Vine Street Lot

Archaeological Data Recovery Plan

Prepared for:
The Durst Organization

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Vine Street Parking Lot

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Durst Organization

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Introduction

Project Description

This document outlines the data recovery plan for archaeological investigations at the Vine Street Lot, 300-346 N. Christopher Columbus Blvd., Philadelphia, Pennsylvania, for the proposed Durst Organization mixed-use residential development. The project area was a municipal parking lot operated by the Delaware River Waterfront Corporation (DRWC) and is bounded to the north by Callowhill Street, to the east by Columbus Boulevard, to the south by Vine Street, and to the west by Water Street (Figure 1). The project area encompasses broadly the same boundaries as the Hertz Lot/West Shipyard, Penny Pot House archaeological site (36PH0028), which is listed on the National Register of Historic Properties (NHRP).

The development of the Vine Street lot will involve the construction of a multi-story, mixed-use structure within a portion of the lot. While plans for this development have not yet been finalized, it is anticipated that the foundation and support systems for the new structure will require substantial ground disturbance and result in significant impacts to archaeological resources preserved within the lot. At present, the principal ground-disturbing impacts for the construction of the building are to take place on the southern half of the lot, south of the Wood Street steps. The northern half of the site will be converted into publicly accessible open space and is not anticipated to incur significant impacts to buried archaeological resources.

As this site is listed on both the Philadelphia and National Registers of Historic Places, archaeological mitigation of construction impacts was made conditions of the sale of the property as established in the project Request for Proposals (RFP) from the DRWC. The project area has been archaeologically investigated three times, once in 1987 by the City of Philadelphia (those excavations were focused in the northern part of the lot and located an intact early-nineteenth-century shipyard), again in 2012 by John Milner Associates (whose efforts were focused primarily on the southern portion of the lot and the documentation of evidence of the seventeenth-century West Shipyard occupation), and finally by AECOM in 2019 as part of site due diligence investigations associated with Vine Street Lot development planning. All of these aforementioned excavations have revealed evidence suggesting the continued presence of significant buried cultural deposits and features related to Philadelphia's early Delaware River waterfront. Because proposed construction will impact archaeology resources in the southern portion of the Vine Street Lot the Durst Organization has contracted AECOM to perform a data recovery mitigation effort to collect and record the archaeological information contained within the site before development.

The study area for the proposed archaeological data recovery consists of an approximately 35,400 square foot (250 feet by 141 feet) encompassing the entirety of the Vine Street Lot south of the wood Street steps. While construction impacts associated with the future building foundation elements such as piles or caissons are anticipated to reach depths in excess of 50 feet below the present ground surface, existing data indicates that the maximum depth of archaeological resources within the study area, and therefore the maximum depth of archaeological investigation, will be approximately 12 feet below the surface of the parking lot. The purpose of the data recovery investigation will be to identify, document, and recover any significant archaeological resources contained within the Vine Street Lot study area that may be associated with the development of the Philadelphia Waterfront during the late-seventeenth through nineteenth centuries as it transitioned from the center of the shipbuilding trade to subsequent mercantile hub.

AECOM will obtain all permits necessary for these investigations. The archaeological research team assembled for this project meets the Professional Qualifications Standards for Archaeology (36 CFR Part 61) and 950 CMR 70.10. All archaeological excavation will be performed to the standard of Section 106 of the National Historic Preservation Act (NHPA) and will be conducted per requirements the Pennsylvania Historical and Museum Commission (PHMC) outlined in *Guidelines for Archaeological Investigations in Pennsylvania* (Pennsylvania Historical and Museum Commission (PHMC) Revised 2017). During excavation, the Philadelphia Historical Commission (PHC) and the Pennsylvania Historical Museum Commission (PHMC) will provide oversight for the data recovery effort.

