INTERSITE ANALYSES AND INTERPRETATIONS

This section of the report presents the results of several levels of intersite analyses conducted with the William Strickland Plantation Site material remains. The overall goal of these artifact analyses is to provide data that will allow interpretation of the site, particularly in regard to the research domains of domestic economy, social and economic context, and landscape use (De Cunzo and Catts 1990).

The sites that eventually were included in the comparisons of the artifact assemblages from the William Strickland Plantation Site were chosen because they dated to similar time periods, were located in the lower Delaware River drainage, and had artifact assemblages that contained comparable data. In the Lower Delaware River drainage there are only a handful of colonial sites that have been excavated and reported upon at a data recovery level and fit these criteria. The relatively short-term occupation of the site by the Strickland household in some ways makes the site unique among most of the Phase III data recovery investigations that have been done on eighteenth century sites in Delaware, and the choice of comparative sites is therefore limited to sites occupied between 1730 and 1760.

Chosen for inclusion in the comparative intersite analyses are the Gloucester City Site (Thomas et al. 1985), the Carney Rose Site (Louis Berger and Associates 1986), and the Old Swedes Church Parsonage in Wilmington (LeeDecker et al. 1990). Each of these sites was occupied during the early to middle decades of the eighteenth century. More importantly, the levels of material culture analysis are to a considerable extent comparable, making artifact and faunal studies possible.

The Gloucester City Site (28CA50) in Gloucester City, New Jersey (Thomas et al. 1985), was located on a property first purchased in the late seventeenth century by a wealthy English merchant, and occupied until the end of the eighteenth century. The archaeological remains and their attendant artifact assemblages used in the site comparisons that follow consisted of a large cellar (Feature 31) and a filled well (Feature 98). The site occupation is defined as a historic farmstead dating from circa 1740-1790. Exact owners and occupiers of the site are not known with certainty due to missing documents, especially deeds. However, much of the material culture at the site appears to be indicative of members of the middle to upper class (Thomas et al. 1985).

The Carney Rose Site (28Me106) was located in Mercer County along the Delaware River near Trenton (Louis Berger and Associates). Also known as the Tindall Plantation, the site was originally seated in the late seventeenth century. By 1699, the land was owned by a Quaker, Thomas Tindall, who resided there until his death in 1714, when it was passed to his widow. She retained the property, perhaps as a tenant, until 1723 when it was purchased by Robert Pearson II. Pearson in turn willed the land to his son Issac in 1751, and soon after that Isaac constructed a large Georgian style mansion on the property. The major archaeological feature excavated at the Carney Rose Site consisted of an infilled and partially stone-lined cellar hole (Feature 13). There were difficulties in ascribing a precise date to the feature fill, due to the low number of diagnostic ceramics recovered that provided a mean ceramic date of 1717.0, and the large number of clay tobacco pipes that provided a very different and later pipe stem date of 1743.3. Though the contradiction was not resolved in the report, a terminus post quem of circa 1740 is certainly possible given the data (Louis Berger and Associates 1986). The date of circa 1740 was used by LeeDecker et al.(1990) in intersite comparisons including the Carney Rose Site and will also be used here.

The Old Swedes Church Parsonage was located on Block 1184 in Wilmington, Delaware. Built in the early eighteenth century, the parsonage was occupied by the Lutheran ministers associated with the Old Swedes Church, including Andreas Hesselius, possibly Peter Tranberg, and finally Israel Acrelius. The archaeological remains dating to the eighteenth century were located within the confines of a stone-lined cellar, and were interpreted as either the remains of Hesselius' first parsonage, or a possible outbuilding associated with the lot. The material remains recovered from the excavations, including faunal remains as well as a variety of ceramics, indicate a deposition date between 1757, when the rubble layer sealing the cellar was deposited, to about 1768, when Acrelius had the old parsonage building demolished (LeeDecker et al. 1990:64-65).

Domestic Economy and Social and Economic Context - Ceramics and Foodways

One of the difficulties that LeeDecker et al. (1990:187-189) encountered in the intersite analyses of ceramic assemblages with the ceramics from the Old Swedes Church Parsonage was the lack of good comparative assemblages that had been analyzed to the same level of detail as the Parsonage. Of the comparative sites available, only the Carney Rose Site had identified minimum numbers of ceramic vessels. Therefore, a sherd level of analysis was necessary to provide any comparative material at all. A similar problem exists when trying to compare the William Strickland Plantation Site assemblage with these other sites. Sherd level analysis is possible, but analysis of minimum numbers of ceramic vessels can only be done between the Carney Rose site, the Old Swedes Church Parsonage, and the William Strickland Plantation Site.

Analyzing the collections from the sherd level necessitates the grouping of artifacts into general ware groups: porcelain, delftware (tin-glazed), white salt-glazed stoneware, coarse earthenwares, and other wares, and these are the same categories used by LeeDecker et al. (1990:189) in their sherd level analysis. For the William Strickland Plantation Site stoneware fragments other than white salt-glazed sherds were placed in the 'other' category, since LeeDecker et al. (1990) did not specify if other salt-glazed wares were included in their analysis. If the assumption that sherd count can accurately reflect the relative proportion of vessels in an assemblage is true, then several generalized assumptions can be made about these ceramic groupings that may suggest patterns among the sites. First, porcelains at the sites most likely represent teawares or tableware forms, and larger numbers of sherds suggest more tea and tablewares, and more investment in high style ceramics, and, by implication, other artifacts, such as clothing and household furnishings. Second, coarse earthenwares generally consist of utilitarian redwares, and large numbers of these sherds may indicate reliance on locally produced wares, less import market participation, and, consequently, less investment in high style artifacts. Finally, the numbers of sherds of tin-glazed and salt-glazed ceramics could suggest the degree of market participation of site households, with larger numbers of sherds indicating more participation, and fewer sherds indicating less participation. Since each of the assemblages from the sites had in some cases vast differences in sample sizes and the numbers and percentages of wares in each category, a difference-of-proportion test (Parsons 1974:433-436) was applied to evaluate percentage differences (Table 15).

