
	Annular Bowl	21
	Annular Cup	15
	Annular Saucer	2
	Gold Edged Saucer	1
	Blue Hand Painted Bowl	3
	Blue Hand Painted Saucer	3
	Polychrome Hand Painted Bowl	2
	Polychrome Hand Painted Cup	13
	Polychrome Hand Painted Flatware	1
	Polychrome Hand Painted Holloware	2
	Polychrome Hand Painted Plate	1
	Polychrome Hand Painted Saucer	19
	Spatter/ Sponge Cup	11
	Spatter/ Sponge Saucer	19
	Blue Transferprinted Bowl	3
	Blue Transferprinted Cup	4
	Blue Transferprinted Holloware	13
	Blue Transferprinted Plate	10
	Blue Transferprinted Saucer	26
	Blue Transferprinted Tea Bowl	1
	Blue Transferprinted Unknown	1
	Black Transferprinted Cup	3

	Black Transferprinted Plate	1
	Black Transferprinted Saucer	1
	Brown Transferprinted Bowl	3
	Brown Transferprinted Cup	10
	Brown Transferprinted Flatware	1
	Brown Transferprinted Holloware	4
	Brown Transferprinted Plate	1
	Brown Transferprinted Saucer	10
	Decal Transferprinted Bowl	3
	Decal Transferprinted Plate	1
	Green Transferprinted Bowl	1
	Green Transferprinted Cup	1
	Green Transferprinted Saucer	3
	Light Blue Transferprinted Cup	10
	Light Blue Transferprinted Holloware	3
	Light Blue Transferprinted Plate	19
	Light Blue Transferprinted Saucer	13
	Light Blue Transferprinted Tea Pot	1
	Pink Purple Transferprinted Saucer	3
	Polychrome Transferprinted Cup	1
	Polychrome Transferprinted Plate	5
	Polychrome Transferprinted Saucer	1
	Purple Transferprinted Saucer	1
	Undecorated Bowl	16
	Undecorated Chamberpot	1
	Undecorated Cup	20
	Undecorated Holloware	13
	Undecorated Pitcher	5

	Undecorated Plate	50
	Undecorated Saucer	29
	Undecorated Unknown	121
Stoneware (1830-1900)		94
	Albany Slipped Jug	12
	Albany Slipped Bowl	3
	Albany Slipped Holloware	1
	Albany Slipped Pot	5
	Buff Body Bottle	27
	Buff Body Flowerpot	2
	Buff Body Holloware	3
	Buff Body Jug	16
	Buff Body Plate	1
	Buff Body Pot	23
	Buff Body Unknown	1
Total		1700

Table 8. 18th and 19th century non-ceramic artifacts present in the Plimoth Plantation C-3 Strickland collection

Class	Artifact	Count
Vessel Glass		68
	Light Aqua 19 th Century Bottle	1
	Hurricane lamp Chimney	1
	Milm Glass Vessel	2
	Clear mMachine Made Bottle	14
	Oil Lamp Body	1
	Green Machine Made Bottle	15
	Aqua Machine Made Bottle	1
	Brown Machine Made Bottle	23
Toys		5
	Marbels	5
Tobacco Pipes		76
	6/64" stem	3
	5/64" stem	43
	4/ 64" stem	21

	Bowl Fragments	9
Personal Items		8
	Pocket Knife	3
	Leather shoe	1
	Milk Glass Button	4
Husbandry		4
	Horseshoes	4
Architectural		30
	Machine Cut Nails	25
	Wire nails	2
	Cement	1
	Pipe Ferrule	1
	Copper tubing	1
Other		9
	Copper Gromet	1
	Other Copper	1
	Bottle Caps	2
	Bullet	1
	Coal	4
Total		200

17th Century Artifacts

The 17th century ceramics from the John Howland site give some dramatic evidence of the extent to which Howland was involved with trading. While utilitarian redware makes up the largest percentage of the ceramic assemblage (as it does on most colonial sites) imported wares, especially those from the North Devon region of England, made up a significant portion. The assemblage seems very similar to what is found in Newfoundland at Ferryland, a 17th century fishing and trading town founded by settlers and fishermen from North Devon, England. Given Howland's involvement with the trading house in Maine, I would not be surprised if her either led trading voyages to Newfoundland or at least had extensive involvement with trading with ships coming from North Devon that were headed to Newfoundland. In Howland's 1672 probate, a canoe is also inventoried. While this may be a simple canoe as we think of them, a narrow keeless boat with pointed ends, it may also mean a small boat carried by a larger boat- a ship's boat or shallop. The only reference that we have of Howland's involvement in the Maine trade was in 1634 when rival trader John Hocking shot one of Howland's crew. The incident was precipitated by Hocking anchoring within Plymouth's trading area in Maine. Hocking refused to leave and Howland ordered some of his men to take the "canoe" of their barque (a small sailing ship with three or more masts) and cut the anchor cables of Hocking's ship.

The assemblage is very different from what is commonly found on 17th century Plymouth Colony sites (**Table 9**), with the exception of those from the Josiah Winslow house in Marshfield (which also had a high occurrence of North Devon wares) and the Thomas Prentice house in Kingston (which had a high percentage of borderwares). The assemblage from the Howland site has a much higher diversity in imported wares than either of these sites and a much larger sherd count.

Table 9. 17th century ceramics from the Howland House

Cer. Type	Fragment Count	Vessel Count
Redware	9244	
Interior and Exterior Glazed	1259	77
Chamberpot		21
Cup/Mug/ Drinking Pot		36
Jug/ Pitcher		11
Bowl		2
Pot		4
Small Pot		1
Jar		1
Costrel		1
Interior Glazed Exterior Unglazed	2462	86
Pan		32
Pot		31
Cup/ Mug/ Drinking Pot		5
Small Pot		5
Jar		3
Tall Pan		3
Pitcher		2
Small Pan		1
Bowl		1
Colander		1
Pudding		1
Pipkin		1
Undiagnostic	5070	
Interior Glazed Exterior Missing	765	
Interior and Exterior Missing	1240	
Interior Missing Exterior Unglazed	3065	
Slip Decorated	449	
Trailed Slip Decorated	343	22
Pan		9

Chamberpot		7
Bowl		1
Mug		2
Colander		1
Flatware		1
Holloware		1
Brushed Slip Decorated	100	10
Pan		6
Chamberpot		3
Jug		1
Trailed and Brushed Decoration	6	
Chamberpot		1
Pan		1
Metropolitan Slipware	4	1
Pan	4	1
Wrotham Slipware	1	1
Pan	1	1
Beauvais Slipware	1	1
Holloware	1	1
Borderware	48	9
Holloware- Green Glazed	1	1
Pan- Green Glazed	2	1
Pipkin- Green Glazed	1	1
Pan- Green Glazed	13	1
Pan- Dark Brown Glazed	3	1
Pan/ Colander- Yellow Glazed	3	1
Pipkin- Olive Yellow Glazed	23	1
Pipkin- Burned	1	1
Holloware- Mottled Glazed	1	1
Iberian	13	2
Oil Jar	7	1
Flask?	6	1
Martncamp	1	1
Costrel	1	1
Merida?	34	7
Bowl	1	1
Jug?	2	1
Holloware	6	1
Flask?	13	1

Pan	2	1
Small Holloware	1	1
Tile	1	1
Unknown	8	
Midlands Purple	2	1
Pot	2	1
English Mottledware	44	4
Mug	24	1
Bowl	4	1
Cup	2	1
Drinking Pot	14	1
North Devon Gravel Free	159	7
Jar	148	4
Cup	1	1
Jug	8	1
Bowl?	2	1
North Devon Gravel Tempered	95	21
Flatware	8	1
Bowl	12	1
Chamberpot	1	1
Drinking Pot	6	1
Holloware	10	2
Milk Pan	11	4
Oven	3	1
Pan	26	7
Pipkin	1	1
Pot	7	2
Unknown	10	
North Italian Marbleized Slipware	6	3
Bowl	1	1
Holloware	1	1
Pan	2	1
Unknown	2	
Sgraffito	17	6
Cup	1	1
Holloware	4	1
Jug	2	1
Pan	12	3
Staffordshire Slipware	192	9

Chamberpot	7	1
Cup	112	3
Dish	19	1
Holloware	1	1
Honey Pot?	1	1
Pan	48	2
Unknown	4	
Sponge Decorated Redware	1	1
Chamberpot	1	1
Frenchen Stoneware	8	3
Jug	8	1
Rareren Stoneware	18	3
Bellarmino	10	1
Mug	7	1
Crucible?	1	1
Westerwald Stoneware	71	10
Bottle	3	1
Chamberpot	2	1
Pitcher	14	1
Jug	16	3
Mug	36	4
Tin-Glazed	43	8
Bowl	7	1
Drug Pot	2	1
Galley Pot	3	2
Holloware	9	
Plate	4	3
Small Vessel	1	1
Flatware	2	
Tile	3	
Unknown	12	
Total	10,900	132

In an attempt to move beyond mere description when reporting ceramic occurrences from archaeological excavations (e.g. "15 pieces of creamware, 4 pieces of pearlware and one piece of ironstone were recovered") to an explanation of why they occurred, Dr. James Deetz formulated a series of propositions regarding the use and distribution of ceramics in Plymouth Colony between the years 1620 and 1835 (Deetz 1972). Deetz's propositions were based on ceramics recovered from numerous excavations he directed while at Plimoth Plantation in the 1950s to late 1960s. He stressed the relationship between behavior and its material products and how the acquisition, use

and ultimate disposal of artifacts such as ceramics, all resulted from certain aspects of the lifeways of their owners (Deetz 1972: 15). Deetz's propositions were as follows:

- 1) Ceramics are a functional component of a cultural system
- 2) Three successive cultural systems were operative in New England in the period 1620-1835
- 3) In all three cultural systems the presence of ceramics is a function of four factors:
availability, need, function, and social status
- 4) Ceramics in Plymouth will exhibit a threefold division in time, corresponding to the three successive cultural systems in operation in New England (1620-1660, 1660-1760, 1760-1835), and within each time period there will be greater internal consistency than between time periods.
- 5) The pattern of ceramic use for the first period will reflect ceramic usage of the Stuart yeomen foodways subsystem as well as that of the first settlers of Plymouth.
- 6) Ceramics of the second period will show differences in terms of use and type, reflecting divergences from the parent culture. They will also exhibit strong conservative tendencies in stylistic and functional trends.
- 7) Ceramics of the third period will show a greater homogeneity and will reflect a more structured pattern of use than those of the earlier period 1760-1835 shows major shift in pottery types
- 8) There will be a marked increase in the rate of change in ceramic types during the third period, and domestically produced ceramics will decrease in relative quantity.

The colonists who settled in Plymouth arrived with the baggage of their medieval heritage and their Stuart yeoman ways. They were not totally representative but were basically less prosperous Stuart yeomen and husbandmen. They were conservative, potentially self-sufficient, and greatly influenced by religious attitudes. This way of life continued relatively unchanged and unchallenged for nearly a generation until the Puritan Revolution in the 1640s led to dramatic reduction in emigration. This led to depressed economic conditions, shortages of imported goods and a cultural isolation that led to a slow but steady divergence from the earlier yeomen lifeways.

The century between 1660 and 1760 saw the isolated New Englanders develop a distinctive Anglo-American folk culture that was different from the English culture in the motherland. After 1760 and until 1835, American culture was impacted by the emergence of a Georgian tradition, which was Deetz's third period.

The Georgian tradition was characterized by symmetrical cognitive structures, homogeneity in material culture, progressive and innovative world view, and an insistence on order and balance that permeates all aspects of life and contrasted sharply with earlier medieval tradition (Deetz 1972: 18). This Georgian tradition was truly the first popular culture in America and served to dissolve regional boundaries and re-Anglicized the American culture.

Three general groups of ceramics were identified by Deetz as having been excavated in Plymouth Colony:

Group 1 Fine imported wares

French stoneware, scraffito, delftware, marbled slipware, trailed slipware, mottled ware, agateware, Wheelton type wares, Jackfield type wares, porcelains, creamware, pearlware

Group 2 coarse imported, undecorated wares

Borderware, North Devon gravel-tempered wares, undecorated redwares

Group 3 Coarse domestic redware

undecorated and later slip-painted and trailed types

Deetz's first period (1620-1660) was characterized by a low occurrence/ minimal need for ceramics within the Stuart yeoman foodways system. Wares that occur during this period were limited to Group 1 French stonewares, Group 2 Borderwares and undecorated redwares. Ceramics were limited to their use in dairying and as drinking vessels.

Deetz's second period (1660-1760) saw a marked increase in the occurrence of fine imported ceramics of Group 1 (delftware, combed slipware, Westerwald stoneware predominantly, supplemented by mottled ware, dipped white stoneware, North Devonshire scraffito ware), a decrease in Group 2 Borderwares with a concomitant increase in North Devon Gravel Tempered wares, and a growing increase in the use of Group 3 domestically produced redwares. Ceramics were still used for dairying, but by 1650 there was a marked shift in balance of power from the clergy to the merchants at which was indicative of growing trend toward secularization of certain aspects of the growing aspects of culture (Deetz 1972: 27). Supplies were arriving in renewed quantities after the 1660 Restoration, and a greater variety of European ceramics being used in the colonies is not surprising. Another change was the increasing reliance on ceramics as flatwares, dishes and plates, versus their earlier use as hollowares.

Finally, the third period was characterized by a complete replacement of all the earlier types by the developing English refined earthenwares- creamware and then pearlware. The Georgian world view was of a more orderly relationship between man and his artifacts could account for it as well possibly creating a situation where there was now one plate, one cup, and one chamberpot relationship per person. Ceramic usage now conformed more closely to conform more closely to our 21st century concepts of the place of ceramics in culture (Deetz 1972: 32).

North Devon Gravel-Tempered Oven

When Sidney Strickland excavated the Howland House in 1938, he noted the lack of an oven and posited that Elizabeth Howland must have baked her bread on the floor of the hearth. Unknown to Strickland, fragments of a North Devon domed (a.k.a. clove) bread oven had been recovered. The largest fragment, measuring approximately 15 cm long by 10 cm wide by 3.7 cm thick (6" x 4" x 1 1/2"), was identified by Malcolm Watkins in the late 1950s. Watkins reported on the fragment in his work *North Devon pottery and its Export to America in the 17th Century* which was published in 1960. Watkins compared the Howland sherd with pieces from Virginia and to a whole oven obtained by the Smithsonian, and found that they were identical in composition and style.

Ovens such as these have been recovered from sites in the Chesapeake and are known to have been shipped to Virginia and Maryland (Grant 1983: 120; Watkins 1960). They were produced in North Devon, England from the sixteenth century until at least 1890 (Watkins 1960: 31). The form of these ovens, a roughly oval beehive shape in a variety of sizes with a trapezoidal framed opening onto which a wooden or pottery door was fitted, remained unchanged for the entire period. These ovens were made by producing molded slabs of clay which were then draped over a mold form.

These draped sections were carefully joined, thus creating a vessel with seams that were either tooled or thumb-impressed to provide reinforcement (Watkins 1960: 31).

During the 1950s excavations in Jamestown, Virginia, over 200 fragments of one of these ovens were found. The oven was described by Watkins as being “One wholly reconstructed oven at Jamestown. Made in sections on drape molds: base, two sides, two halves of top, opening frame, and door. Side and top sections are joined with seams, reinforced by finger impressions, meeting at top of trapezoidal opening. The opening was molded separately and joined with thumb-impressed reinforcements. A flat door with heavy vertical handle, round in section, fits snugly into opening. Thickness varies from 3/4" to 1 1/2". Unglazed, although smears of glaze dripped during the firing indicate that the oven was fired with glazed utensils stacked above it.” (Watkins 1960: 51).

The Jamestown oven was found in a ditch near the site of the May-Hartwell House and was probably used between 1650 and 1690. It has been reported (Watkins 1960) that an intact oven was identified in a standing house in the John Bowne House in Flushing, Long Island. The Bowne House reports that this is in fact not the case and that they do not have a clove oven but merely a standard brick oven.

These ovens appear to have been commonly added onto hearths, but they could also be free standing, as can be seen in an illustration of the French Huguenot Fort Caroline bread oven (1583) or could be placed on a cart (Ulrich von Richental’s *Concilium zu Constanz*, printed at Augsburg in 1483). A few wealthier New England households also were noted as having bake houses associated with them. For example, John Barnes, a Plymouth merchant, was noted in 1671 as having a bake house within which was inventoried 1 Iron pott 2 tubbs 1 paile 1 old hogshed 2 old barrell and a halfe bushe amounting to a grand total of one pound. Edward Winslow was noted as having a “backhouse” at his house in Plymouth, which may either indicate that he had an privy, a storage building behind the house, or could be a misreading of the word bake house. I have never seen the original deed so I can not say for sure if the word is bake house or back house.

It is not known where the oven was used in John and Elizabeth Howland’s house. The fragment bears a catalog number but this number corresponds to a location on the other side of the house away from the hearth. This means that the oven may have been separate from the hearth or that pieces of the oven were shifted about when the house burned.

Dr. Pococke, in 1730, noted that in Devonshire and Cornwall “they makke great use here of Cloume ovens, which are of earthen ware of several sizes, like an oven, and being heated they stop’em up and cover’em over with embers to keep in the heat.” (Watkins 1960: 31).

Non-Ceramic Artifacts

The non-ceramic artifacts that have a high degree of probability of dating to the 17th century occupation of the property by the Jenny's and Howlands numbered 5,244 pieces, principally architecturally related items and charcoal but including some very unique pieces (**Table 10**)

Table 10. 17th century artifacts from the John and Elizabeth Howland site

Class	Artifact	Count
Architectural		3409
	Hand-Wrought Nails	2159

	Hand-Wrought Spikes	19
	Brick	316
	Clay-Daub?	14
	Shell Mortar	121
	Plaster	170
	Hinges	13
	Pintle	1
	Flat Glass	451
	Lead Kames	7
	Architectural Wood	135
	Door Lock	1
	Key	1
	Staple Hinge	1
Vessel Glass		81
	Case Bottle	29
	Wine Bottle	24
	Small Bottle	7
	Pharmaceutical	13
	Ribbed Bottle	8
Firearms/ Armor		131
	Bifacial Gunflint	3
	Spall Gunflint	11
	Blade Gunflint	1
	Strike-a-light	5
	Debitage	62
	Lead shot	2
	Iron Trigger Guard?	1
	Armor Fragments	46
Tobacco Pipes		213
	6/64"	12
	7/64"	105
	Fleur-de-lis stamped stem	1
	Oval and zig zag stamped stem	1
	1650-1680 Bowl	5

	Heart Stamped on heel	1
	1645-1665 Bowl	3
	Heeless Funnel Bowl	1
	8/64"	49
	1620-1660 Bowl	1
	1645-1665 with C stamped on Heel	1
	1645-1665 Bowl	2
	1620-1660 Bowl	1
	1650-1680 Bowl	2
	Heeless Funnel Bowl	1
	9/64"	1
	Redware Pipe	3
	Steatite Pipe	1
	Stem Fragment	2
	Heeless Funnel Bowls	27
	Small Belly Bowl 1620-1660	2
	IC in Cartouch on Back of Bowl	1
	Medium Belly Bowl 1660-1680	1
	Bowl Fragments	8
	Iron Smoker's Companion	1
Personal Items		6
	Bead	1
	Brass Buckle	1
	Clothing Hook	2
	Brass Thimble	1
	Mouth Harp	1
Kitchen Items		132
	Puritan Spoon	1
	Knives	11
	Bone Handle from Knife	1
	Knife Rivets	3
	Bronze Cooking Pot leg	1
	Bronze Mortar	1
	Bronze Kettle	1

	Copper Kettle	11
	Copper Funnel	1
	Brass Kettle Ear	3
	Iron Kettle	69
	Hearth Chain	19
	Hearth Hook	2
	Iron Pail	6
	Scissors	2
Husbandry		47
	Iron Buckle	8
	Cotter Pin	2
	Horse Bit	3
	Horseshoe	12
	Horseshoe Nails	13
	Oxen Shoes	8
	Spur	1
Tools		20
	Whetstones	2
	File	1
	Bronze Scale Weight	1
	Auger	1
	Ax	1
	Chisel	1
	Wedge	5
	Fish hook	1
	Awl	3
	Tool Ferrule	1
	Pulley	1
	Scythe	2
Other		837
	Charcoal	662
	Stamped Brass Piece	1
	Iron Washer	2
	Iron Strap	1

	Iron Pieces	155
	Iron Rods	10
	Iron Ring	1
	Lead Strip	1
	Lead Glob	2
	Lead Strip	1
	Lead Ring	1
Total		4876

Architectural Class

This class of artifacts made up the largest percentage of finds from the previous digs at 3,409 pieces. Included in this class are fasteners and pieces of hardware related to the building, mortar and brick from the hearth and chimney, and lead and glass from the windows.

Hand Wrought Nails

Excavations resulted in the recovery of 2,159 hand wrought nails and nail fragments and 19 hand wrought spikes and spike fragments. Hand-wrought nails were made by specific craftspeople called “nailers” in the seventeenth and eighteenth 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.

A total of 500 were complete, measurable, nails and spikes, 1,001 were heads with fragments of the shanks, and the remaining 528 were fragments of shanks. These totals mean that the excavations recovered evidence of 1,501 hand wrought nails. This is a relatively low number for a structure as large as the Howland house was. At the Wing Fort House in sandwich, where an area measuring only 20 x 26' was excavated in 2014, 2,671 hand wrought nails were represented. This may mean that previous excavators were not as diligent as 21st century archaeologists at recovering all the artifacts encountered and screening the soil. The recovered assemblage is important and informative though. Nail sizes ranged from 1.5 to 18 cm in length (½ to 7 inches) with the majority being between 4.5 and 6 cm (1.8 and 2.4 inches) (n=272) in length and the next most common being between 3 and 4 cm (1.2 and 1.6 inches) (n=124) (**Table 11**). At the Wing Fort House the nails

Table 11. Hand Wrought Nail Size Distribution

Size	Penny Size	Count
1.5 cm	Brad	1
2.5 cm	2d	3
3 cm	3d	67
3.5 cm	3d	25
4 cm	4d	32

4.5 cm	5d	37
5 cm	6d	50
5.5 cm	7d	55
6 cm	8d	130
6.5 cm	8d	20
7 cm	9d	45
7.5 cm	10d	6
8 cm	12d	12
8.5 cm	12d	2
9 cm	16d	4
9.5 cm	18d	2
10 cm	20d	3
10.5 cm	20d	2
12 cm	30d	2
13 cm	40d	1
18 cm	70d	1
Total		500

ranged between 1 to 9 cm with the majority being 3 and 4 cm long (n=198) with the next most common being 5 and 6 cm (n=183). The smaller nails were probably used for clapboards or shingles while the larger ones would have been used for planks.

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.

Nail sizes correspond to their uses, with smaller nails used for fastening thinner wood and larger nails used for fastening thicker wood. A modern day rule of thumb is that in fastening sheathing, shingles, clapboard, etc., the nail should be at least three times longer than the thickness of the sheet or board being fastened. This means that the 2d to 6d nails, the majority of those recovered, were being used for fastening wood that was .3 to .6” thick, which would be appropriate for clapboards or shingles. The larger nails would have been used for larger pieces of wood. It is generally recommended that 8d nails should be used to nail 1” stock, sheathing, rough flooring and window and door trim. The use of 10d nails is limited to toenailing frames, and framing in general. Other sizes used in framing are 16d, 20d and 60d. Small nails like 3d to 8d are used for nailing clapboards and wood shingles with the smallest size used on lathe as well. Larger stock, such as 2-3” thick pieces, are nailed with 16-60d nails.

The presence of more larger nails at the Howland House, as well as the relative abundance of spikes, may indicate that the building was constructed using vertical planks nailed to a frame versus a frame featuring many separate architectural elements and clapboards. While there was a diversity of origins for the carpenters and housewrights who resided in Plymouth Colony, the houses that were built in the early colonies were often designed and built by the farmers themselves and represent examples of vernacular architecture. Richard Candee (1967) was one of the first architectural historians to suggest that the Dutch origins of many of the early colonists had to be taken into account when considering the surviving and recorded architectural styles present. The First Comers who arrived in 1620 had spent a 12 year sojourn in Holland before arriving. For example, in the first decade of settlement in Plymouth colony, there were a total of 457 immigrants, 94 of whom had solely Dutch backgrounds and the ratios were even higher in the first years (Candee 1967: 11). and surely must have been influenced by the houses they saw and inhabited during that time. The first building erected in Plymouth was begun on December 25, 1620 when men were sent out "some to fell timber, some to saw, some to rive, and some to carry" the sawn boards, riven pale or clapboards, and other "stuff for building" indicating a strong possibility that the first house was plank framed (Candee 1967: 11).

Constructing a house using vertical planks was a common feature of Dutch architecture in the early seventeenth century and one that appears to have been brought to New England by the colonists who had lived in Holland. Building a house using vertical planks involves the use of wide sawn boards used to cover a frame of widely spaced vertical timbers placed at the corners of the structure. The vertical planks are spiked to the horizontal sill and holes are drilled into the top plate and trunnels are driven in to secure them. Framed houses require more joints than planked houses and thus are more costly to build with regards to time and expense. Holes for casement windows were sawn possibly after erection and the frames were affixed to the boards. This method of construction was rare in seventeenth century New England, being limited in the early decades to Plymouth Colony and the northern corner of Rhode Island (which was settled by colonists from Plymouth Colony). Over 90% of surviving structures in Plymouth Colony prior to 1725 were built in this manner (Candee 1967: 41). Vertical planked structures were known to have been built as early as 1622 in Plymouth. When the fort on what is now Burial Hill was constructed in 1622 it was described by a Dutch visitor as being "built of thick sawn planks stayed with oak beams" (Candee 1967: 18). All the documented Plymouth Colony houses of plank construction had boards that were 1 1/4" thick and had their edges half beveled together (Candee 1967: 45). The exterior of these structures were covered with clapboards and the interiors were not plastered but were often wainscoted at the edges of the vertical board with a molding plane.

In Massachusetts Bay the agreement for the building of the meeting house in Manchester, built in 1719, specified "that the house shall be planked and not studded" (Cummings 1979: 89). The highest concentration of vertical plank houses is found to the North of Boston around Cape Ann but not one dates before 1680 (Cummings 1979: 89).

Bricks

Relatively few bricks are in the collection and Strickland noted a general paucity of bricks during his excavations. He attributed this to the fact that the chimney appears to have been constructed out of the abundant local stone and that brick work was limited to the jams on either side of the face of the hearth. Redware tiles were also present in the front of the hearth. None of the brick presently in the collection were large enough to measure to determine their approximate period of manufacture.

Bricks are first mentioned as having been made in Plymouth in 1643 when a Mr. Grimes was paid 11 shillings per 1000 for the bricks used in the construction of the watch house on Burial Hill that year (Davis 1883: 148). Fragments of tin-glazed (delft) tiles were also found in the collection, possibly indicating that the bricks jams and possibly the lintle were covered in blue and white decorative tiles. Alternately the floor in front of the hearth may have been covered with delft tiles. Possibly this is something that Elizabeth had seen while she lived in Holland, where it was commonly done, and wanted it recreated in her house at Rocky Nook. However it came about, the presence of delft tiles in the house would be indicative of higher status in the New World.

Shell-Mortar

The bricks were laid up in a shell mortar. Local sources of limestone that could be calcined to produce lime, were difficult to find in Massachusetts. A total of 121 pieces of shell-mortar are in the collection along with pieces of clay that may either be daub or clay mortar used on the lower courses of the chimney. With the abundance of shellfish around Rocky Nook, it is probably likely that the mason who set of the bricks and the stone chimney got his raw materials from close by the site. Clay is abundant along the shore from Plymouth to Duxbury, so this material probably came from adjacent to the site as well. The abundance of raw materials, rock, clay, shell, and probably to a limited degree timber, made Rocky Nook the ideal place to build.

Plaster

Fragments of what may be wall plaster are also in the collection. It is possible that only part of the interior of the house was plastered- perhaps either just the hall into which people would enter and where meals would be most commonly served (although there are records of dinners being served in chambers over first floor rooms).

Window Glass and Lead Kames

Abundant window glass was recovered by Strickland with a total of 451 pieces being present in the Plantation collection. Along with these pieces of window glass are seven lead window kames. These window kames are H-shaped in profile and are commonly found on houses dating to the seventeenth to early eighteenth century. They were eventually replaced with casement windows bearing rectangular panes similar to those found in houses today. The window leads were eventually removed and the lead melted as evidenced by the fragments of twisted lead kame that were recovered. Six window leads were recovered from the Ezra Perry II (Aptuxet Trading Post Museum Site) in Bourne. All of them are of the standard H shape and at least 2 have the following printed on the interior : "W.M. 1675 I.P.". This is the manufacturers printing to insure quality control. These turned leads in generally date from the seventeenth into the first half of the eighteenth century (Hume 1969:233).

One lead kame from the Howland House had the date 1681 printed on the inside, possibly indicating that someone was still living in, and repairing the house, in the 1680s. John Howland died in 1672/3 but Elizabeth is believed to have continued to live in the house until her removal to her son Jabez's household in Swansea, Massachusetts in 1680. The original Howland House may have been used by one of Joseph Howland's children before they had established their own household elsewhere.

Architectural Wood and Charcoal

Fragments of what may be architectural wood remain in the collection. The identifiable pieces appear to be oak. Many fragments of charcoal are also present and Strickland noted abundant evidence of charcoal across his excavation area. Oral history among the Howland family maintained that the house had burned during King Philip's War (1675-1677) but it is probable that the original Howland House burned some time after 1681. The extensive collection of ceramics and housewares as well as burned items that were recovered would support this scenario. The fire could have been the result of an accident in the aging hearth or, as the house is situated on the highest spot directly adjacent to the ocean, it may have been caused by a lightning strike. There is no evidence that the house was purposefully burned down during King Philip's War or in an attempt to retrieve nails after the building was abandoned (a common myth associated with old houses).

Iron Hardware

Many pieces of cupboard, interior and exterior door hinges were recovered, along with a door lock and key. One staple hinge, possibly from a chest, was also found in the collection. The presence of so many hinges is another good indication that the house was not systematically stripped but that at least part of it burned.

Vessel Glass

Relatively little vessel glass was found, with case bottle and wine bottle being the most abundant. Case bottles were used for transporting distilled liquors such as aqua vitae, rum, and gin. They are square shaped bottles and were shipped in wooden boxes or cases, with one case containing 6 to 12 bottles. Wine bottles were used to serve wine on dinner tables. The wine itself was shipped in wooden barrels and then distilled into bottles for use on the table. Other bottle present were small pharmaceuticals and a ribbed bottle commonly used to store small amounts of vinegar or oil for use on the table.

Firearms and Armor

The flint used in the gunflints used by the inhabitants as strike-a-lights to start their fires and in their flintlock muskets came originally from England where it was dredged up by ships from the rivers and served as ballast. Upon reaching the destination the flint ballast was unloaded and the hold filled with whatever goods were being transported back to England or elsewhere. Colonial inhabitants and Native people probably went to the beaches and recovered the flint from the dumped ballast piles and used it for their own purposes. English flint is commonly gray to dark gray in color and the majority, with the exception of two tan colored pieces, recovered from the site were identified as probably English.

There are three main types of gunflints which have been reported in the literature: Bifacial, spall, and blade. The bifacial gunflint, which has also been called the Nordic gunflint are believed to have been originally manufactured in the Jutland in Denmark and can be identified by the fact that they are flaked on both faces of the flint. Witthoft dates these to 1620-1675 (Witthoft 1966:22). This is a form which was also used by New World Natives when first producing gunflints. This earliest type of gunflint has been recovered from several early 17th century Plymouth Colony homesites.

The second type of gunflint is called the gunspall or Dutch flint. In the 1970s much debate had gone on as to whether or not these were actually produced in Holland as Witthoft states. Stephen White convincingly argued that they were in fact a product of England which was replaced circa 1780 by the blade technology for producing gunflints. Gunspalls result when short flakes are struck either from the concave or convex surface of a flint core. They are bulbous near the point of impact, taper to a feather edge, and have been described as wedge shaped. The flake is usually trimmed about the sides and near the bulb forming a rounded heel while the termination is usually left thin and square. The thin termination strikes the battery. Witthoft feels the Dutch were the main producers of them, and that they date from 1650 to 1700. While Witthoft's assertion that they were produced only by the Dutch as been overruled, the date he gives for their introduction is felt to be essentially correct. These were felt to have replaced the bifacial gunflints as lithic technology became more time efficient in producing a working gunflint in the shortest amount of time.

The final type of gunflint is the blade or French gunflint. These were in production by 1643 in France, and it is felt that the English adopted the technology in the later part of the 18th century. This technique produces a superior product with less waste than the spall gunflints. The blades are long, prismatic flakes, triangular or trapezoidal in cross-section, which have been struck from a polyhedral core with a hammer. Generally they have one facet on their ventral side and two or three on the dorsal side. Their production began as early as 1643 at Meusnes in France and are generally produced out of tan or blonde flint characteristic of the region. They are believed to have replaced the gunspalls by 1750.

Three bifacial, 11 spall type, and one blade gunflint were recovered. This distribution fits in well with the estimated occupation range for the site. The size of the gunflints- averaging 2.5 cm (1") long, is indicative of their use on muskets and fowlers versus pistols (which would have used smaller flints).

Additionally, five pieces of flint strike-a-lights and hatter were recovered. These strike-a-lights were probably used for starting fires in the hearth. The moderate abundance of flint chipping debris and reduction debitage indicates that the inhabitants probably purchased their gunflints and did a small amount of knapping their own gunflints from nodules either collected or purchased.

Proceeding with the excavations from this point, it required several days before we could clear the north wall and later on the foundations of the west wall. The latter proved the most difficult task of all because this west wall was in effect the chimney which had been built almost entirely of stone laid up with clay, the only form of mortar then at hand. A great mass of stone had to be sifted and moved in order to lay bare the form of the fire-place and hearth.

As the excavation of the hearth proceeded we encountered a large piece of metal, still unidentified. This metal is badly corroded, in fact it is a wonder that it survived at all, buried in clay which holds moisture at all times. It was thought to have been the top of a strong box or a piece of armor. The dimensions of this sheet of iron are 11 1/2" x 15 1/2" and its surface seems to have been covered with rivets. This object was located in the northerly end of the fire-place and great care was taken to preserve it intact. Working about to the south, before it was finally released, we found a second spoon. This spoon while not as perfect as the first, is still in very good state of preservation, lacking only the finial at the top of the handle.

Sept. 25th

11:00 a.m. C.R. Strickland working with Bert White found a piece of iron with a clasp Hinge 15 1/4" x 11 1/4" probably the lid of a strong-box. Great care taking care of this, which was removed finally at 3 p.m.

Sept. 27th 10:30 a.m.

C.R. Strickland finally has entire hearth of fireplace cleared out. There are stones missing from under fire hearth 2' in from the south end. The pit is full of ash, charcoal and red clay. A stone of soft granite, which was lying in front of the outer hearth just fits in approximately half of this opening. The iron box lid was found right next to this hole. (Sidney Strickland excavation notes for the C-3 John Howland Site)

What the excavators found and so carefully recovered, was not a strongbox lid (which would have supported the local story that treasure was buried at the site), but was something more exciting- a tasset from a piece of armor. Pikeman's armor in fact. The first of two known pieces of armor from Plymouth Colony. Alexander Young once mused that "One of their corslets would be a far more precious relic than a cuirass from the field of Waterloo." (Young 1864: 134). While not a corslet, I believe that the tasset from the Howland site would satisfy Young's desire.

Armor was a prerequisite for seventeenth century settlement in the New World, just as it was a crucial component of European military warfare. It protected against edge weapons as well as against musket balls, and in the case of the New World, against arrows. By the 1620s, previous English experience in Virginia had shown potential colonists that full or even half suits of armor were not needed or desirable for the New World colonization experience. A survey of probate inventories from Plymouth Colony, shown below and compiled by PARP, shows that headpieces (helmets) and corsletts (breast plates) were the most common items to be found in the inventories.

Armor	1630s	1640s	1650s	1660s	1670s	1680s
Armour	1		2		1	4
Head Piece		1	3			4
Old Head Piece		1				1
Cosett (corslett)		3	4			7
Buff Coat		1		1		2

Mourt's Relation, a chronicle of the colonist's first year in Plymouth believed to have been authored by William Bradford and Edward Winslow, records that armor was worn by the first men who explored Cape Cod in November of 1620 "... sixteene men were set out with every man his Musket, Sword, and Corslet, under the conduct of Captaine Miles Standish..." (Young 1864: 125). The armor proved effective against thorns and brush that colonists encountered on Cape Cod "... which tore our very armor in pieces" (Young 1864: 128). But the armor could prove a hinderance, limiting movement and fortunately for the Natives on Cape Cod, the ability to carry the Nauset Native's maize that the colonists "discovered". The colonists could only carry some of it and "The rest [of the maize] we buried again; for we were so laden with armor that we could carry no more." (Young 1864: 134). Armor only works to provide protection from musket balls and arrows if the

owner is wearing it, as the colonists found out when, early one November morning, the Natives, possibly the owners of the “discovered” maize, taught them.