Table 16 lists the four sites by rank order of percentage frequencies of the categories of porcelain, tin-glazed, white salt-glazed stoneware, coarse earthenwares, and other wares. Sites with no significant differences in percentages are grouped by brackets. Besides the William Strickland Plantation Site itself, two of the site's features (Features 108 and 147) that contained larger collections of ceramics are included in this comparison. For the William Strickland Plantation Site, the results of this comparison apparently show that Feature 147, the cellar inside of Structure I, most accurately reflects the ceramic

TABLE 15

Ceramic Sherd Percentages from Delaware Valley Sites

CERAMIC TYPE	Strickland Feature147	Strickland Feature108	Strickland Total Feature Sherds	Block 1184 Parsonage	Gloucester City Cellar, NJ	Tindall Cellar (Carney Rose Site)
Porcelain	33 (1.8%)	10 (0.5%)	127 (1.8%)	138 (9.1%)	12 (0.8%)	13 (0.4%)
Delftware (tin-glaze)	205 (11.4%)	66 (3.3%)	493 (6.8%)	235 (15.4%)	371 (23.1%)	169 (5.2%)
White salt-glazed stoneware	233 (13.0%)	44 (2.2%)	585 (8.1%)	115 (7.6%)	47 (2.9%)	67 (2.1%)
Coarse earthenwares	1233 (68.8%)	1527 (76.3%)	5122 (70.7%)	935 (61.4%)	1061 (66.0%)	2721 (83.4%)
Other wares	89 (5.0%)	354 (17.7%)	914 (12.6%)	99 (6.5%)	116 (7.2%)	291 (8.9%)
TOTAL SHERDS	1793	2001	7241	1522	1607	3261

TABLE 16

Ranking of Percentage Frequencies of Delaware Valley Sites by Ceramic Sherd Types

Porcelain		White Salt-Glazed Stoneware		Tin-Glaze		Coarse Earthenwares		Other	
PARSONAGE	9.00%	FEATURE 147	13.0%	GLOUCESTER	23.1%	TINDALL	83.4%	FEATURE 108	17.7%
FEATURE 147	1.80%	STRICKLAND	8.1%	PARSONAGE	15.4%	FEATURE 108	76.3%	STRICKLAND	12.6%
STRICKLAND	1.80%	PARSONAGE	7.6%	FEATURE 147	11.4%	STRICKLAND	70.7%	TINDALL	8.9%
GLOUCESTER	0.80%	GLOUCESTER	2.9%	STRICKLAND	6.8%	FEATURE 147	68.8%	GLOUCESTER	7.2%
FEATURE 108	0.50%	FEATURE 108	2.2%	TINDALL	5.2%	GLOUCESTER	66.0%	PARSONAGE	6.5%
TINDALL	0.40%	TINDALL	2.1%	FEATURE 108	3.3%	PARSONAGE	61.4%	FEATURE 147	5.0%

[- Indicates no significant differences in percentages

assemblage recovered from the overall site itself. In three of the five categories of ceramics (porcelain, tin-glazed, and coarse earthenwares) this feature and the overall site assemblage are paired. The Parsonage in Wilmington ranks the highest of any of the sites in the porcelain category, indicating high style and investment in tea and tablewares. The Strickland assemblage is ranked next, followed by the two New Jersey sites and Feature 108. The comparatively high ranking of the Parsonage is again apparent in the salt-glazed stoneware category. The wares from the William Strickland Plantation Site pair with the parsonage in this case, and the two New Jersey sites and Feature 108 are again paired.

Overall, it appears that Feature 108 is more representative of the predominantly utilitarian wares recovered from Gloucester City and the Tindall cellar, and Feature 147 is more similar to the high status wares recovered from the parsonage. Certainly the Strickland ceramic sherd assemblage is more similar to the parsonage assemblage than to the New Jersey sites, indicating a rough ranking of these sites from upper status (the parsonage), to middle class (Strickland), to lower status (Gloucester and Tindall).

The documentary evidence supports this conclusion, at least for the parsonage and Strickland. The parsonage was occupied by the ministers of the Swedish Lutheran Church in Wilmington, a fairly high status social position that included among its benefits ownership of slaves, social deference to

both the minister and his wife, and the privilege of a fine brick residence (Lee Decker et al. 1990:186). The ceramic assemblage, at least at the sherd level, indicates that the clergy also invested in the symbols of high style, in this case, tea and tablewares. The position of the William Strickland Plantation Site in Duck Creek society indicates that William Strickland, at the time of his death, was ranked in the top 10% percent of the taxables in the Hundred, and the estate inventory indicates a considerable investment in the high style objects associated with tea drinking. The ceramic sherd assemblage from the site supports this documentary evidence, and indicates that, although William Strickland's household was in the top 10%, it was not among the more elite households of those higher in the social scale. Classifying the New Jersey sites as lower status may be incorrect, because according to the documentary evidence, these sites were the households of wealthy merchants and farmers. However, the ceramic evidence suggests otherwise. Perhaps these two households could be better characterized as middle status, particularly in comparison to Strickland and the Block 1184 Parsonage.