“About five o’clock in the morning we began to be stirring; and two or three, which doubted whether their pieces would go off or no, made trial of them and shot them off, but thought nothing at all. After prayer we prepared ourselves for breakfast, and for a journey ; and it being now the twilight in the morning, it was thought meet to carry the things down to the shallop. Some said it was not best to carry the armor down. Others said, they would be readier. Two or three said, they would not carry theirs till they went themselves, but mistrusting nothing at all. As it fell out, the water not being high enough, they laid the things down upon the shore, and came up to breakfast. Anon, all upon a sudden, we heard a great and strange cry, which we knew to be the same voices, though they varied their notes. One of our company, being abroad, came running in, and cried, ” They are men ! Indians! Indians! ” and withal their arrows came flying amongst us. Our men ran out with all speed to recover their arms; as by the good providence of God they did. In the mean time, Captain Miles Standish, having a snaphance ready, made a shot” (Young 1864: 156).

Possibly, the potential effectiveness of the armor to protect the wearer from arrows, was not lost on the Natives. When the colonists had their first meeting with the Pokonoket sachem Massasoit, “Our messenger made a speech unto him, that King James saluted him with words of love and peace, and did accept of him as his friend and ally; and that our governor desired to see him and to truck with him, and to confirm a peace with him, as his next neighbour. He liked well of the speech, and heard it attentively, though the interpreters did not well express it. After he had eaten and drunk himself, and given the rest to his company, he looked upon our messenger’s sword and armor, which he had on, with intimation of his desire to buy it; but, on the other side, our messenger showed his unwillingness to part with it.” (Young 1864:192).

The Plymouth colonists arrived with a specific military discipline in mind, one which was enacted by Captain Myles Standish. While their military establishment was likely implemented much earlier, in 1643 it was formerly recorded:

Establishment Of A Millitary Company Aug. 29, 1643.

The Court hath allowed & established a military discipline to be erected and mayntained by the Towns of Plimouth Duxborrow and Marshfield and have also heard their orders and established them— viz—

Orders.

1. That the exercise be alwayes begun and ended with prayer.
2. That there be one procured to preach them a sermon once a yeare, viz at the eleccon of their officers and the first to begin in Septr next.
3. That none shalbe received into this Millitary Company but such as are of honest and good report & freemen not servants, and shalbe well approved by the Officers and the whole Company or the major part.
4. That every person after they have recorded their names in the Millitary List shall from tyme to tyme be subject to the Comaunds and Orders of the Officers of this Millitary Company in their places respectively.

5. That every delinquent shalbe punished at the discretion of the Officers and the Military Company or the major part thereof according to the order of Millitary discipline & nature of the offence.
6. That all talking and not keepeing sylence during the time of the exercise jereing quarrelling fighting depring collers without lycence or dismission &c or any other misdemeanor, (so adjudged to be by the Officers and the Company or the majr pt thereof) to be accounted misdemeanors to be punished as aforesaid.
7. That every man that shalbe absent (except he be sick or some extrordinary occation or hand of God upon him) shall pay for every such default II*- And if he refuse to pay it upon demaund or within one month after then to appear before the Company and be distrayned for it and put out of the list.
8. That if any man shall (upon the dayes appoynted) come without his armes or wth defective armes shall forfeite for every trayneing day as followeth—

For want of a musket or a peece approved every time	6 shillings
For want of a sword	6 shillings
For want of a vest	6 shillings
For want of bandelires	6 shillings
Six months tyme given to prvide in.	

9. That every man that hath entred himself upon the military list and hath not sufficient armes & doth not or will not procure them wthin six months next ensuing his name to be put out of the list.
10. That there be but sixteene pikes in the whole company (or at the most for the third pt) viz—8 for Plimouth 6 for Duxborrow and 2 for Marshfield
11. That all that are or shalbe elected chiefe Officers in this Millitary Company shall be so titled and forever afterwards be so reputed except he obtayne a higher place.
12. That every man entred into the Millitary list shall pay VIrf the quarter to the use of the Company.
13. That when any of this Millitary Company shall dye or depart this life the company upon warneing shall come together with their armes and inter his corpes as a souldier and according to his place and quallytye.
14. That all that shalbe admitted into this Millitary Company shall first take the oath of fydellyty if they have not taken it already or els be not admitted.
15. That all postures of pike and musket, motions rankes and files &c messengers skirmishes seiges batteries watches sentinells &c bee alwayes prformed according to true millitary discipline.
16. That all that will enter themselves upon this Company shalbe propounded one day received the next day if they be approved.

Obviously, pike companies formed at least a part of the Plymouth Colony militia, but possibly only a small part as the record states that there will be BUT 16 pikes in the whole company and that there was no fine for forgetting to bring your pike to drill.

It is interesting to note that on the first exploring mission on Cape Cod, 16 men were equipped with armor, and the 1643 muster identifies 16 pikemen. The armor worn by the first 16 explorers may have been public/ colony owned armor which was subsequently used for the pike company. The Massachusetts Bay Colony left London with plate armor for 60 pikemen in their stores which had

been purchased from Thomas Stevens of London. The March 6, 1628 purchase agreement between Stevens and the Colony stated thus:

“Agreement with Thomas Stevens, in Buttolph Lane for 20 armes, viz, corselet, breat, back, culet, gorgett, tases & head piece, all varnished and black. 17s each except 4 with closed helmets, these 24 s each.” (Peterson 2000:142).

Meaning you could buy a set of pikeman’s armor for 17 shillings.

Sidney Strickland recovered a piece of armor, presumably John Howland’s, from the excavation of John and Elizabeth Howland’s hearth. The piece is what is termed a tasset which is part of a two-piece apron that hung below the breastplate (aka the corslett), and protected the upper legs. The tasset was a component of the type of armor that pikemen wore. Pikemen were obviously the men who wielded the pikes in the militia.

The pike is a pole arm that varies in length from three to six meters (10-20 feet) (the full pike) or, for a half pike, 10 feet or less. The pole of the pike was made of ash, a strong flexible wood, with a head made of iron. On either side of the head, langets (metal strips) were affixed. The langets made it more difficult for mounted cavalry to slice off the heads with swords. Pikes were used as passive defensive weapons by arranging them in a hedgehog formation with the butt firmly planted against the foot and shaft tilted at a 45° angle towards the oncoming enemy. Pikes also served as aggressive weapons where the pikemen could position themselves to present a moving wall of pike heads that would be effective protection for the infantry against cavalry attacks. Unfortunately, as the pike mass consisted of men all facing the same direction, it was difficult for them to turn and maneuver against an enemy attacking their flanks or rear. Single pikemen from opposing forces could also duel against each other in single combat. Pike troops were most effective at rolling over an enemy before the enemy had a chance to out flank them. This made them potentially effective against attacks by Native warriors, if they were able to advance on attacking warriors, they could in theory rout them from their position and potentially gain strategic locations. They could also be used effectively to drive an enemy away from a fortification. Unfortunately, if the drive disintegrated into a close quarter meelee, the pikes were useless. Pikemen carried edge weapons such as daggers and swords, which would be used for hand to hand combat when the pike was rendered useless.

The armor worn by the pikeman most commonly consisted of a comb-cap (aka pikeman’s pot) helmet that offered protection against cavalry blows and musket shots to the head. The cuirass, was the set of torso armor, the backplate and the corslett that could be worn on top of a buff coat (a thick leather coat that could stop pistol shot and arrows) or possibly a padded/ quilted coat. The two halves of the cuirass were attached together by leather shoulder straps bearing iron plates for protection, and a narrow leather waist belt. Tassets were attached to the lower end of the corslett. These came in a left and a right pair, with the right overlapping the left like a coat. In earlier examples, each lame, the nine plates that overlap to make the tasset, were individual, being attached together by rivets and leather straps, making the hole tasset flexible like a lobster tail. Later century tassets were forged as one piece, often retaining pseudo-lames with rivets that now were merely decorative. The tassets were attached to the corslett by means of two to three hooks on each tasset which locked via corresponding eyes on the corslett. The entire armor set weighed between 45 and 60 pounds.

Pikemen armor may have continued to see use though. With the discard of the tassets, the corslett and backplate would provide an effective bullet-proof shell. The protection provided against Native arrows was likely one of the reasons why corsletts appear frequently in the probate inventories. The widespread adoption of the flintlock musket rendered pikemen useless in battle. The pike appears to have been abandoned in New England by the late seventeenth century, especially after King Philip's War. During this conflict, the English were faced with an enemy that fought with guerrilla warfare tactics, making companies of pikemen nothing more than large, slow moving targets that could easily be outflanked. The General Court in Massachusetts Bay in 1675 ruled that "Whereas it is found by experience that troopers & pikemen are of little use in the present warr wth the Indians... all pikemen are hereby required...to furnish themselves wth fire armes..." (Peterson 2000:99). The prominence of the musket as the main weapon of war and the relative elimination of the Native threat in Plymouth Colony, led to the end of armor being seen as a necessity for the soldier. Armor, specifically corsletts, continued to be used into the eighteenth century.

It is interesting to note that on the first exploring mission on Cape Cod, 16 men were equipped with armor, and the 1643 muster identifies 16 pikemen. The armor worn by the first 16 explorers may have been public/ colony owned armor which was subsequently used for the pike company. The Massachusetts Bay Colony left London with plate armor for 60 pikemen in their stores which had been purchased from Thomas Stevens of London. The March 6, 1628 purchase agreement between Stevens and the Colony stated thus:

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Meaning you could buy a set of pikeman's armor for 17 shillings. It is unknown if this is a wholesale or retail cost.

The tasset from the Howland site is of the single-pieces, pseudo-lame design. This design became popular by the time of the Pilgrim's colonization. No pieces of of this type of tasset have been recovered from Jamestown in Virginia (1607), but several elements from a Massachusetts Bay colonist's (1630) pikeman's suit bearing the same type of tasset do survive. One lame from a separate lame tasset was recovered from the John Alden site in Duxbury when the site was excavated by Roland Robbins. The Howland tasset is a right side tasset that bears a circular designs made from rivets, a common decoration on tassets. It measures 36 cm wide at the top, at 14 cm down from the top it measures 38 cm and is 39.5 cm wide at the bottom, the whole being 29 cm tall. The first four pseudo-lames are 3.2 cm wide while th last five are 3.7 cm wide. The hinges are 12.4 cm long and 3.2 cm wide. Its presence in the hearth may indicate that it was being used either as a fireback or it may have been used to cover the hole in the hearth that it lay near.

Tobacco Pipes

Clay tobacco pipes are 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 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 and Binford 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.

This dating by stem bores was initially believed to be the answer to the problem of dating sites. This theory in decreasing stem size was based on the fact that pipe stem lengths were of an increasingly longer length over time. This resulted in a smaller stem bore as the length increased. Of course, dating artifacts is never as easy as Harrington and Binford felt that it could be. In reality, the dates for the different pipe stem bores represent the specific periods of greatest popularity for those sizes, so there is a degree of over lap with all of these sizes. When the 7/64" were in their greatest popularity, there were still 8/64" being made, and later in their period of popularity there were 6/64" being made. For example, Hume shows a chart on which he estimates the percentages of production at different time periods for different bore diameters:

Date range	9/64"	8/64"	7/64"	6/64"	5/64"	4/64"
1620-1650	20%	59%	21%			
1650-1680		25%	57%	18%		
1680-1710			16%	72%	12%	
1710-1750				15%	72%	13%
1750-1800				3%	20%	74%

These percentages all represent the popularity of the sizes at the median date of production. In the early years of the different size's production there would have been a greater percentage of the earlier sizes bores. As one moves through the production period the earlier sizes would be phased out and the next smaller size would begin towards the middle to end of the period, moving into the next period. But one can assume that there was never any regularity to the production outputs by various producers in the different times for the different bores.

Bearing in mind the imprecision of stem bores as an absolute dating tool, what can be accomplished using these stem bores is to see when the range of activity at the site occurred. Sites with small percentages of 9/64" stems, large percentages of 8/64" stems and a small percentage of 7/64" stems can be assumed to have their maximum period of occupation between the 1620 to 1650 period. Different features on the site can also be looked at individually to see if the percentage of stem bores within them varies between them. If a palisade trench has a greater percentage of 8/64" stems than a cellar hole that has more 7/64" stems, then possibly the palisade was filled before the cellar. This needs to be compared with the other artifacts to see if it support that hypothesis.

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 (Noel Hume 1969: 303).

A total of 213 tobacco pipe fragments are present in the collection. The stem bore sizes ranged from 9/64" to 6/64" with the majority measuring 7/64" (n=105) and 8/64" (n=49), indicating a relative date of occupation range of 1580 to 1710 with a concentration in the 1620-1680 range. The median date of occupation for the site is 1655 (range 1630-1680) and the median date arrived at by means of stem bore analysis is 1658.6, a date that compliments the presumed date established by the historical records and possibly indicating occupation extending past the presumed end date (1680 when Elizabeth left for Swansea). This distribution compares well with other 17th century Plymouth Colony sites (**Figure 21**).

Identifiable pipe bowl styles were heavily biased to heeless funnel types, a type first produced in the last half of the 17th century and often used in trade with the Native population. The predominance of this type of pipe may indicate either a higher rate of smoking in the later part of the occupation or that the occupants may have been involved in trading in the last part of the occupation. Other identifiable pipe bowls included small and medium sized belly bowls of the early to late 17th century (**Figure 22**).

Decorated and pipes stamped with maker's marks were also found. Stems stamped with Fleur-de-lis are common Dutch designs dating from 1625-1660. Stems marked with ovals and zig-zags are associated with Bristol pipe maker Llewellyn Evans who plied his trade between 1661 and 1689. Strickland reported finding this pipe stem 6' to the east of the front door. One pipe bowl had a heart stamped on the underside of the heel. This mark dates to 1650-1670. The pipe bowl marked with IC on the back of the bowl probably dates to the late 17th to 18th century.

Two fragments of redware pipes were also found. Red clay tobacco pipes are common in New England on late seventeenth century sites associated with people involved with trade with the Natives: Pentagoet (1635-1674) and the Clarke and Lake site (1654-1676) in Maine; Burr's Hill (c.1660-1676) a Wampanoag Indian burial ground in Bristol Rhode Island; and the ATPM/ Ezra Perry II (ca. 1676), C-1/ William Clark (1635-1676), C-21/ Isaac Allerton-Thomas Cushman (1650-1699), respectively, in Bourne, Plymouth and Kingston, Massachusetts (Faulkner 1987:171; Baker 1985:25; Gibson 1980:164).

Pipes of this type are generally found on sites in Maine at least dating from 1660-1676 and never make up a large percentage of the assemblage (Faulkner 1987:171). Redware pipes in New England appear to have European precedents in white clay, but closer to home, red clay pipes were produced in Virginia from the very earliest years of settlement and later, by the 1630s, in Charlestown, Massachusetts. These pipes may have been produced to supply a commodity for trade that originally coming from England or Holland, but which could be produced at home at a lower cost.

Personal Items

Only a limited number of personal items were found, and at least two of these may actually be trade items. One maroon glass bead with white stripes, typical of the late 17th century was found. This

could easily have been a trade item, as could the iron mouth harp. These would be typical of the “trifles” that the English described as having been traded to the Natives as signs of good will or in exchange for furs. These two items provide further support for the “John Howland as a trader” hypothesis. Other than these two items, one brass buckle, two iron clothing hooks, and one brass thimble (which could have been a trading item as well) were recovered. The relative lack of personal items may mean that these had been removed prior to the possible fire that destroyed the house.

Kitchen Items

Many kitchen related items were found, including bronze, copper and iron cooking pots, knives and knife parts, hearth chain links and hearth hooks, a bronze mortar, iron scissors, and an iron pail. Kettles, both iron and brass/ copper were popular items for trade and were also common on English hearths. The quantity of kettles at the site would argue against their use simply as cooking items by the Howlands. Several kettle fragments were also found with straw preserved between them. This may have been placed there during transportation and may indicate that these were trade goods lost when the house burned.

In a 1949 article on latten spoons from the Old Colony, Percy Raymond described the spoons from the Howland House as follows:

“An especially well preserved seal-top round here was illustrated in the Boston Transcript, August 27, 1938. Fragments or other seal-tops, all or the usual "long" type were round. The complete specimen is unusual in that it shows an embryo rat-tail. This is merely a slightly raised equilateral triangle. The touch, a crown above a heart, surrounded by the words DOUBLE TINNED, was seen by Price on a trifold-end spoon. The date would therefore be after 1660.” (Raymond 1949: 9).

Strickland recorded in his notes that six latten spoons were found in 1937:

- one at point at side of or below a sill between entrance step and inside stones
- one 5' from SE corner (of hearth?)
- two at the Center of hearth in ashes and clay
- one directly south of south wall running off chimney 8" down 5'6" out
- one 7' south of south wall outside 11' from west wall

One spoon fragment remains in the collection that Plimoth Plantation curates, a single fragment of what appears to be a Puritan spoon handle. These spoons were used in the late 17th century.

A large collection of iron knives (n=11), some knife rivets and a fragment of a bone knife handle were found. these knives may have been used for trade, as 11 seems like a large number for a household. Knives were also common at the C-1/ William Clark homesite (n=23), which was a known trader's house in Plymouth.

Husbandry Items

The most common husbandry tools were related to horses and oxen. New England's rocky soils were not really favorable to the use of horse as work animals for pulling plows so oxen took over that job. Archaeological work at other sites have shown that two different size horses were common on 17th century Plymouth Colony sites: ponies or pack horses and larger riding horses. Pack horses would be used for jobs such as carrying sacks of grain to the mill, riding horses would be used to

show off their owner's status and for journeys where speed was needed. The iron buckles that were recovered would have been used on harnesses and tack associated with both the horses and the oxen. The cotter pins would have been used on wagons and other farm equipment.

The presence of horses and oxen indicate that there should be evidence of a stable and a cow house somewhere on the site. These buildings would commonly be placed on the south, west, or east sides of the house with their entrances facing south.

Tools

Numerous tools are noted in John Howland's probate inventory. This indicates that he was someone who was accustomed to carpentry and probably home repairs. The tools recorded in his probate also correlate well with those found archaeologically, which may be another indication that the house met a calamitous end versus being systematically dismantled or just abandoned. Along with the tools were a file and the whetstones that John Howland would have used to sharpen his tool edges. One fish hook, which could have been used to fish in the bay from the canoe mentioned in the inventory, and one iron part of a wooden pulley block were also found.

One of the most interesting tools recovered was a bronze scale weight. This diminutive square piece of metal is stamped on one side with the image of the angel St. Michael slaying the dragon and on the other side with a ship. This weight was used to assess the weight of a gold coin called an Angel-noble. The weight would have weighed the same as the gold coin and would have been used to determine if the coin was genuine and if its weight had been tampered with at all. Angel-nobles were first minted in 1465 and continued to be minted until 1642. The value of the coin varied from 6s8 d (one third of a pound) to 11s over the course of its use life. This coin ceased to be used after 1663 when it was replaced with the guinea.

Someone who owned a coin weight such as this usually had a complete set of weights and would be someone involved with trading or finance.

Miscellaneous Metal

A total of 175 other pieces of miscellaneous metal were also found. These pieces were either scrap or were pieces which could not be identified further than by a general shape and material description.

Faunal remains

One of the remarkable things about Strickland's excavations is that he appears to have saved a lot materials that other excavators at the same time didn't. One of those materials were faunal remains, bones and shellfish remains (**Table 12**). Typically on Colonial sites, domestic mammals make up

Table 12. Faunal remains recovered by Strickland

Species	Part	Count
Calcined		42
Bird	Longbone	1
Large Mammal	Longbone	20
Mammal	Longbone	1

Medium Mammal	Longbone and Flatbone	19
Sturgeon	Scute	1
Burned		4
Large Mammal	Longbone	2
Medium Mammal	Longbone	2
Medium Mammal		4
	Flatbone	4
Deer		5
	Antler	2
	Maxillary M1-3	2
	Cranial	1
Sheep		22
	Lumbar Vertebra	1
	Molar	9
	Cranial	2
	Astragalous	1
	Phalange	1
	Radius	1
	Rib	3
	Metatarsal	2
	Humerus	2
Swine		20
	Calcaneum	1
	Canine Tooth	3
	Fibula	1
	Incisor	2
	Maxillary M1-3	1
	Radius	1
	Molar 2	2
	Molar 3	2
	Molar 1	1
	Premolar 1	1
	Premolar 2	1
	Phalange	1

	Molar 4	1
	Tibia	1
	Humerus	1
Cattle		15
	Tibia	2
	Ulna	1
	Incisor 1	2
	Molar 3	1
	Molar 2	3
	Rib	2
	Incisor 2	1
	Incisor 3	1
	Mandibular M2-3	1
	Phalange	1
Bird		2
	Radius	1
	Ulna	2
Box Turtle		1
	Carapace	1
Whale		2
	Rib	1
	Tooth root	1
Total		117
Shellfish		251
	Surf Clam	12
	Soft Shell Clam	121
	Quahog	106
	Moonsnail	4
	Oyster	5
	Periwinkle	1
	Ribbed Mussel	1
	Unknown	1
Total Bone and Shell		368

the largest percentage of the assemblage, and the John and Elizabeth Howland house is no

exception. Cattle, swine and sheep occur in almost equal numbers (n=20, 15, and 22 respectively) with a minimum of three cattle, two swine and one sheep being represented. John Howland's probate shows all of these animals being represented with sheep making up the largest number. The Howlands were raising sheep for wool versus meat, so it is not surprising to find only one sheep represented in the assemblage. The one sheep represented appears to be an older individual, a finding that is also consistent with sheep husbandry for wool versus meat.

Other species represented were a small amount of unidentified bird, sturgeon (which probably would have been caught in the Jones River), sturgeon, deer, and whale. Unfortunately, Strickland's context control and locational information recording were not strict enough that we are able to say with a high degree of confidence that they all came from the Colonial versus the Native occupation, but, because he did not record the presence of any Native pits or middens, it is likely that they were eaten by the Howlands. It is surprising that more fish remains and bird remains were recovered, but this is probably due more to Strickland's excavation techniques versus a lack of use of these species.

A wide variety of shellfish species were represented as well, with soft shell clam and quahog dominating. Other species made up a much smaller percentage of the occurrence.

Conclusions

Without the archaeological investigation carried out in the 1930s by Sidney Strickland, we would really only know the basics of the last phase of John And Elizabeth Howland's lives at Rocky Nook. Thanks to the meticulous recording by the appraisers of John's estate upon his death in 1672, we know a good deal about what was in their house in that year. We have a good idea of the crops they were growing, of the animals they were raising, and of the material culture within their house, but by relying just on the probate we really don't know the intimate details of their lives. What did their house look like? How was it laid out? How big was it and how big were the rooms within it? Where did they throw out their trash? Did Native people live on the land before the Howlands? How did John's experience with the trading post in Maine affect his life? So many questions would have remained unanswered if the Howland Society had not authorized the initial excavations in 1937, but thanks to that work and the present analysis, we are in a position where we can provide some real concrete information about the entire history of the site.

People had been living on the property for up to 8,000 years before any European ever saw Rocky nook. They continued to use the land sporadically up until the 17th century probably, maybe even right up until the Nook was settled by John Jenney. We know that there is an archaeological site not too far away from Rocky Nook where a Native homesite was found and within that homesite, a pit was found containing the remains of a domestic rooster and some glass trade beads. This shows that Native people continued to live in the Kingston area even after Plymouth was settled.

John Jenney is believed to have been granted the land he settled on in 1627 when Plymouth was expanding the original settler's grants. He built a house and barn and lived on the land until he sold it to John Howland in 1638. What is not known is what Jenney's house looked like. Was his house the same house that John and Elizabeth lived in, the same house that Strickland excavated in 1937? It may have been, but it is just as likely that Jenney built a quick temporary type of house like others that have been consistently found associated with the initial settlements of 17th century site sin Plymouth Colony.

What is known is that at some point the Howlands did live in the house that Strickland excavated.

That house is what would have been known as a fair, framed house in the 17th century, definitely a step above any sort of initial starter house that may have stood on the property. Archaeologically it was shown to have had a stone foundation and a west wall that appears to have entirely been out of stone. The hearth appears to have been made of stone but was faced with brick jams that may have supported the lintel. The bricks would have provided a bit of decoration to the stone hearth. Tin-glazed tile fragments were also recovered, possibly indicating that they were located on the front or in front of the hearth. At the back of the hearth a piece of John's armor, possibly the same armor that he wore in the very earliest days of the colony, possibly even John Carver's armor, had been reused as a fireback. The frame of the house was probably oak and due to the presence of many iron spikes, it may have been of plank frame construction.

The artifacts recovered by Strickland seem to show that John Howland was definitely involved to some degree with trade, possibly as a trader himself or at least as a purchaser of goods especially from the North Devon region. The ceramic assemblage has the highest occurrence of wares from that region of any site in New England that I know of and the presence of the Gold Angel scale weight and numerous knives and a bead may indicate that he was more than just a purchaser, that he was an active trader at least at some point in his life. The finding of fragments of a North Devon clove oven is also unique for anywhere in New England.

Following John's death and Elizabeth's removal to Swansea to live with her son Jabez, someone continued to live at the site or at least to deposit refuse here. Strickland found a coin dating to 1685 and another dating to 1695 during his digging. Analysis of the artifacts found a window lead with the date of 1681 on the interior. These artifacts may have come from use of the building or at least the outbuildings by Joseph Howland and his children, all of whom lived just across the road from the original Howland homesite. Occupation appears to have continued into the 18th and possibly the 19th century as many domestic artifacts dating from those centuries are also present in the collection. Further investigation of the site, especially the area to the south, may help to locate any evidence of later occupation.

Recommendations

I would recommend clearing off the threshold and possibly the hearth down to their original stone surfaces. These features consist of large flat stones and exposing them would really help to allow visitors to visualize where the house was. The hearth was the center place of the Colonial home and the threshold was the portal from the chaos of the outside world to the sanctity of the home. Clearing and preserving these areas for viewing would allow people to really get a feeling for where John and Elizabeth walked, talked, and lived their daily lives. I would also recommend bringing in stones, preferably larger cobbles, and outlining the foundation walls of the house. Along with this delineation of the house walls I recommend the erection of signage on the roadway and at the site that would help to guide people to the site and interpret what was there. Clearing of brush and the maintenance of the cleared area, especially along the west side fronting the road, would probably help deter future vandalism and general loitering by people bent on no good. If people who should not be there do not have a place to hide, they generally will not linger long.

I would recommend further exploration of the yard area to the south of the house to try to determine the position of outbuildings associated with the 17th century occupation of the site. We know that Strickland had uncovered some possible foundations and that he interpreted them as being associated with John Howland's barn, but this has not been proven.

I would also recommend testing to the north of the existing house foundation in order to look for evidence of any earlier house, possibly the John Jenney and early John Howland house. This testing could take the form of 50 cm square test pits placed in a tight grid pattern (10-15' apart) followed by larger units that could explore any features or artifact concentrations.

Large area excavation to the south of the Strickland excavation area would help to determine if any later occupation is present. Foundation and possible cellar holes are present in this area and their relation to the earlier occupation needs to be determined.

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APPENDIX A

FIGURES



Figure 1. Soils within John Howland's bounds on Rocky Nook (Red line is the Howland Cooke boundary; Black rectangle is the Howland House) 73A: Whitman Loam; 309B: Moshup Loam 427B: Newfields Fine Sandy Loam; 453B: Gloucester-Canton Complex; 623B: Woodbridge Scituate Urban; 635C: Canton Urban