Comparisons at the vessel level rather than sherd level of analysis are generally conceded to be of more utility in trying to interpret ceramic collections (Rice 1987). As was the case with the sherd analysis above, the Strickland ceramic assemblage can be compared with the Parsonage on Block 1184, and the Carney Rose, or Tindall site. The Gloucester City artifacts unfortunately were not cataloged to the level of minimum vessels. The minimum number of ceramic vessels reconstructed from feature contexts at the William Strickland Plantation Site, which will be used in these comparisons, totaled 237. Over half (53.6%) of the vessel assemblage was made up of redwares (127 vessels) of all types. Salt-glazed stonewares accounted for 12.7% of the collection (30 vessels), followed by tin-glazed vessels (9.3%; 22 vessels), Staffordshire vessels (6.4%; 15 vessels), porcelain, and other stonewares (both with 4.2% and 10 vessels). The remainder of the assemblage consisted of ceramics such as North Devon, Buckley, Agate ware, Whieldon ware, an unknown, possibly local variety termed here "chalky white paste," manganese mottled, and several other unidentified vessels (23 vessels; 9.8%).

A comparison with the ceramic vessel assemblage recovered from the William Strickland Plantation Site was conducted using the minimum vessel counts for the Old Swedes Church Parsonage and the Tindall cellar (Table 17). Because the assemblages were of varied size, a difference-of-proportion test was again conducted to determine the degree of similarity between the sites. The vessel categories chosen for comparison included teawares, tablewares, food preparation, service and storage, and hygiene. The results of the comparison are illustrated in Table 18. In the teaware category, all three sites exhibited similar proportions of teaware vessels. In the remaining categories, the Parsonage and William Strickland Plantation Sites were consistently paired together in the proportions of their collections, suggesting some degree of similarity between the sites. The Tindall Site, however, was not similar at all, except in the teaware category noted above.

These sites were expected to show similarities due to the approximately equivalent status of the occupants. The general similarity of teaware proportions supports this conclusion, indicating the extent that tea drinking had penetrated colonial society, and the broad acceptance of the tea ceremony in Delaware Valley life in the eighteenth century. The differences between the sites may be more significant. Differences in tableware proportions, particularly with the two Delaware sites and the Tindall cellar, could represent the presence, not of ceramic vessels, but of the "missing artifact," pewter, in all of its many shapes (Martin 1989). William Strickland's inventory enumerated "5 pewter dishes, 12 plates & some old Pewter," and other inventories from Kent County suggest that pewter was a significant tableware, probably more so than ceramic vessels (Bushman and Hawley 1987).

TABLE 17

Frequencies and Percentage of Ceramic Vessels by Categories at Three Delaware Valley Sites

SITE	Teawares	Tablewares	Food Preparation, Serving, and Storage	Hygiene	# of Vessels
STRICKLAND	32 (14.8%)	89 (41.2%)	82 (38.0%)	13 (6.0%)	216
PARSONAGE	21 (24.4%)	26 (30.2%)	33 (38.4%)	6 (7.0%)	86
TINDALL	20 (14.9%)	20 (14.9%)	93 (69.4%)	1 (0.8%)	134

TABLE 18

Site Vessel Comparisons--Ranking of Sites by Ceramic Category

Teawares		Tablewares		Food Preparation, Serving, and Storage		Hygiene	
PARSONAGE	24.4%	STRICKLAND	41.2%	TINDALL	69.4%	PARSONAGE	7.0%
TINDALL	14.9%	PARSONAGE	30.2%	PARSONAGE	38.4%	STRICKLAND	6.0%
STRICKLAND	14.8%	TINDALL	14.9%	STRICKLAND	38.0%	TINDALL	0.8%

[- Indicates no significant differences in percentages

The differences in the other two categories of food preparation, service and storage, and hygiene, are more difficult to explain. It was expected that the more rural sites (Strickland and Tindall) would have been more similar in at least the food preparation category of vessels, and that the high status urban Parsonage site would have been less similar. The reversal of this supposition could be the result of several possibilities. Historical research into the colonial development of western New Jersey (Louis Berger and Associates 1986:VIII-15) indicates that the Tindall Site was involved in a very different market economy when compared to the sites on the west side of the Delaware, namely one that was more locally-oriented rather than dependent on foreign or imported goods. The results of the vessel level of analysis helps to explain the apparent anomaly encountered in the sherd level of analysis. The large number of coarse earthenware fragments excavated at Gloucester City and the Tindall cellar are more indicative of the local economic situation and market, not of status.

Thus, the observed differences in the ceramic assemblages between the sites and the reliance on locally-produced redwares in the food preparation, service and storage categories is indicative of a basic difference in the market participation from one side of the Delaware River to the other. The William Strickland Plantation Site, although located in the sparsely settled backcountry of the three Lower Counties, had more in common with other sites located on the west side of the Delaware, like the Old Swedes Church Parsonage in Wilmington. Overseas trade and exchange may have had more influence on the development of colonial society in Delaware than in western New Jersey.

TABLE 19

Salinity Frequencies on Oyster Shells from Historic Sites Along the Delaware River and Bay

SITE	Low	Moderate	High	Very High	#
STRICKLAND	96.6%	2.5%	0.9%	--	238
DARRACH STORE	75.0%	20.0%	5.0%	--	100
WEBB'S LANDING	90.0%	10.0%	--	--	42
BLOCK 1191:					
Feature 11	42.8%	3.6%	15.7%	37.8%	140
Feature 13	52.4%	5.9%	7.1%	34.5%	84
Feature 14	52.2%	4.5%	18.2%	25.1%	88
RISING SUN TAVERN	77.6%	17.1%	2.2%	2.9%	134

Oyster Utilization

Oyster assemblages from other sites in the Delaware drainage dating to the eighteenth and early-nineteenth centuries can be compared to the William Strickland Plantation Site assemblage to see the degree of change over time in regional procurement strategies. Table 19 shows the comparisons of the William Strickland Plantation Site shells with oyster assemblages from several sites in Wilmington (Beidleman, Catts, and Custer 1986), from the "Riseing Son" Tavern in the village of Stanton (Doms 1987), and from trash features at the Darrach Store Site (De Cunzo et al. 1992). An additional, previously unpublished, oyster sample was procured for comparison from the Webbs' Landing well in Kent County, dating from circa 1690-1720 (C. Fithian, personal communication, 1992), and was analyzed. Since the sample sizes varied considerably between the sites, a difference-of-proportion test was used to determine similarities among the sites.