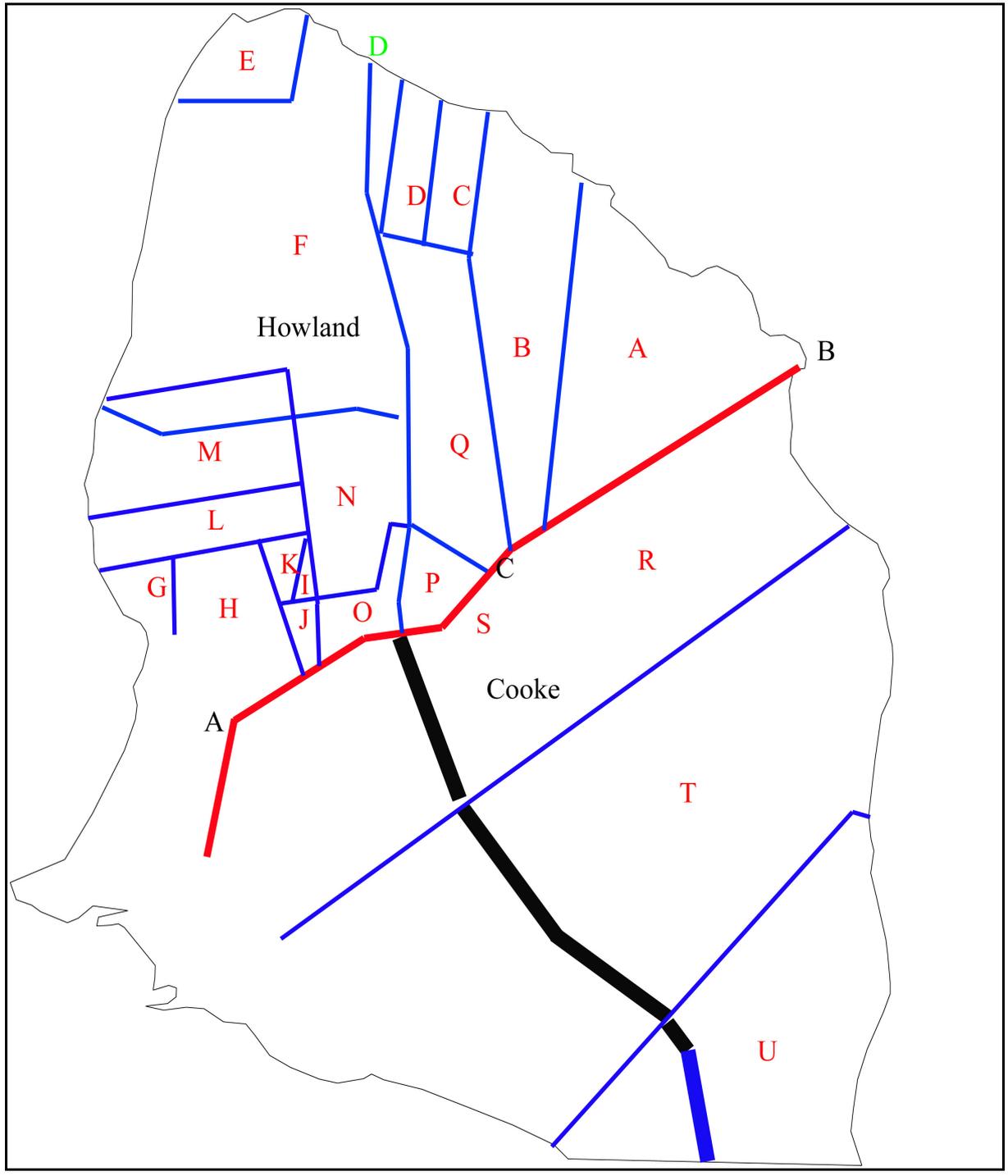


Figure 2. John Howland's land at Rocky Nook

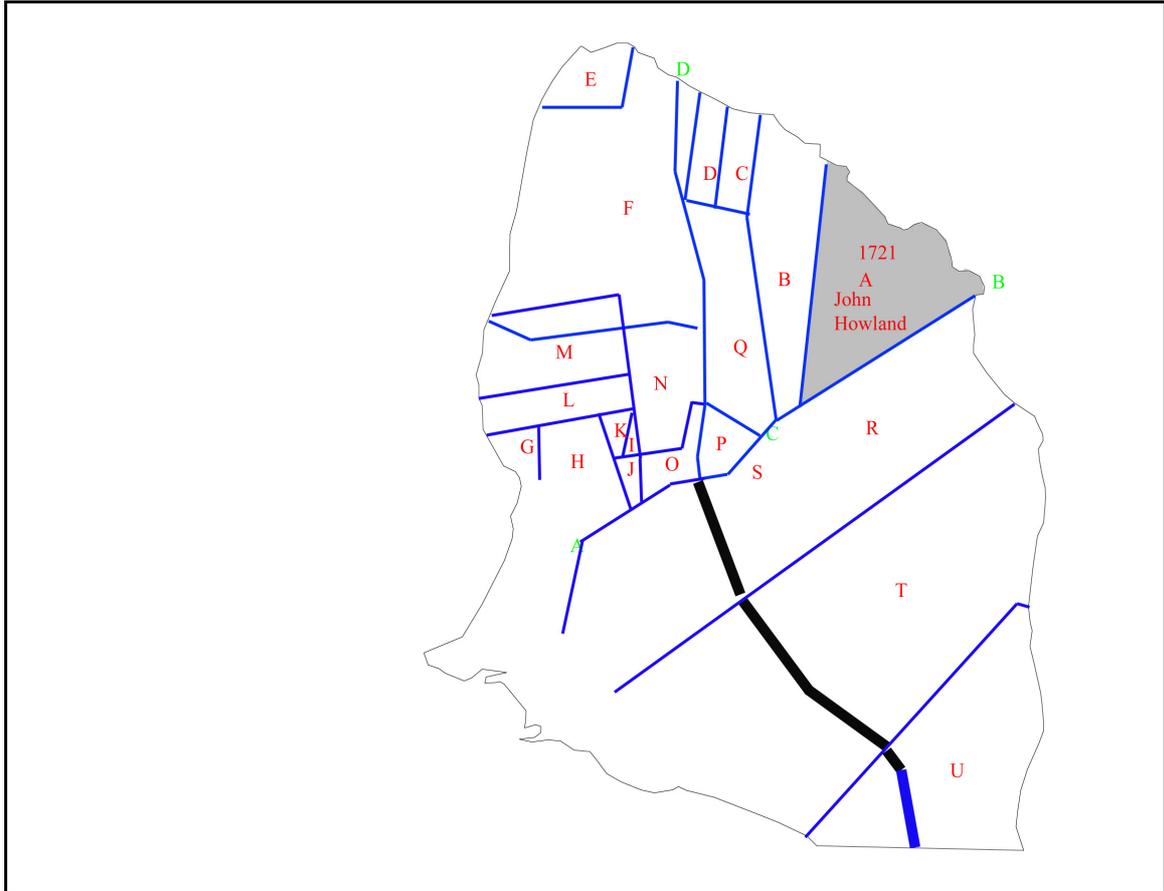


Figure 3. James Howland to John Howland 1721

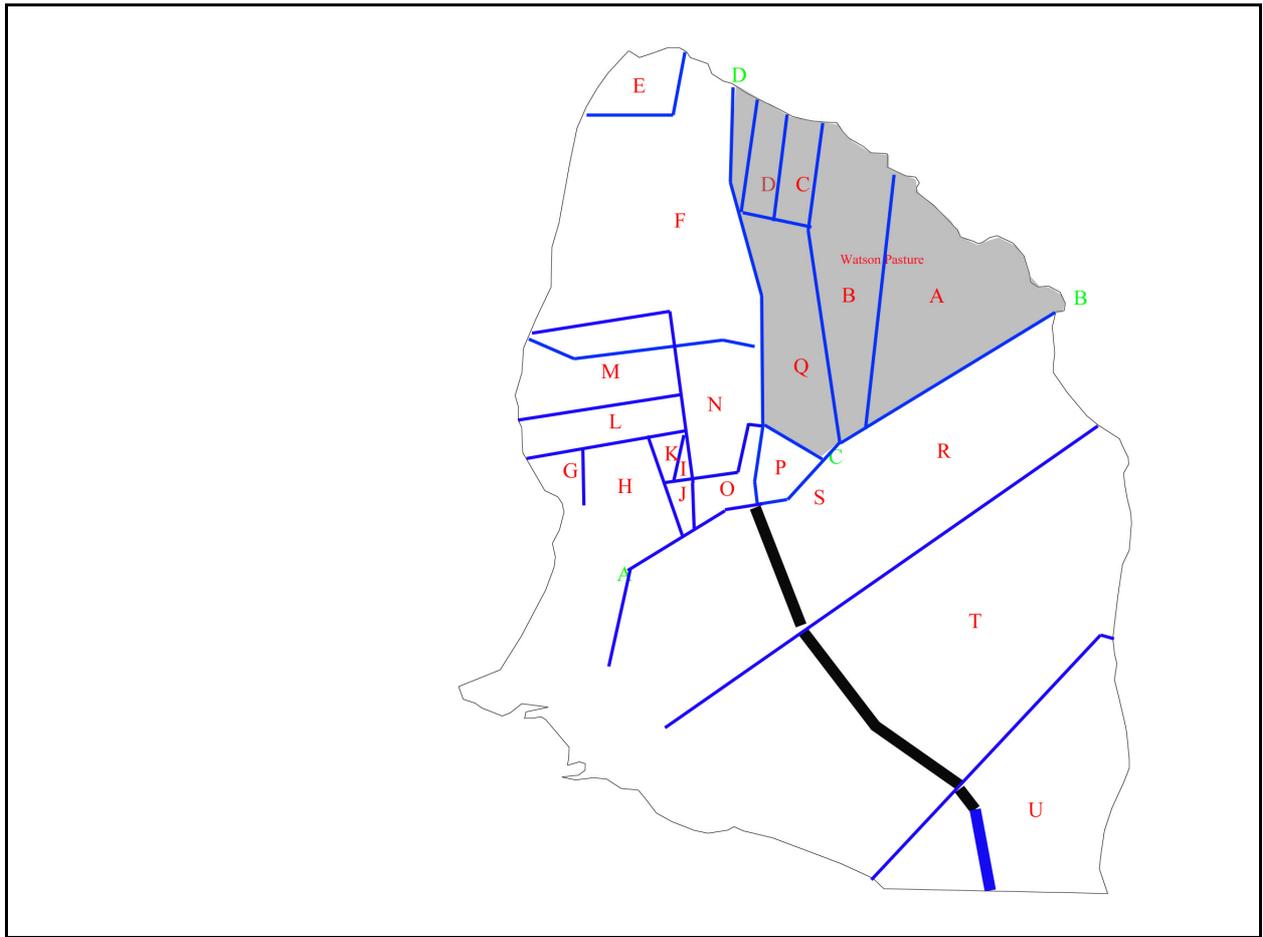


Figure 4. Watson's Pasture

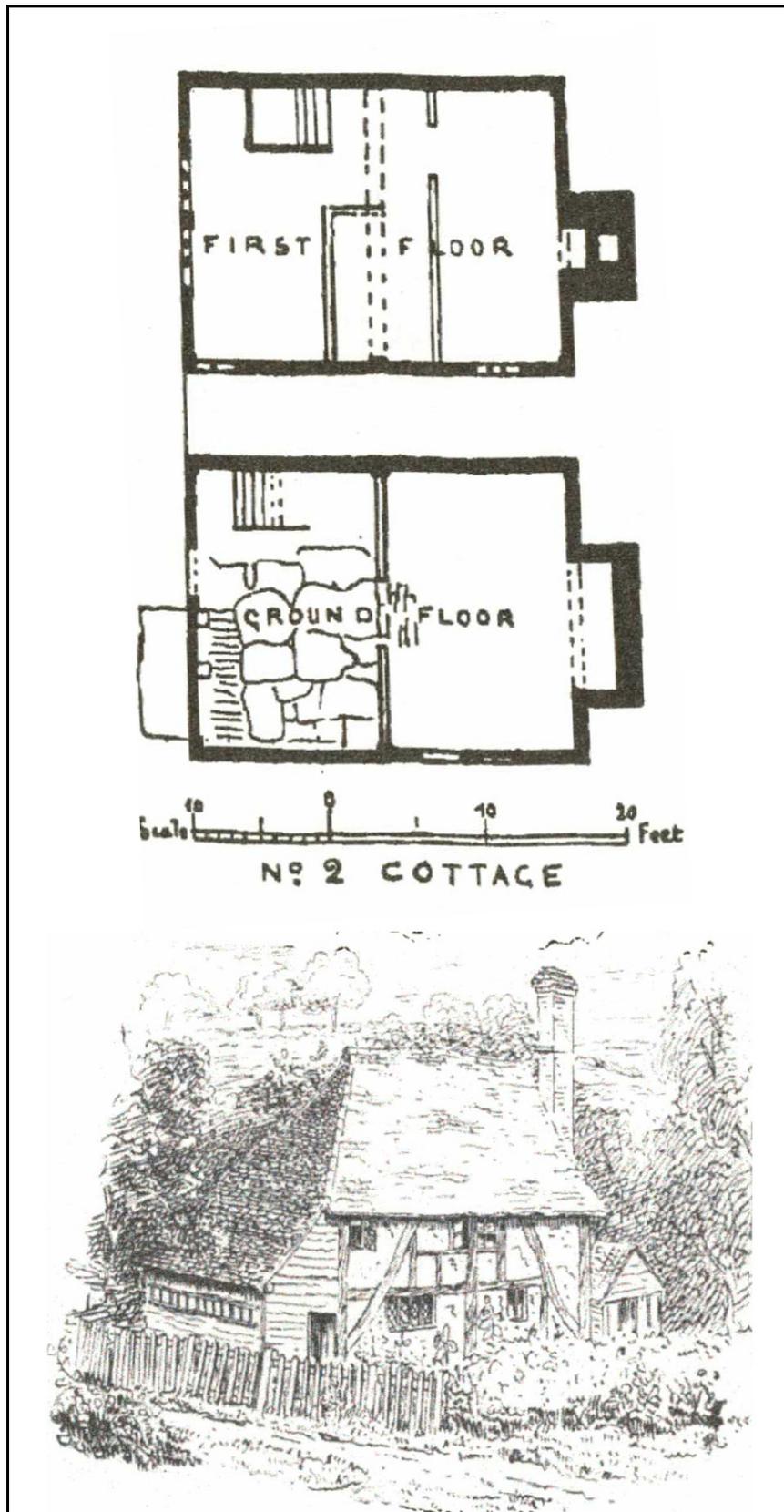


Figure 5. Cottages from Nevil's *Old Cottages and Domestic Architecture of Southwest Surrey* (1889)



Figure 6. Norton House (ca. 1691) in Guilford, Ct.