The general reliance on and availability of low salinity oysters shown at the William Strickland Plantation Site is mirrored by the oyster assemblages collected from other rural Delaware River sites, particularly those dating from the early to mid-eighteenth century. The oysters from the Webbs' Landing well, which dates to circa 1690-1720, were mostly taken from low salinity environments, and are most similar to the collection from the William Strickland Plantation Site. The shells from the Darrach Store Site, located just across Mill Creek to the north of the William Strickland Plantation Site, show more reliance on oysters taken from moderate salinity regimes when compared to the assemblage from the Strickland occupation. The Darrach Store collection is similar to the assemblage seen at the "Riseing Son" Tavern. As Chaney and Miller have observed (1992), both of these late-eighteenth century samples, as well as the Strickland occupation shells, display a natural distribution of oysters that were consistently harvested from low salinity environments. The similarity of the patterns at these three sites can be explained by local procurement from a limited range of locations. In contrast, the presence of urban markets is illustrated by the three later Wilmington features. Each displays oysters taken from both low and very high salinity regimes, suggesting commercial procurement at numerous and varied locations, and market activity.

Changes over time and locality in oyster procurement could explain some of the similarities shown in this comparison. The earliest sites, Strickland and Webbs' Landing, pair together in the low salinity category, while the later eighteenth century sites at the Rising Sun Tavern and Darrach Store are similar, and the Wilmington features are grouped together. In contrast, moderate salinity groupings did not seem to be divided according to chronology, with Darrach, Webbs' Landing and Rising Sun

showing similarities in assemblages, and the Wilmington features and Strickland grouped together with smaller proportions of moderate salinity. The high and very high salinity regimes were clearly dominated by location, with the Wilmington features containing the largest number of both categories, indicating market procurement activities.

A comparison of the seasons of harvest for these sites indicates that the Strickland occupation assemblage is very different from the other collections. Most of the collections dating from the last quarter of the eighteenth century on the Delaware have shown that early winter and late spring appear to be the common seasons of procurement, and the sites from Wilmington and Stanton support this conclusion. However, the season of procurement indicated by the Strickland and the Webbs' Landing oysters suggests a late fall/early winter period of harvesting, and the Darrach Store oysters indicate that fall (September, October and November) was a period of significant oyster harvesting. Early nineteenth century plantation records for Rose Hill in Cecil County, Maryland, indicate that oysters were common in the diet from October to March (Wilson 1976:52,55,56,59).

The oyster assemblages from the two rural sites in Duck Creek Hundred and the Webbs' Landing Site indicate that procurement was tied to agricultural cycles, while the oyster assemblages available in taverns and urban settings were harvested over a broader seasonal range. Contemporary documents from Delaware indicate that the dependency on oystering could vary considerably from year to year, and may have depended on the availability of other meat sources. The journal of Caesar Rodeney (Hancock 1962a) records that Rodeney dieted on oysters in 1727 in the fall months (September and October), a similar pattern to the archaeologically-derived William Strickland Plantation Site assemblage. However, in the following year Rodeney wrote that the sources of meat in Kent County, cattle, swine and sheep, were seriously depleted by flooding, followed by drought. This destruction of the livestock in turn led Rodeney and others to much more oyster harvesting starting in January, as would be expected based on the archaeological evidence, and also extending into the summer months. Oystering was also accompanied by a significant increase in drum fishing in 1728, an activity that Rodeney had spent little time on the previous year. Oystering and fishing could therefore represent adaptive subsistence strategies undertaken when other, more traditional, sources of meat were not available.

Between the two Duck Creek sites and the earlier Webbs' Landing site, there is a significant difference in the ages of the oysters from the Strickland occupation and those from the Darrach Store Site. As stated previously, the Strickland occupation assemblage had a median age of three to four years old. The shells from the Webbs' Landing Site had a median age of 4.5 years. In contrast, oysters between the ages of four and eight years accounted for over 75% of the Darrach assemblage. One explanation for this radical age difference, seen at the two sites, could be due to the passage of legislation by Delaware in 1812 aimed at protecting the oyster beds from incursions from oystermen from other states (Miller 1971). The Darrach oyster assemblage, taken from a trash pit feature, could date to the period after the legislation was passed.

Faunal Assemblage Comparisons

It is possible to compare the faunal assemblage from the William Strickland Plantation Site with assemblages from other sites; however, the same problems that hindered the search for comparable ceramic samples also affect the search for appropriate faunal samples for comparison. Luckily, the same three sites that were considered appropriate for the ceramic comparisons due to their similar dates and general location in the middle and lower Delaware River Valley, the Old Swedes Church Parsonage (LeeDecker et al. 1990), the Gloucester City Site (Thomas et al. 1985), and the Carney Rose

TABLE 20

Comparative Faunal Data--
Mammals and Birds from Delaware Valley Sites

ANIMAL	WILLIAM STRICKLAND PLANTATION	OLD SWEDES CHURCH PARSONAGE	GLOUCESTER CITY	CARNEY ROSE
MAMMAL				
Cow	X	X	X	X
Pig	X	X	X	X
Sheep	X	X	X	X
Deer	X	X	X	X
Rabbit	X	X	X	X
Squirrel	X	X	X	X
Opposum	X			X
Woodchuck	X		X	
Muskrat	X			
Raccoon	X			
BIRD				
Chicken	X		X	X
Duck		X	X	X
Pigeon		X	X	
Grouse		X		X
Goose	X	X		
Bobwhite				X
Turkey	X			

Note: Non-dietary species are excluded

Site (Louis Berger and Associates 1986), all did produce faunal samples and LeeDecker et al. (1990) have compared these three assemblages with one another. The comparative analysis presented here adds the Strickland assemblage to the other three sites and continues the analysis begun by LeeDecker et al. (1990:192-194).

As noted by LeeDecker et al., the variety of the analytical methods applied to the faunal remains for these sites makes any comparison beyond the level of presence and absence of species suspect. Therefore, this analysis is limited to a consideration of species presence and absence. Table 20 compares the presence and absence of mammals and birds, and Table 21 compares the same data for fish, amphibians, molluscs, and crustaceans. Mammals show the least variety among the sites of any food remains (Table 20). A basic assemblage of cow, pig, sheep, deer, rabbit, and squirrel is present at all sites. Although relative frequency data for the sites are not completely comparable, it is safe to say that the wild species contribute only a small portion of the diets at these eighteenth century sites. Thus, although popular histories of the American colonial period often depict the American colonist as hunting, fishing, and living off the land, the faunal data from these sites suggest that subsistence was based on domesticated animals, even in relatively undeveloped rural areas such as Duck Creek Hundred, Delaware. The Strickland assemblage does show the use of more different species than the other sites, and this difference may reflect the rural setting of the site. Thus, it is possible that the differences in rural versus urban food economies in the colonial Delaware Valley were in terms of the range of wild mammal species utilized, not in terms of the frequency of abundance of their contribution to diets.

Birds show a wide range of variability among the sites (Table 20). This variability may reflect availability of these species, or perhaps personal food preferences. However, it is important to remember that bird bones are thin-walled, gracile, and fragile, and do not preserve well in the archaeological record. Thus, some of the differences in bird species in the assemblages may be due to taphonomic factors.

TABLE 21

Comparative Faunal Data--Fish, Amphibians, Molluscs, and Crustaceans from Delaware Valley Sites

ANIMAL	WILLIAM STRICKLAND PLANTATION	OLD SWEDES CHURCH PARSONAGE	GLOUCESTER CITY	CARNEY ROSE
FISH				
Bass		X		
Perch	X	X		X
Herring		X		X
Shad		X		
Swordfish		X		
Sturgeon		X		X
Catfish	X		X	X
Drum			X	
Long-nosed gar			X	
Sucker			X	
AMPHIBIAN				
Turtle	X		X	X
Frog	X		X	
MOLLUSCS				
Oyster	X	X		
Mussel	X	X		
Clam	X	X		
Razor clam		X		
CRUSTACEAN				
Crab	X			

Note: Non-dietary species are excluded

Fish also show a great deal of variability among the assemblages (Table 21). The Strickland assemblage shows the least frequent use of the smallest range of fish species and this pattern may be due to the fact that the site is located the greatest distance from the main stem of the Delaware River. Although fish were undoubtedly abundantly present in Mill Creek and its tributaries, there is no doubt that the main channel of the Delaware River provided greater numbers and varieties of fish. The Gloucester City and Carney Rose sites probably had relatively easy direct access to the Delaware River shores. On the other hand, the access to varied fish species from the main river channel for the Old Swedes Parsonage was probably via the early urban markets of Wilmington, or via gifts from parishioners given the fact that LeeDecker et al. (1990) feel that the other animal foods were procured in this manner.

Amphibians are missing from the urban Old Swedes Church Site (Table 21), but are present at the other three more rural sites. Given the fact that at least turtle meat, and perhaps frogs' legs, would have been available in Wilmington markets, their absence at the Old Swedes Church Site may reflect personal or even ethnic food preferences. Molluscs were present only in the Strickland and Old Swedes Church assemblages (Table 21). Given the generally ubiquitous distribution of oyster shells on eighteenth century historic sites throughout the Middle Atlantic region, it is hard to imagine that a factor other than preservation or sampling biases caused their absence at the Gloucester City and Carney Rose sites. Crabs were present only in the Strickland assemblage (Table 21). Given their fragile nature, their absence at the other sites is probably due to taphonomic factors.

Faunal assemblages from non-local sites of different ages than that of the William Strickland Plantation Site were not used for comparison because the factors of differing location **and** different age make it difficult to understand observed differences and similarities. However, the faunal assemblage from the Darrach Store Site (De Cunzo at al. 1992), which dates to 1790-1840 and is located in Smyrna, less than one mile north of the William Strickland Plantation, was chosen for comparison. The proximity of the two sites allows for control of the variable of location, and allows the study of changes in faunal exploitation patterns within the Duck Creek/Smyrna River drainage between the pre-Revolutionary period (William Strickland Plantation) and post-Revolutionary period (Darrach Store). Even though these sites are located relatively near one another, two factors do complicate their comparison. First, the Darrach Store faunal assemblage is less than one-tenth the size of the Strickland sample and its smaller size may introduce sampling biases. Second, the Darrach Store Site was used both as a dwelling and a commercial establishment, while the William Strickland Plantation Site was an agricultural farmstead. Due to these complications, presence/absence comparisons of species are the most appropriate comparative methods to use along with very limited measures of relative species abundance.

Table 22 shows the varied species present at the two sites and the lists are very similar. The few differences present are probably best explained by the potential biases introduced by the small size of the Darrach Store sample. It is interesting to note that deer remains are missing from the Darrach Store assemblage. Their absence may reflect the higher human population densities of Duck Creek Hundred during the first half of the nineteenth centuries and the destruction of local deer habitats. In addition to showing similar species compositions, the two assemblages are also similar in that wild species contribute less than 10% of the faunal food sources in both cases. These similarities suggest that foodways changed little in the Smyrna area over the course of the eighteenth century and the first half of the nineteenth century. Thus, the dependence on domesticated animals brought to North America from Europe that characterizes the nineteenth century, and our own modern diets for that matter, was well established when colonists like William Strickland established their plantations in Delaware during the first half of the eighteenth century.