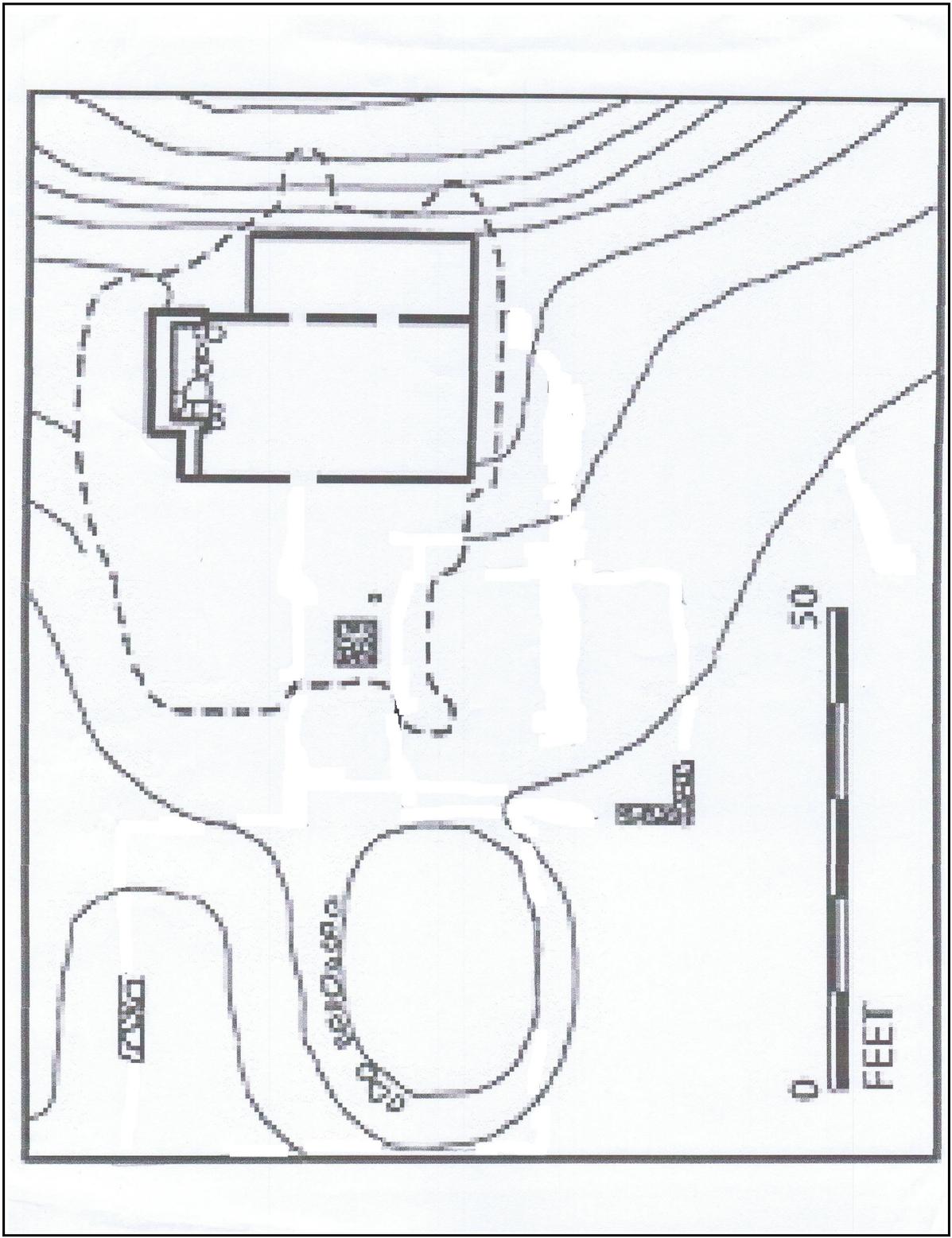


Figure 7. The extent of Strickland's 1937 excavations

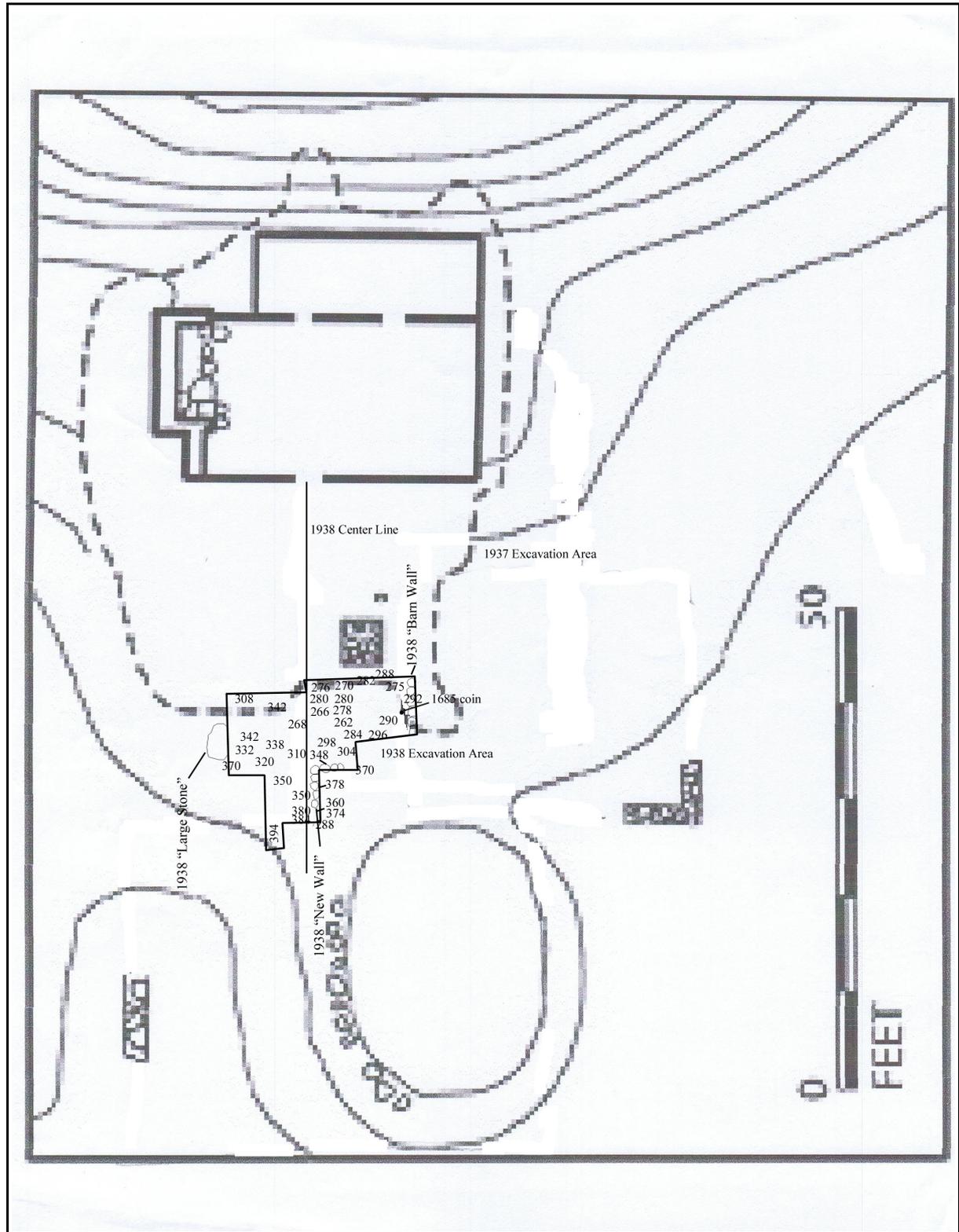


Figure 8. The extrapolated extent of the 1938 excavations

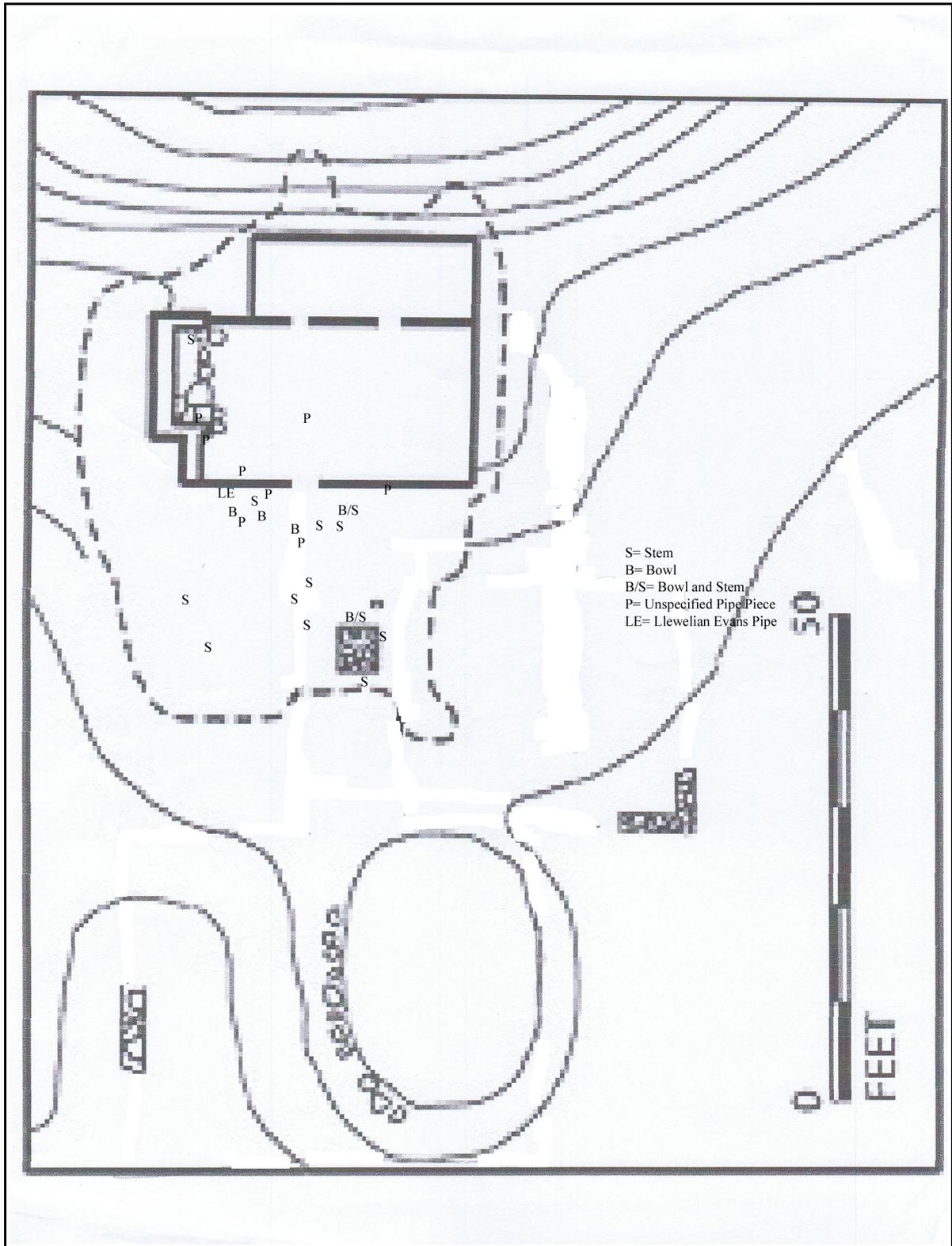


Figure 9. Tobacco pipe distribution based on Strickland's notes

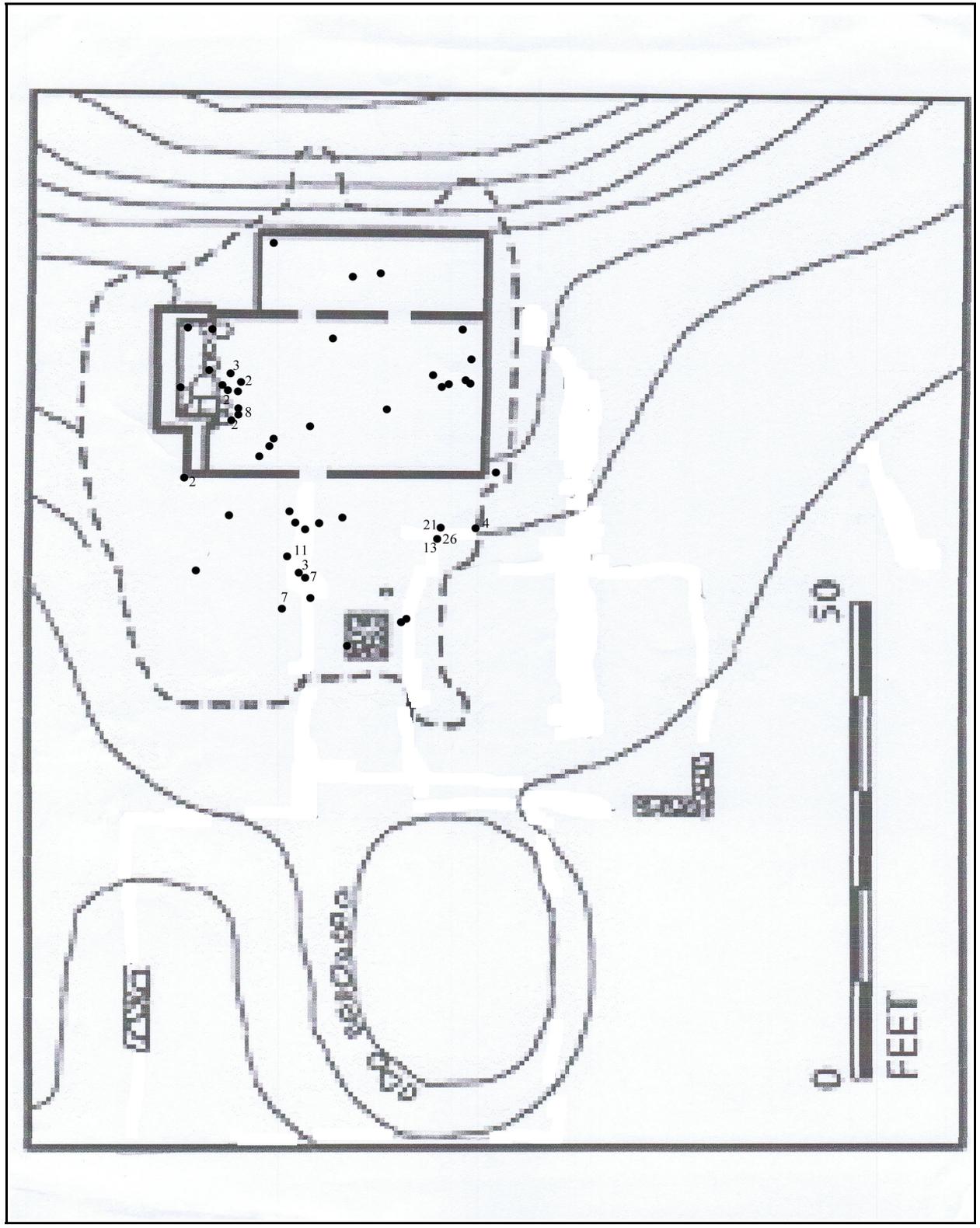


Figure 10. Pottery distribution based on Strickland's notes

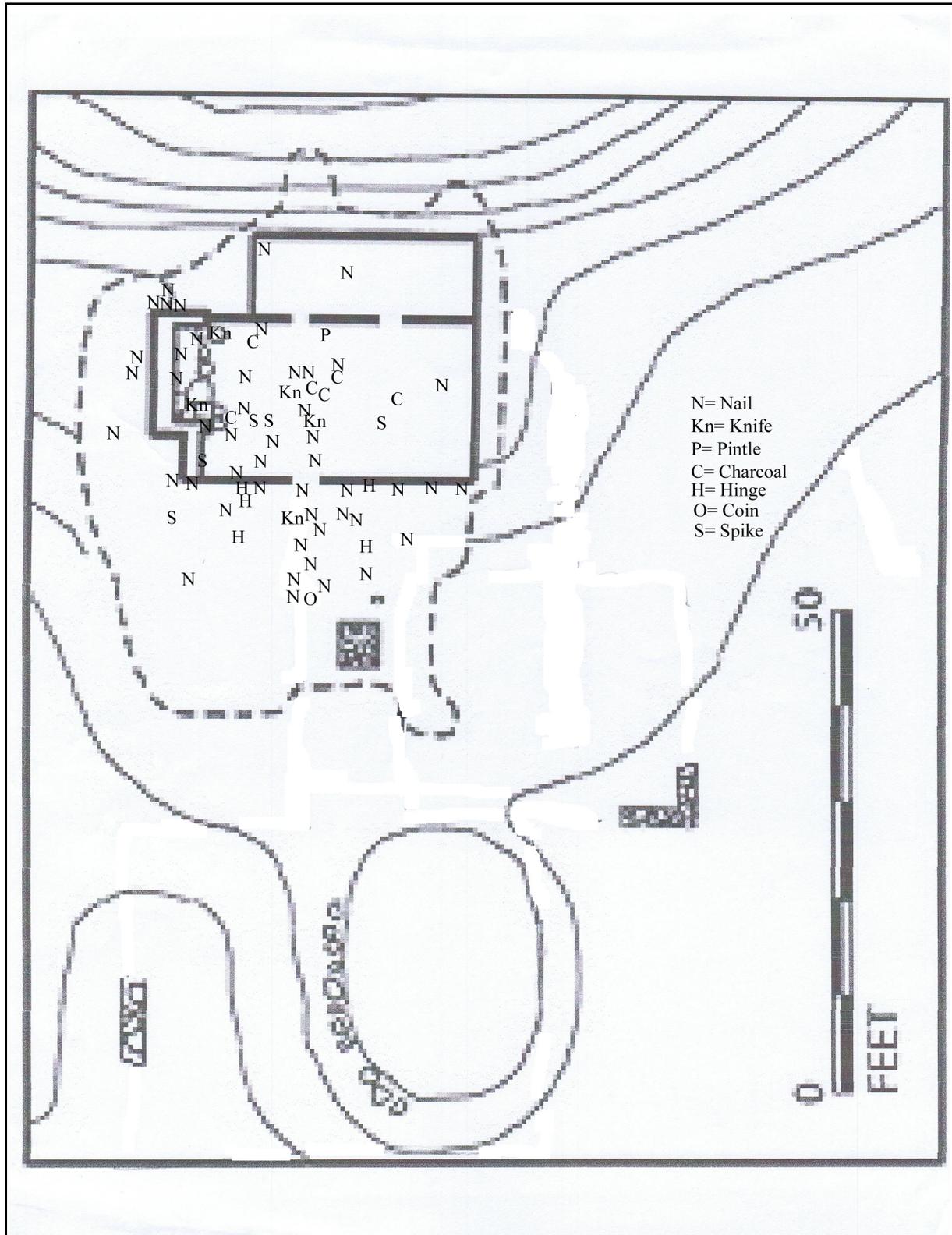


Figure 11. Metal and charcoal distribution based on Strickland's notes

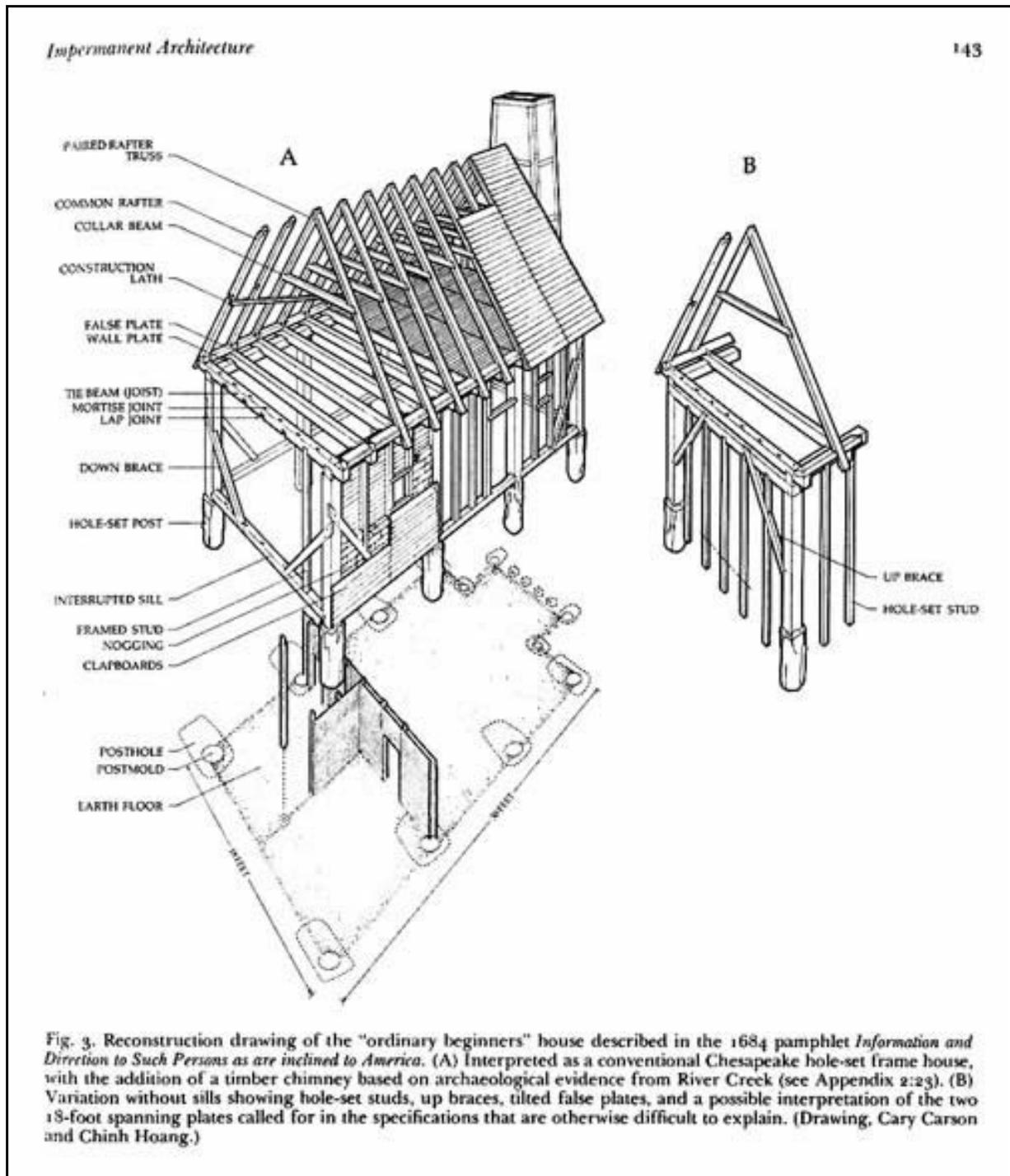


Fig. 3. Reconstruction drawing of the "ordinary beginners" house described in the 1684 pamphlet *Information and Direction to Such Persons as are inclined to America*. (A) Interpreted as a conventional Chesapeake hole-set frame house, with the addition of a timber chimney based on archaeological evidence from River Creek (see Appendix 2:23). (B) Variation without sills showing hole-set studs, up braces, tilted false plates, and a possible interpretation of the two 18-foot spanning plates called for in the specifications that are otherwise difficult to explain. (Drawing, Cary Carson and Chinh Hoang.)

Figure 12. Drawing of an earthfast "Virginia House" (Carson et al 1988)

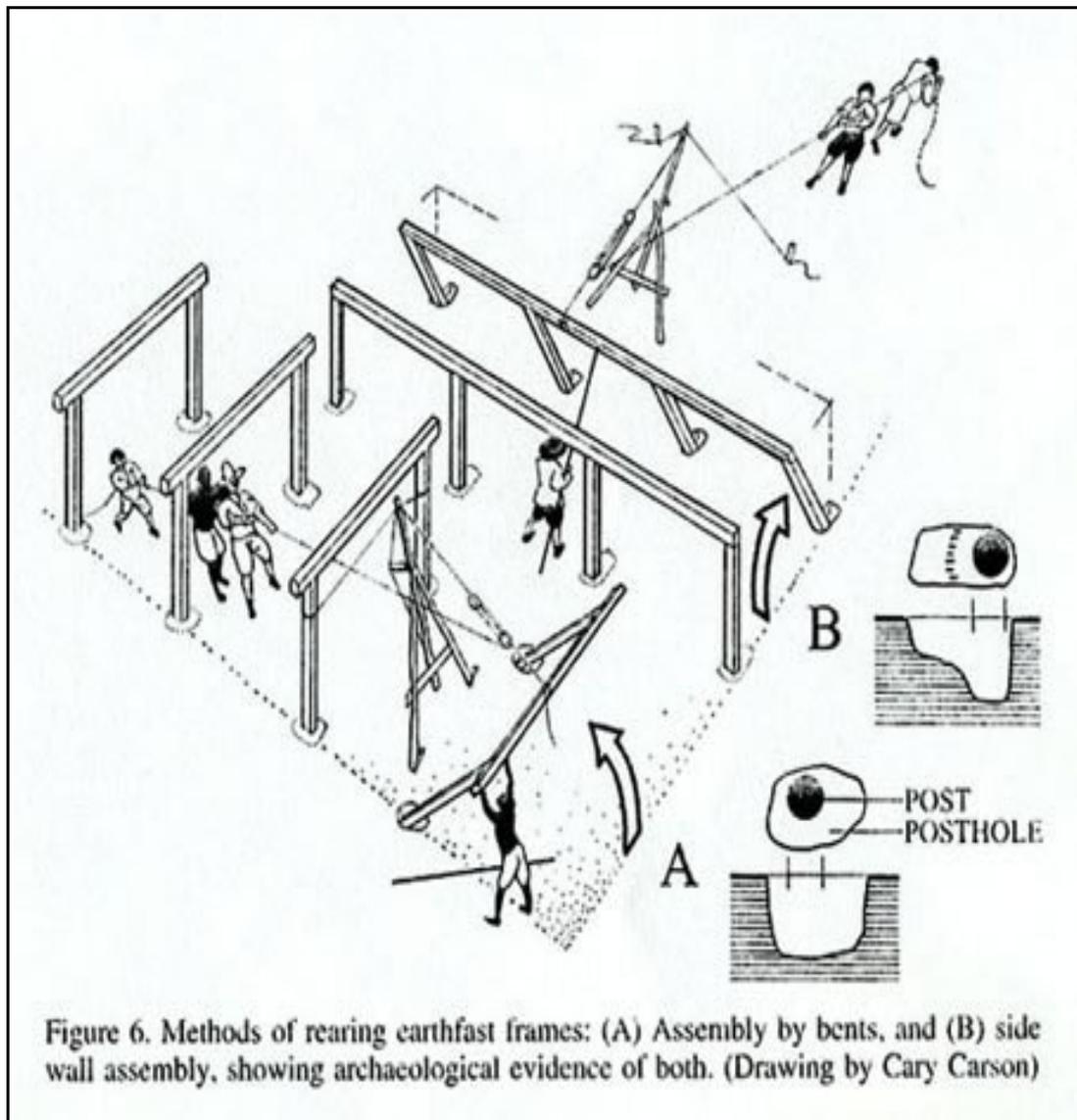


Figure 13. Bent set post construction

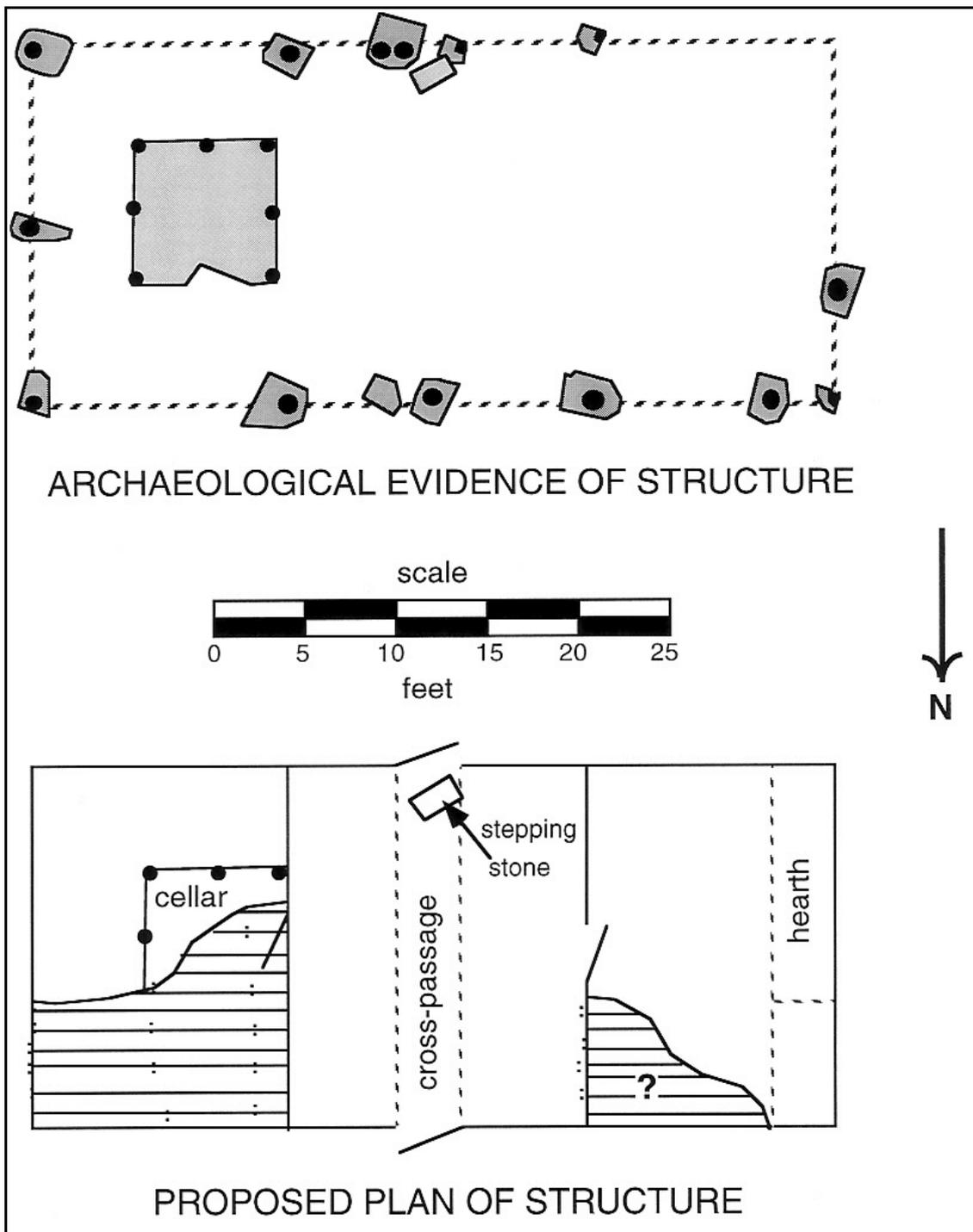


Figure 14. Cushnoc Site Augusta, Maine

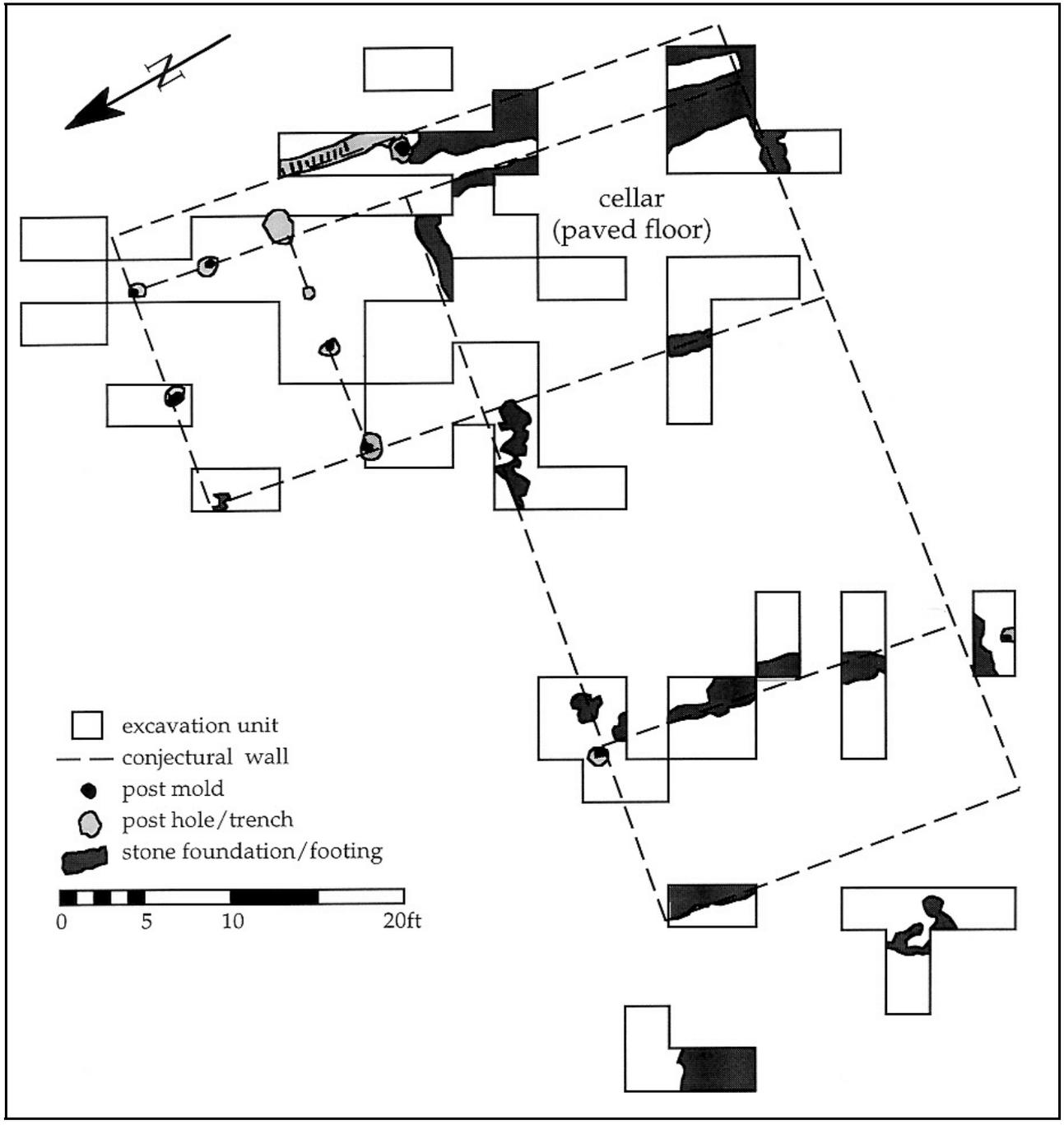


Figure 15. MC Lot Site, Maine

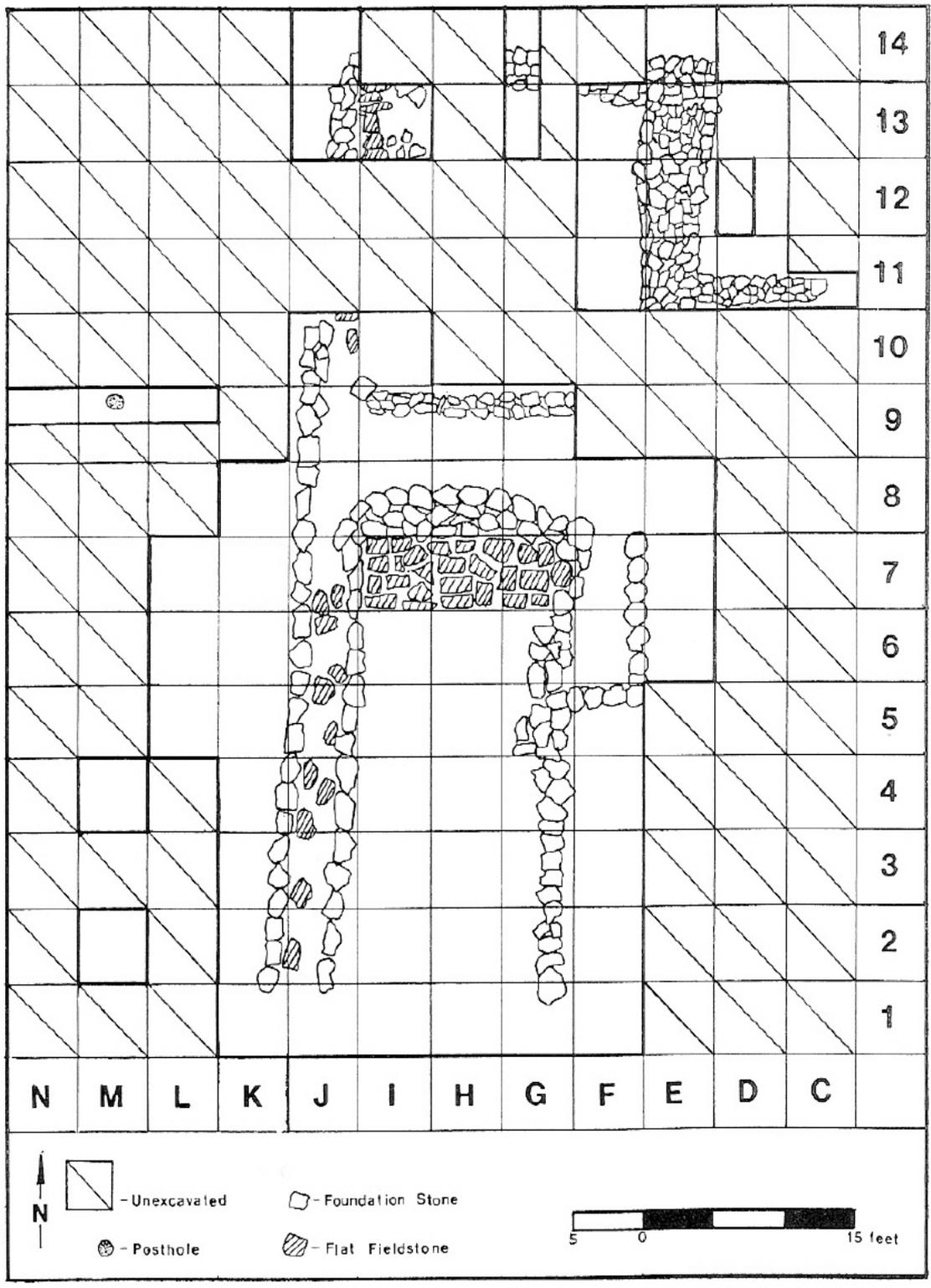


Figure 16. The trading house at Arrowsic/ Clarke and Lake House

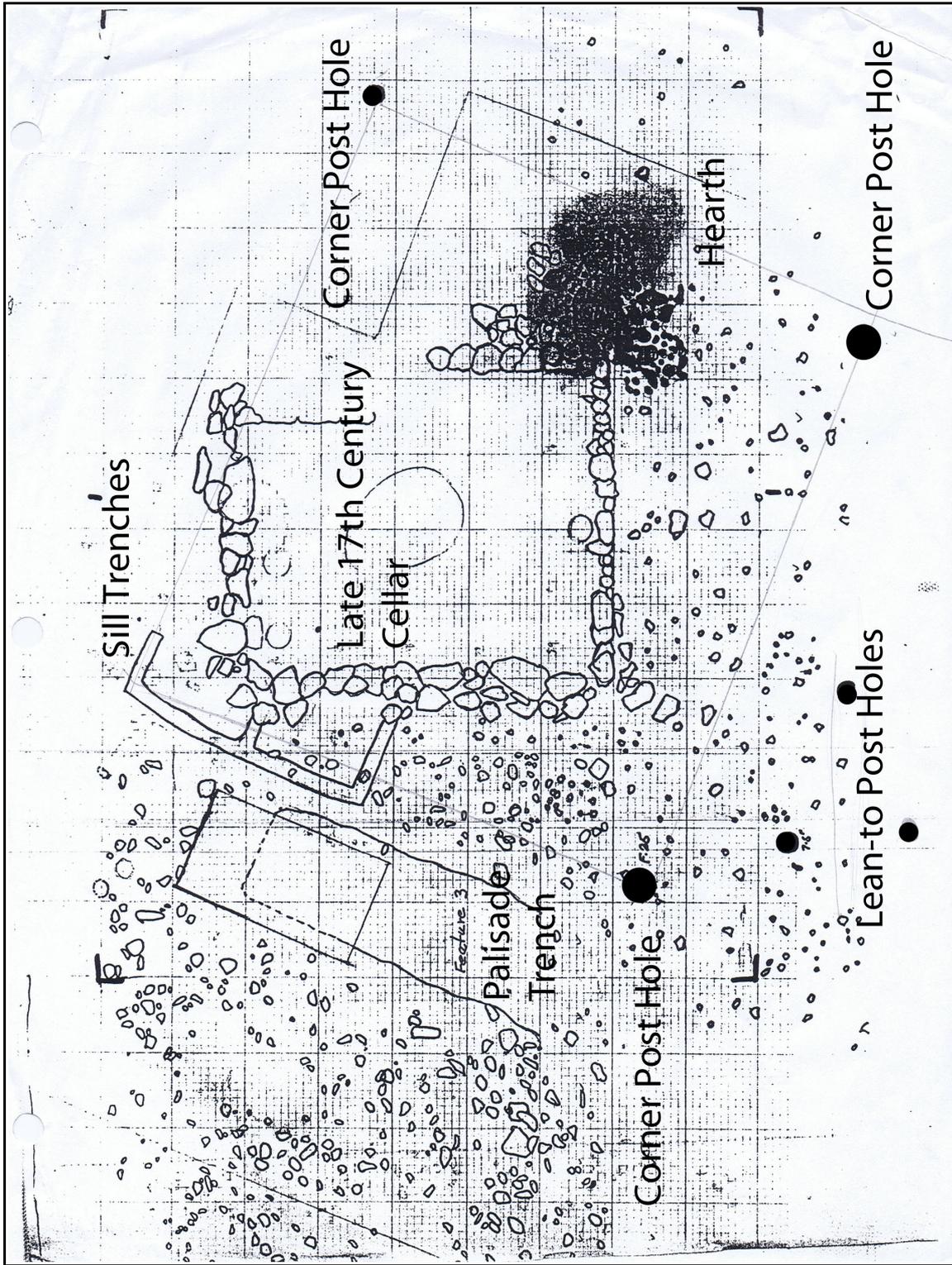


Figure 18. C-21/ Allerton- Prence- Cushman Site

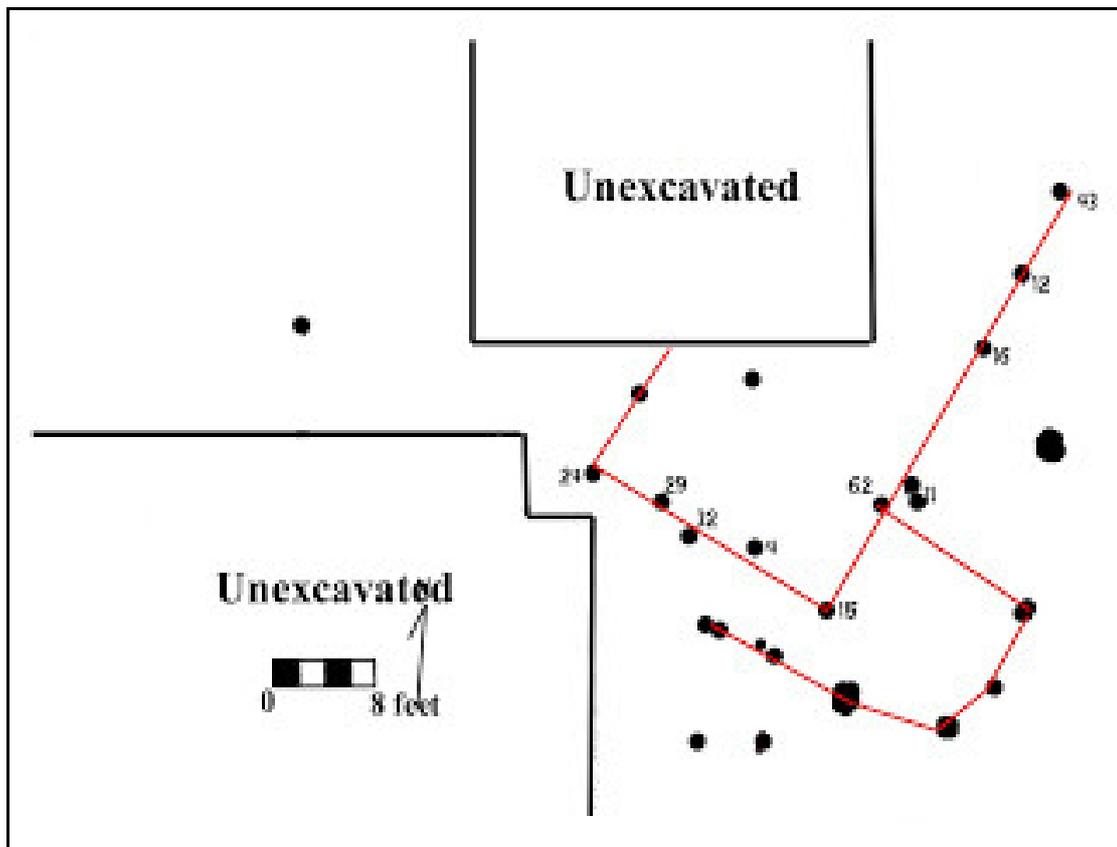


Figure 19. C-14/ Winslow site house layout

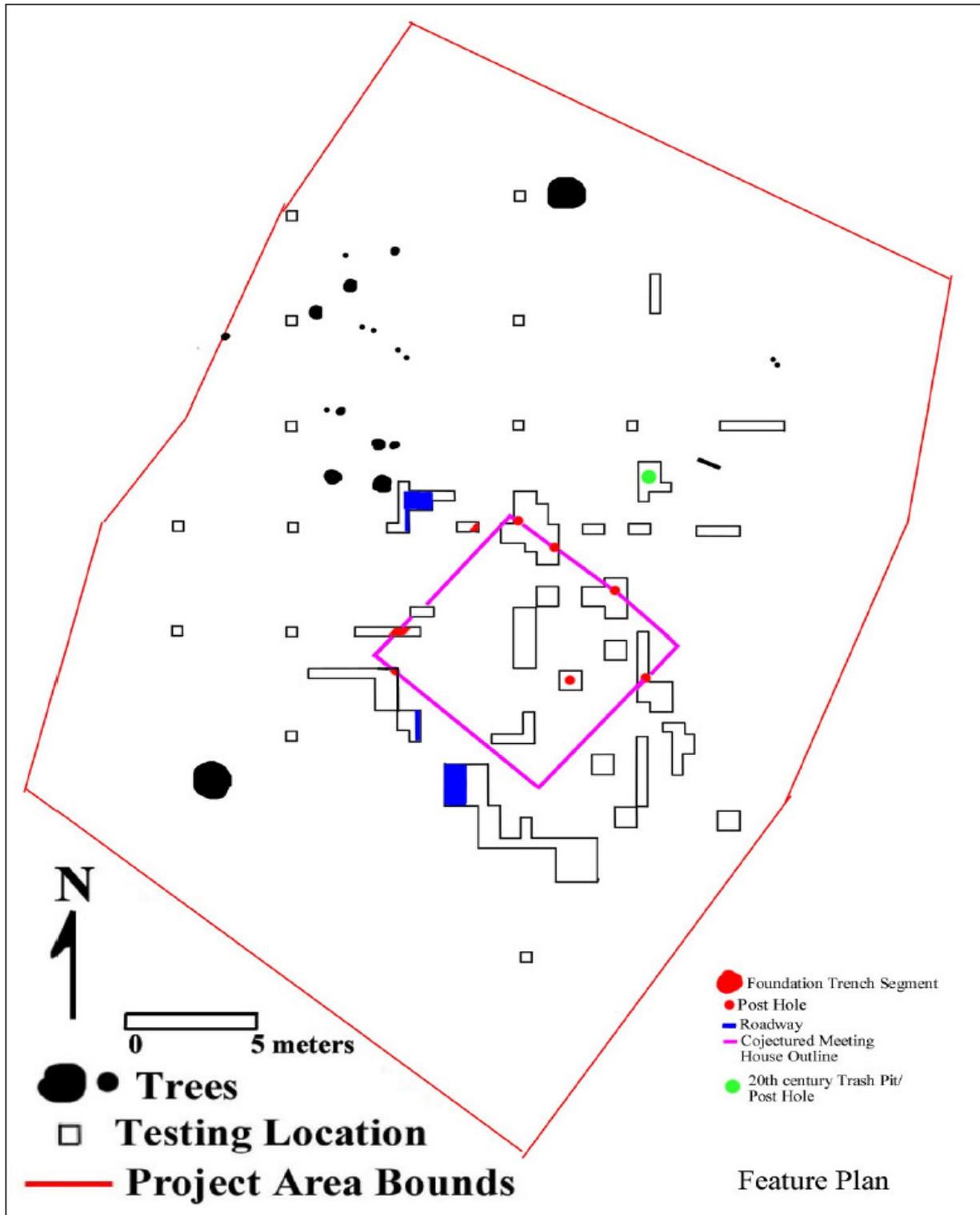


Figure 20. Second Meeting House Duxbury Site map (Meeting House outlined in Magenta)