TABLE 22

Comparative Faunal Data--William Strickland Plantation and Darrach Store

ANIMAL	WILLIAM STRICKLAND PLANTATION	DARRACH STORE
MAMMALS		
Cow	X	X
Pig	X	X
Sheep	X	X
Deer	X	
Rabbit	X	X
Squirrel	X	X
Opossum	X	X
Woodchuck	X	
Muskrat	X	X
Raccoon	X	
AMPHIBIAN		
Turtle	X	X
Frog	X	
MOLLUSCS		
Oyster	X	X
Clam	X	X
Mussel	X	X
CRUSTACEAN		
Crab	X	

Note: Non-dietary species are excluded

Landscape: Siting, Layout, and Plan

The siting of the William Strickland Plantation Site on the landscape has already been examined in the intrasite analysis section of this report. However, it is also useful to compare the site's placement on the landscape with other eighteenth century farmsteads that have been archaeologically examined.

Henry Glassie (1972) has suggested that there are a large number of social, topographical and climatological variables that can affect farmstead layout and location, such as the lay of the land, wind, rain and temperature, and changing social and economic systems (Glassie 1972:49). These variables are considered, where possible, in the following analysis. However, it is important to remember that archaeologists working in Delaware have investigated only a small number of colonial period sites, and any conclusions reached in this discussion must be preliminary and tentative.

In Delaware, three colonial farmsteads have been archaeologically investigated to a sufficiently intensive degree to allow some levels of intersite comparison with the William Strickland Plantation Site. These sites are the Whitten Road Farm in New Castle County (Shaffer et al. 1988), and the Thompson's Loss and Gain Site (Guerrant 1988a, 1988b) and the Marsh Grass Site (Thomas 1983) both of which are in Sussex County. Figure 47 shows the varied site plans from these colonial farmsteads and Figure 48 shows the floor plans of the houses. The Whitten Road Site (Shaffer et al. 1988) was an owner-occupied, and later tenant-occupied, farmstead dating from circa 1750 to the middle of the nineteenth century. Archaeological excavations at the site uncovered three earthfast structures including a dwelling constructed above a large cellar complex, and two stables or barns. To the east of the structure complex there was a well with a wooden crib lining.

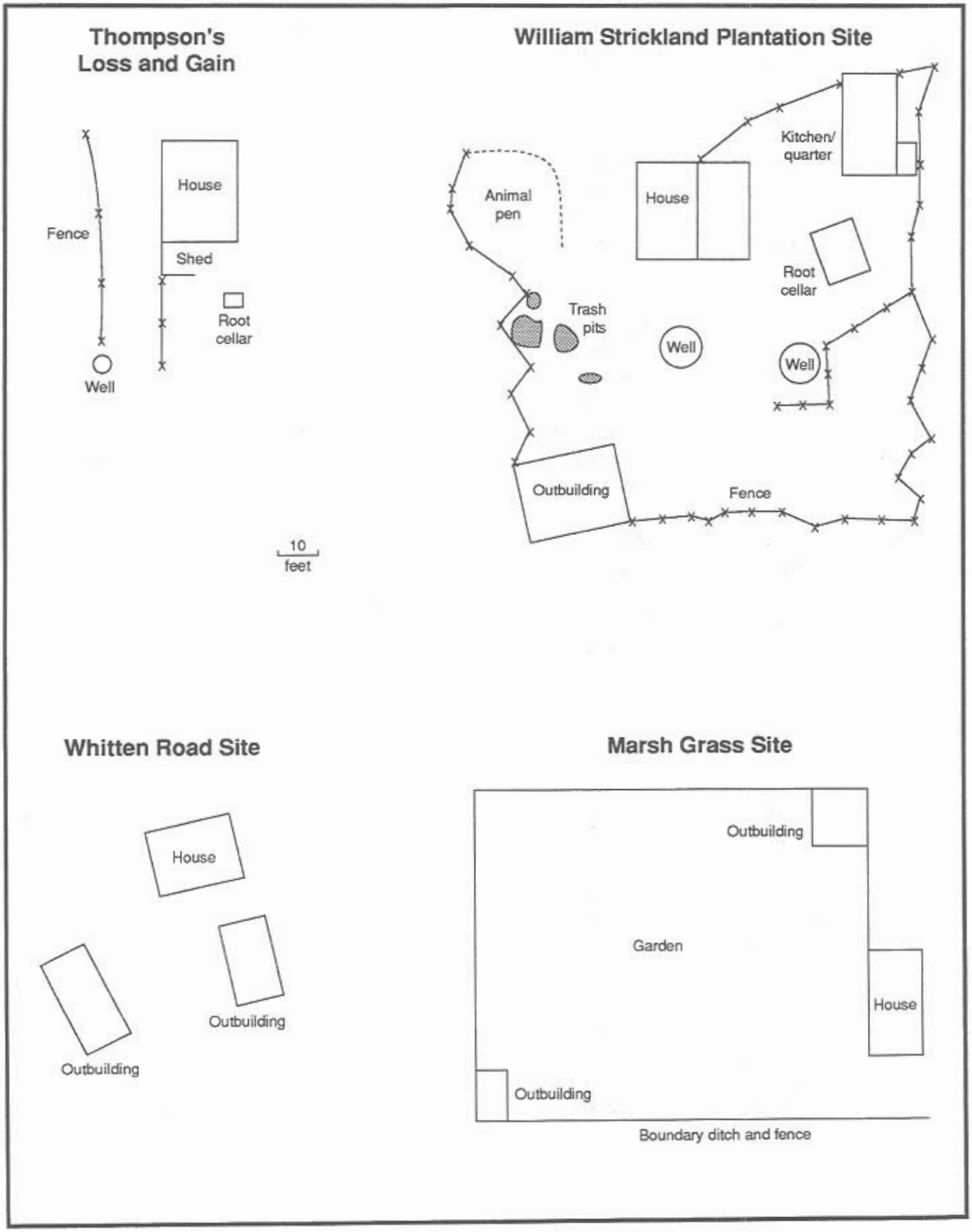
The Thompson's Loss and Gain Site (Guerrant 1988a, 1988b) was the location of a tenanted dwelling dating from circa 1720 to 1780. Located in a residential development, the major artifact-bearing deposits were excavated prior to destruction by new housing. Thus, the archaeology was concentrated on the dwelling and its immediate surroundings. The dwelling consisted of an earthfast structure built on a two-room (hall-parlor) plan. A wattle and daub chimney was located in the kitchen/hall, and a corner brick chimney in the parlor. The hall contained nine small root cellars clustered around the fireplace, and the smaller parlor fireplace had two brick-lined cellars near it. The posts used in the construction of the house exhibited replacement, and a floor may have been added inside the structure. A small shed, interpreted as a possible buttery, was located on the south side of the building. A wooden, crib-lined well was found at this site, and a large trash midden extended from the parlor end of the dwelling to the edge of excavation.

The Marsh Grass Site (Thomas 1983) was also the home of a tenant family dating from the middle of the eighteenth century to the early nineteenth century. The house at this site, was interpreted to consist of both ground laid sill and earthfast construction. A central hearth and a cellar pit were excavated within the structure, and the house was probably built on a two-room (hall-parlor) plan. At least two possible outbuildings were identified, and the whole complex was defined by a boundary ditch and wattle fence. No well was uncovered at this site. High levels of phosphates in the area north of the fence and ditch indicate that the fencing was to keep livestock out, and the investigators interpreted the fenced-in area as a garden or orchard.

The extent of the archaeological remains found at these sites varied, but several generalizations about farmstead layout, siting and size can be addressed. Of the four sites, the physical layout of the Whitten Road Site is most similar to the Strickland farmstead, particularly in the number of buildings and the informal way that they are arranged. Both of these farmsteads present the appearance of clusters of rather haphazardly placed structures on the landscape. At the Whitten Road Site, there are three structures (a dwelling and two outbuildings), and at Strickland there are five structures (a dwelling, a kitchen/quarter, a smokehouse, and two outbuildings). The way that these buildings are physically

FIGURE 47

Site Layouts of Delaware Colonial Farmsteads



arranged suggests that they are clustered around a workyard or "courtyard," an interpretation based on the implicit assumption that the buildings face inward, towards each other, rather than outward. Glassie (1972:50) refers to this plan as a "hollow square" organization, but he limits its use to the New Jersey Coastal Plain. The archaeological evidence from Delaware suggests that it was more pervasive and widespread, and that it could be a frontier orientation that is discarded or replaced as more land is brought under cultivation, and as perceptions about Georgian symmetry and world views became more common.

Like the Whitten Road farmstead, the Marsh Grass Site contains a dwelling and two potential outbuildings, but unlike the first two sites the yard is well-defined. The clear delineation of the yard aside, even the Marsh Grass Site could be interpreted as facing inward, especially since the courtyard at this site was surrounded by a wattle fence and ditch. The archaeology at the Thompson's Loss and Gain Site unfortunately did not examine a large enough area to determine the size and layout of the plantation.