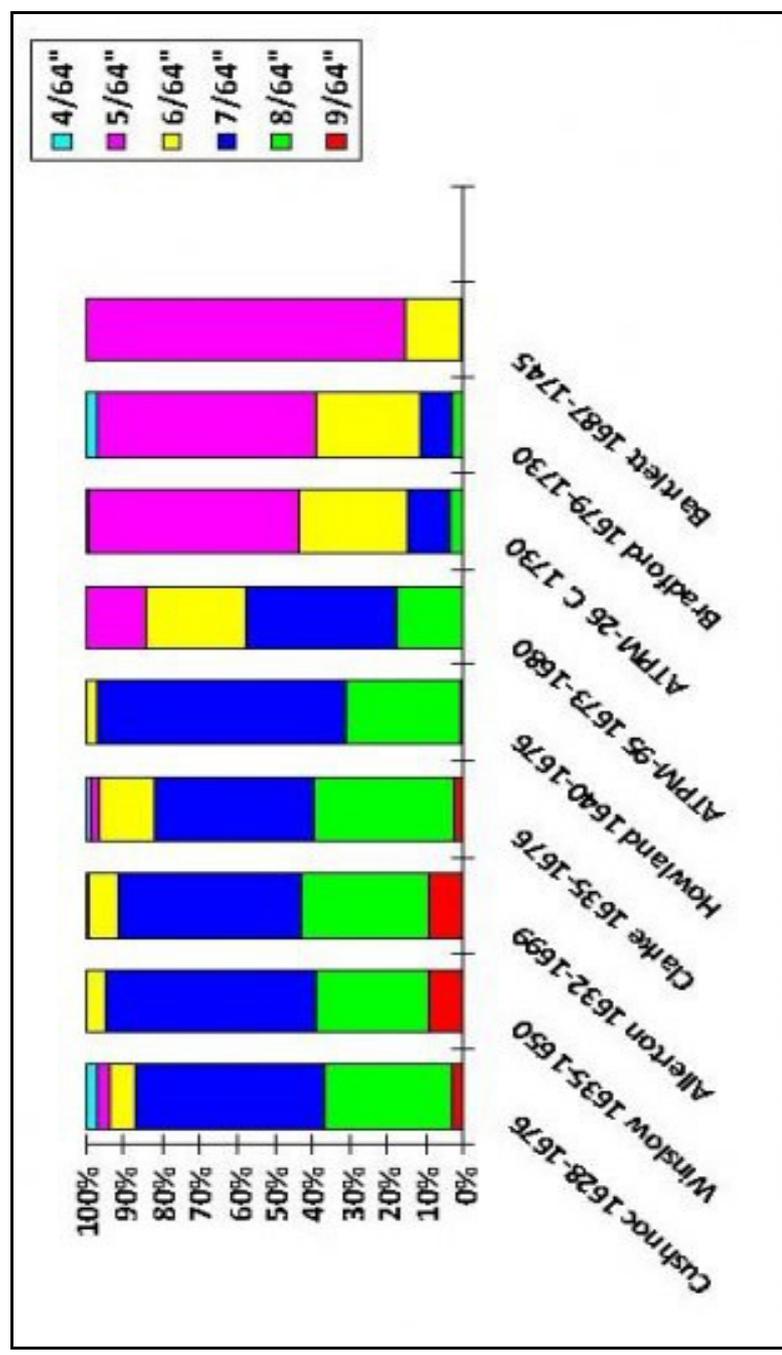


Figure 21. Comparison of tobacco pipe size distribution with other Plymouth Colony sites

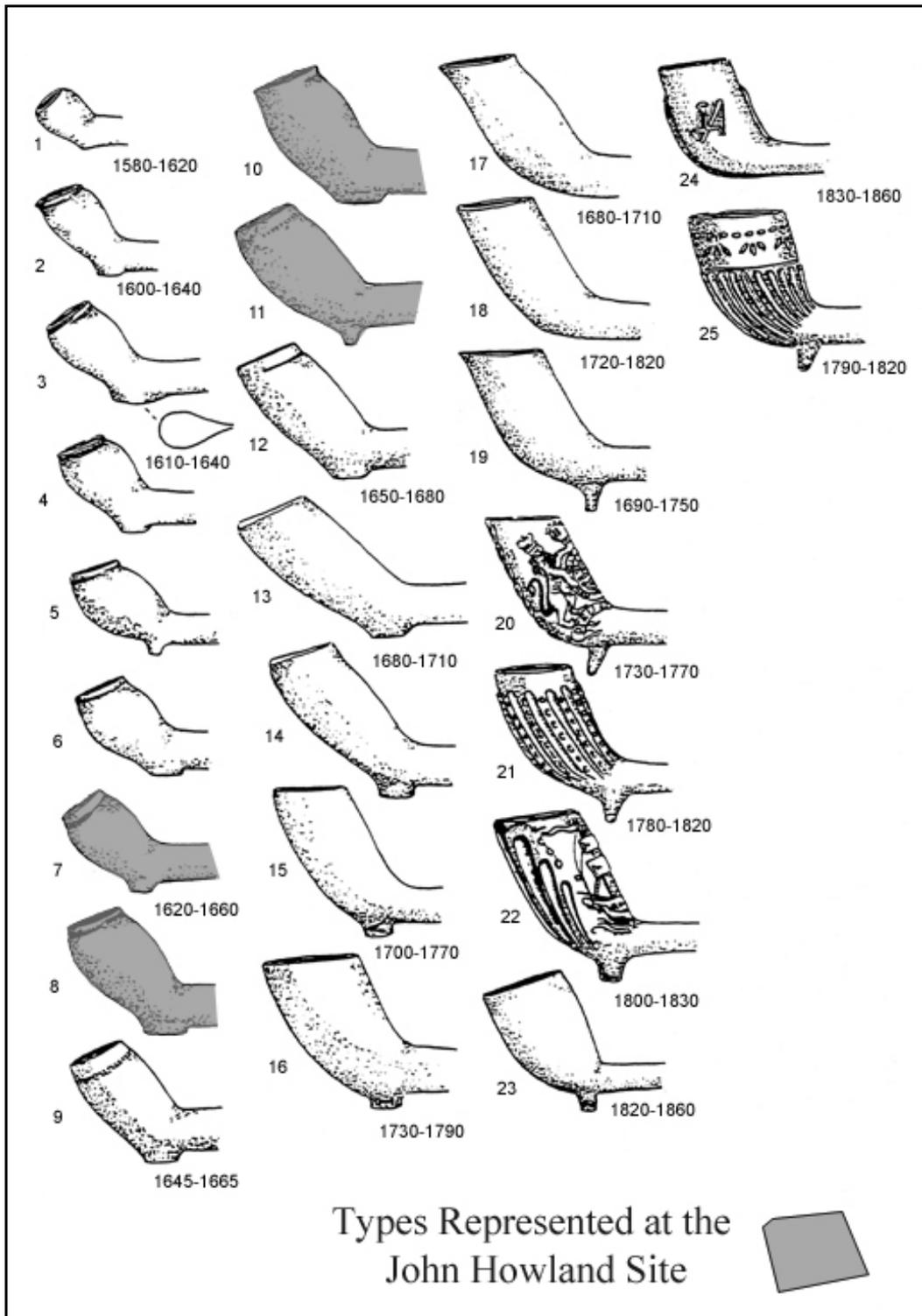


Figure 22. Tobacco pipe styles represented at the Howland Site

APPENDIX B

CERAMIC TYPES DESCRIPTIONS

17th Century Ceramics

Metropolitan Slipware (1630-1700) has a redware body and is decorated with simple geometric and foliate designs executed by using a trailed slip. It was manufactured at Harlow, Essex and the main market was London (thus the name Metropolitan) between 1630 and 1700. Vessel forms were drinking cups and mugs, candlesticks, chamberpots, salts and chafing dishes. This was one of the wares that inspired late 17th century Massachusetts slipware potters.

Wrotham Slipware (1615-1740) was produced in Wrotham, Kent in the southeast of England. This pottery type features a dark glaze with lighter slip decoration. Vessel forms most commonly associated with Wrotham slipware are multi-handled cups (tygs).

Beauvais Slipware (16th-18th century) is a Sgraffito ware made in the Beauvais region of Northern France especially in the 15th and 16th centuries. It has a fine white to gray fabric and was used to make large and small bowls, large and small jugs, albarelli, chafing dishes and costrels. Decoration consisted of single sgraffito (a red slip scored to leave a yellow-white design) and double sgraffito (a red slip then a white slip with the white slip being scored to leave a red design). It is most commonly found in 15th and 16th century contexts in England and was replaced in the 17th century with English Sgraffito produced in North Devon. It did continue to be made in France though throughout the 17th and 18th centuries.

Borderware, a ceramic that was produced in England, is very diagnostic to the earliest English occupations. This earthenware has a cream colored body and usually a yellow, green, or brown glaze. A wide range of vessels were produced. The fragments from the 2014 excavation were olive green glazed on the interior and unglazed on the exterior. Unfortunately, they are not diagnostic as to vessel shape.

Iberian (1500-1800) Iberian storage jars, also called Spanish olive jars, are one of the most widely occurring Spanish ceramic to be found in the New World having been used by the French and English as well as the Spanish. These vessels were used to transport, wine, olive oil, olives and fish. Generally, Iberian storage jars were either globular with a round or pointed bottom. Iberian storage jars have been recovered in New England from Pemaquid, Maine in an 18th century context and from the circa 1628 to 1676 Plymouth Colony trading house at Cushnoc in Augusta, Maine.

Martincamp (1625-1670) is an unglazed, high fired redware. The town of Martincamp is situated between Dieppe and Beauvais in France and the products were so common in Britain that they may be regarded as much as a chronological type-fossil of the 16th and 17th centuries. The most common vessel type was the costrel/ Pilgrim flask. One other Martincamp costrel was found at the C-14 Winslow site in Marshfield, Ma.

Merida (1600-1700) has an orange-red sandy micaceous body orange-red to red brown in color and completely unglazed. It was produced in Alentejo, Portugal and was extensively traded in the old and New World. This pottery type was made in a wide variety of vessels forms including bowls and cooking pots.

Midlands Purple (14th-18th century) Midlands Purple is technically an earthenware, but it has all the fabric characteristics of a stoneware so it is placed in that category for ceramic analysis. The body is very hard and is reddish purple to purple brown. The vessels are only glazed on the interior with a

thick black glaze that extends from the base part of the way up the walls. The only form that has been found on English colonial sites is the butter pot but in England, the ware was used for pitchers, slipware dishes, bowls, skillets, crucibles, and mortars. This ware was made from the late 14th or early 15th century and was produced into the 18th century. Midlands purple is not commonly found on American colonial sites after 1650 although one butter pot was found in Virginia from a late seventeenth century context and another pot was found in Kingston at the Allerton/ Cushman site in a ca. 1690 context. The form continued to be made in the Midlands until about 1730.

English Mottledware (1680-1750) was produced in England, as the name implies, and is also called Manganese Mottled ware. The common forms were mugs and pans but a wide range of useful vessels were made. The fragments from the 2014 dig represent a mug with molded bands.

North Devon Gravel Tempered (1675-1775) was produced in the West Country of England. the common forms found in New England were milkpans and chamberpots. Portable ovens were also produced. The fragment from the excavations appears to be from a milkpan.

North Devon Gravel Free (1620-1680) was produced in the same are as the previous ceramic but the at an earlier date. The common form or vessel was a baluster shaped storage jar, believed to be used to ship fish. Only one fragment was found in 2014 but it could come from one of these types of vessels.

North Italian Marbleized Slipware (1625-1675) is glazed with a swirling bi or polychrome slip of red, white and dark brown on the exterior of costrels and jugs and on the interior of bowlas and dishes produced in Pisa and northern Italy. This ware was made in the forms of bowls, dishes, jugs, and costrels, although bowls are the most common form on New World sites. These were traded to North America by the Spanish and Dutch and are common in England in London and coastal towns involved with foreign trade.

Sgraffito (1650-1680) is another West Country ware that is found on seventeenth century colonial sites. Sgraffito ware is produced by incising decorations through a light colored glaze producing a contrast between the darker colored decoration and the lighter colored slip.

Staffordshire Slipware (1675-1775) was produced in the Staffordshire region commonly in the form of cup, posset pots, and pans. The body is cream colored and has a clear glaze over it. A brown glaze is then trailed or combed only the body for decoration. The vessel forms present are two mugs and a pan.

Bellarmino/ Frenchen Stoneware (1620-1680) is a type of high fired ceramic that has a distinctive mottled brown glaze on the exterior that was produced in Germany. The only form produced was a jug bearing an appliqué of a bearded face. A rosette on the belly of the jug was sometimes added as well.

Westerwald Stoneware (1620-1775) was produced in the Westerwald region of Germany. The body is gray and it has a clear salt glaze applied to it. This stoneware type was often decorated with molded bands, applied rosettes, and incising. Glaze colors were limited to cobalt blue for the early pieces and cobalt blue and manganese purple for pieces after approximately 1660.

Tin-Glazed (1650-1775) ceramics were produced in Holland and later England (as well as other places) to compete with the trade of porcelain from China. These wares were white to bluish white with blue or polychrome decorations. The vessels from the 2014 excavations represent at least 2 possibly English produced chargers with polychrome decoration, and light purple glazed cup, also possibly produced in England. A white glazed possible medicine cup was also identified .

Mid to Late 18th Century

Creamware (1762-1820) was the first attempt by Josiah Wedgwood to produce an English substitute for Chinese porcelain. While tin-glazed ceramics had attempted to satiate the common person's desire for porcelain-like ceramics at a reasonable price, the fact that the tin-glaze chipped off so easily was a definite deterrent to its widespread adoption as an everyday ware. Creamware, while being cream colored and not really white, caught on when the Queen of England acquired a set, thus making it the thing to have after 1762. Complete table settings were produced in creamware for the first time and the low cost meant it was accessible to all. As a result, it is one of the most commonly encountered archaeological ceramics, marking the beginning of the deposition of mass produced wares into the archaeological record.

Jackfield (1740-1770s) was a black glazed, purple bodied ceramic that was used for teawares (bowls and teapots). It was a higher status ceramic.

White Salt Glazed Stoneware (1740-1775) was produced in England as an early attempt to make a ceramic that could compete with Chinese porcelain. This all white ware was sometimes hand painted or decorated with a scratch technique that was painted with blue or brown. Plates were often made using a mold to create diamond and dot and diaper patterns.

19th Century

Pearlware (1780-1820) was Wedgwood's next attempt at a whiter ceramic, and in this case, he made one that was whiter, but with a bluish tinge. The pearlware from the 2014 excavations consisted of two blue edged and one green edged plate, one blue and white hand painted tea cup and matching saucer, one brown and white hand painted tea cup and matching saucer, one mug decorated with engine turning on the exterior, and one dark blue transferprinted saucer.

Ironstone (1817-1900+) was invented by George Mason while Wedgwood attempted to make a whiter earthenware. This ceramic was sort of halfway between a stoneware and earthenware. It was heavy like stoneware but was white like pearlware. This ceramic never gained the popularity of the earthenware produced by Wedgwood and the Staffordshire potters and was decorated primarily with molded decoration and transferprinting, although other techniques were employed.

America Stoneware (1830-1900) was an inexpensive stoneware made in America in the 19th century. The usual vessel forms were crocks, bottles, and jugs. One pot, one bottle and one possible mug was identified from the 2014 collection.

Whiteware (1820-1900+) was the pinnacle of the quest for a white ceramic, although by the time it was developed, interest in creating a ceramic to compete with Chinese porcelain had ceased and the new refined earthenwares were desired for what they were and not what their were first developed as a replacement for. Decorative techniques on whiteware followed the trends set by the preceding

pearlware along with the introduction of completely white forms and a tendency for transferprinting to be more commonly employed. The vessel forms from the 2014 excavations were a blue edged plate, a Willow pattern plate, and a light blue transferprinted tea cup.

Yellowware (1840-1900+) was a very utilitarian ware developed chiefly for use in the kitchen in the form of bowls and molds, as spittoons, and as mugs. It was never considered a high class ware and was often heavy and minimally decorated. Fragments of one pan were recovered.

Rockingham (1840-1900), also called Bennington-glaze yellowware, has a thick brown, mottled glaze and a molded body and was most popular in America from 1840 to 1900. Rockingham was first produced by English potters in the Swinton District after 1788 with teapots being the most common form (Spargo 1926:170). By 1830, English potters had immigrated to America and began producing a larger variety of this type of ware. The center of production was Bennington, Vermont. From 1847 through 1865 the most common technique for applying the glaze was by spattering it on with a paddle, the result being that no two pieces appear the same.

Canton Porcelain (18th-19th century) is an export ware made in China at Jingdezhen and decorated with enamels and exported at Canton in southern China. It was an inexpensive export porcelain mass produced to feed the European and American market.

17th-19th Century

Redware is usually the most common ceramic type recovered from historic sites dating before about 1850, and the south yard of the Wing House is no exception. A total of 1,506 redware fragments were recovered. Of these, 933 were not used in the analysis due to the fact that either interior and exterior surfaces were missing or exterior surfaces were missing, thus denying us the ability to definitely say if it was glazed on the interior and the exterior. As a result, a total of 573 fragments were useful for analysis to determine the number and types of redware vessels present.

Redware was regularly manufactured for household use until approximately the middle of the 19th century. By that point cheap imported and domestic ceramic, iron and tin wares replaced the items that were commonly produced in redware. It would have been present in kitchens of all the Wing households except the last 100 years of habitation. Unfortunately it is very difficult to precisely date redware, as the forms and glazes did not dramatically change from the 17th to the middle of the 19th century.

Unglazed Vessels

One of the noticeable changes was the development of a flowerpot industry after 1850. Redware potters, faced with dwindling demand for redware housewares, turned to flowerpot production.

Slip Decorated Vessels

An earlier decorative change in redware was the use of slip decoration after 1680. Decorative techniques included trailed linear slip and brushed slip patterns. Slip decorated wares were inspired by earlier English examples. New England slipware was first produced in the late 17th century. Common forms include pan, chamberpots, and dishes.

Interior and Exterior Glazed Vessels

Vessels glazed on both the interior and exterior were used for either presentation/ consumption vessels to be used on the table or else, at the other end of the process, for chamberpots.

Interior glazed Exterior Unglazed Vessels

These vessels were most often used in the kitchen and dairy where one would want a protected interior surface but a decorated exterior surface was not necessary.