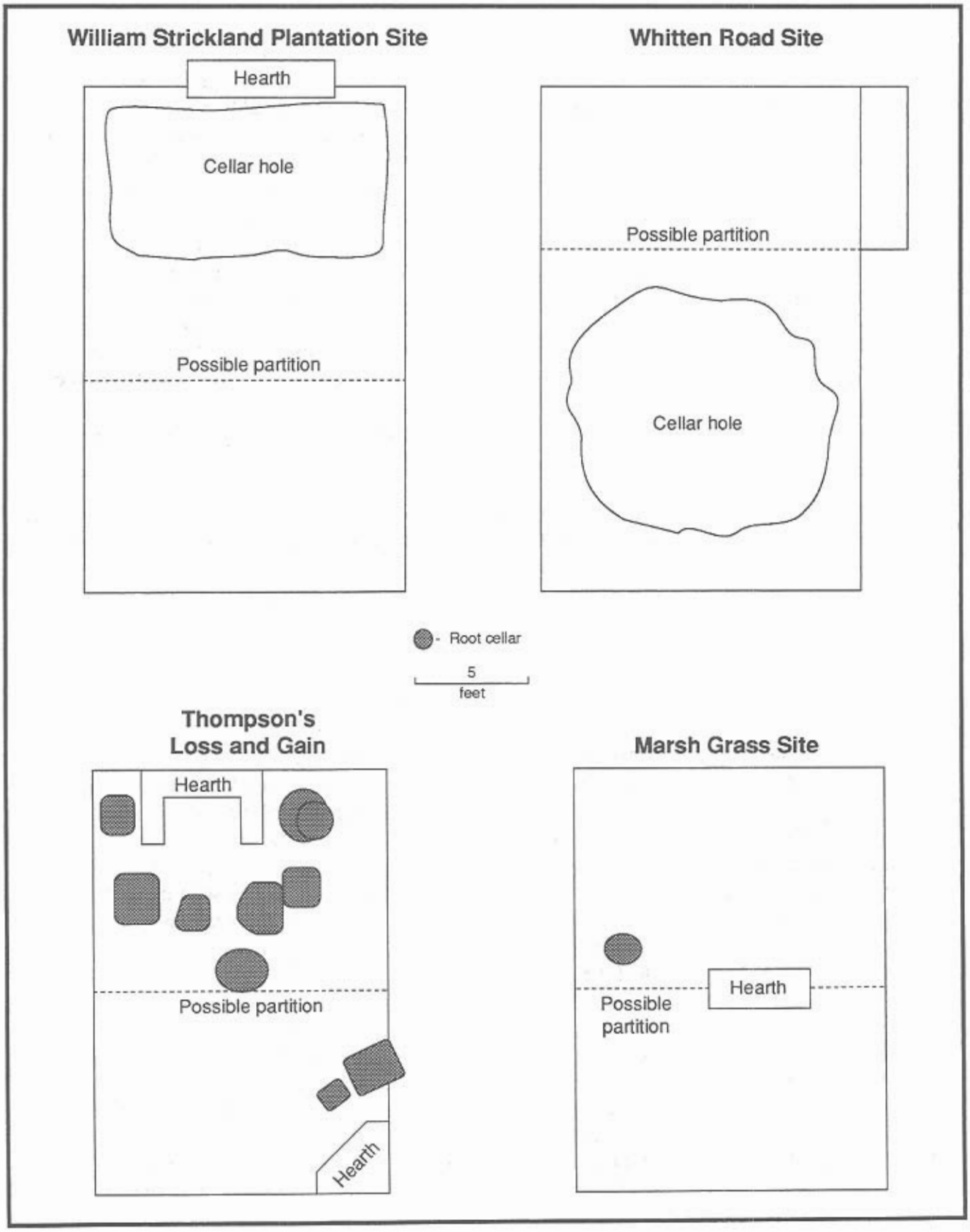
The presence and location of wells for colonial sites were clearly important factors in the sighting of farmsteads, due to their significance for the survival of both humans and livestock. All of the sites, except the farmstead at Marsh Grass, have wells, suggesting that either the excavations at that site failed to extend into the area where the well was located, or the inhabitants of the site used surface water or someone else's well for their water source. At the William Strickland Plantation, and at Thompson's Loss and Gain, the wells are located within 20 to 50 feet of the dwellings. At the William Strickland Plantation Site the wells are also apparently placed for ease in watering livestock. The exception to this placement occurs at the Whitten Road site, where the well was more than 100 feet from the dwellings and outbuildings. The reason for this distant placement of the well is not clear. Mechanical stripping of the site did not uncover any additional structural features closer to the well, and the closest stream is located several hundred feet to the south. Other later historic farmsteads have also located wells within the 20-50 feet of the main farm building (cf. Catts and Custer 1990). Thus, Whitten Road well placement appears to be at odds with the regular pattern for reasons that may never be known.

Gardens, animal pens, and trash pits occur with regular frequency around the peripheries of the workyards at Marsh Grass, Strickland, and Whitten Road. Though less surface area was tested at the Thompson's Loss and Gain site, a similar pattern of trash disposal was noted, directly south of the parlor and between the dwelling and the well. The disposal of rubbish at mid-eighteenth century Delaware sites thus seems fairly consistent throughout the region and trash and garbage were dumped anywhere beyond the immediate confines of the workyard. The fencing and ditching, seen at all of the sites, indicates the widespread adaptation of allowing livestock to roam freely. Recent research by David Grettler (1990) reveals that this pattern changed only when population pressures, changing agricultural practices, and changing perceptions of landscape forced the passage of laws governing free-ranging swine and cattle in Delaware at the beginning of the nineteenth century.

The sizes of the work or inner yards at these farms are very different, ranging from over 43,000 square feet at Whitten Road to 35,123 square feet at Marsh Grass, and only 21,235 square feet at William Strickland's plantation. There is one interesting similarity, however. In each of these three sites, the longest dimension is between 214.5 and 224 feet, which is approximately between 13 and 13.5 perches (1 perch = 16.5 feet). As a unit of measurement, a chain is made up of four perches (16.5

FIGURE 48

Archaeological Floor Plans from Delaware Colonial Houses



feet x 4 feet = 66 feet). One-fifth of a chain is approximately 13 perches, suggesting that perhaps this was a unit of measurement used to establish farmstead sizes. House dimensions can be viewed in a similar way, with 16-foot building sections representing one perch.

House dimensions at each of the sites are remarkably similar (Figure 48). The first floor dimensions of each of the houses measures between 408 square feet and 448 square feet. It should be noted however, that William Strickland's house had a possible eastern addition which would have doubled its size (Figure 12), and if he had lived to complete the northern addition, his home would have been even bigger yet. The dimensions of the other three houses could be more representative of vernacular building traditions in the Lower Delaware Valley for post-in-ground or timber frame construction for the colonial period. Or, as is the case at the William Strickland farm, and originally suggested by Carson et al. (1981), these houses may represent the "first homes" of the settlers, intending to rebuild or supplement at a later date. Although not built at the same location, the construction of a later brick dwelling associated with the Whitten Road Site supports this conclusion. The key in understanding this rebuilding and/or replacement process is in the timing of the process. In the case of the Strickland farm it was not completed and was cut short by William Strickland's death. At Whitten Road it did not occur until the end of the eighteenth century. However, the later construction of the Belmont Hall Mansion (Plate 2) within 300 yards of the William Strickland Plantation may be viewed as part of the same general regional process, even though Belmont Hall was constructed by another family.

Earthfast building techniques were used at all four sites, and there is a variety of methods illustrated, from post-in-ground to ground laid sills or shallow brick foundations. In some cases, such as Whitten Road and Thompson's Loss and Gain, all of the structures are built in the earthfast tradition. At the other two sites, there is a mix of techniques indicating that a variety of choices were available to the Lower Delaware Valley's vernacular builders.