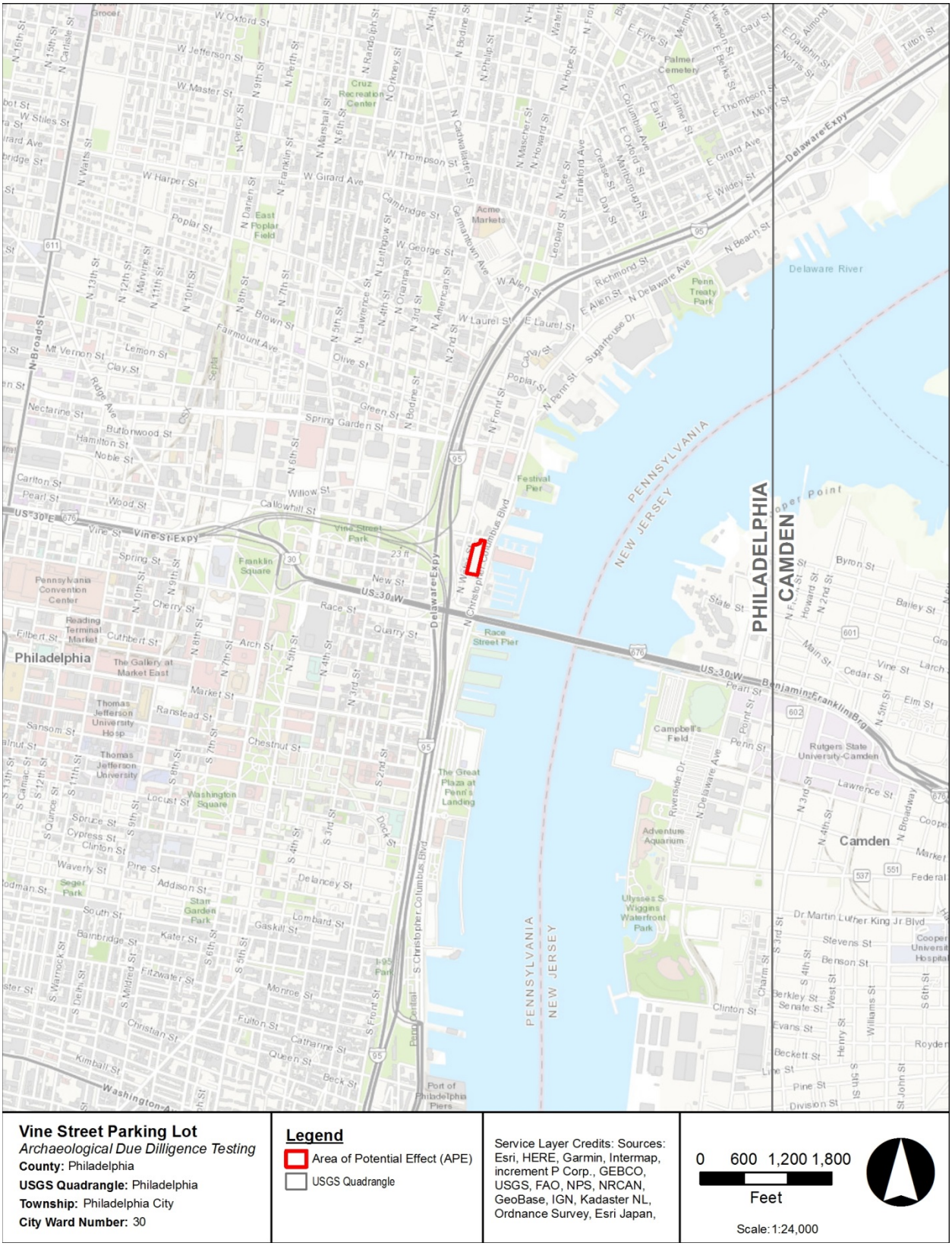

Figure 1. Map showing the location of the Vine Street Lot project area.

Background and Archaeological Potential

The Vine Street lot has been the subject of three previous archaeological investigations. The first such investigation was conducted by the Philadelphia Historical Commission in 1987, under the direction of City Archaeologist Carmen Weber, and the second by John Milner Associates on behalf of the DRWC in 2012, and the third by AECOM in 2019 (Weber and Yamin 1988/2006, John Milner Associates, Inc. 2013, Dworsky, et al. 2019). The 1987 excavations focused on the northern portion of the Vine Street lot and the 2012 excavations on the southern portion of the lot, and the 2019 excavations to fill in the gaps between the two previous testing efforts.

1987 Excavations

Carmen Weber's excavations of the Hertz lot in 1987 focused principally on the portion of the lot north of the Wood Street steps (Figure 2). Weber's excavations were successful in locating substantive evidence of eighteenth- and nineteenth-century wharves, related to the early expansion of the waterfront. Weber documented the prevalent use of timber crib construction infilled with gravel, sand, and silt during both the eighteenth and nineteenth centuries, and documented the use of a variety of timber joinery techniques in crib construction (Weber and Yamin 1988/2006). While crib construction was the most pervasive, Weber found that raft-type wharf construction in combination with dredge spoil was also used to create new land. Weber noted that while evidence of the eighteenth- and early-nineteenth-century wharf structures appeared to be well preserved, material from the later use of the site was largely absent, apart from some ephemeral structural remains (Weber and Yamin 1988/2006).

Photo 1. A view of the fully excavated shipway found during the 1987 excavations (Weber and Yamin 1988/2006).

The most notable find was the discovery of a well-preserved slipway—used for hauling ships out of the water for repair or refit. About 83 feet of this structure was uncovered, showing two parallel wooden rails set 8–9 feet apart, upon which a cradle would have been set. Small ships or schooners were then able to sail into the cradle from the river and, once secured, the ship and cradle could then be hoisted up the sloped rails to drier land, where it could be worked on (Weber and Yamin 1988/2006, 18-19, 31). Weber's report interpreted this shipway to likely date to the early nineteenth century under the occupation of Thomas Leiper, as the 1811 Paxton map shows a possible structure in the approximate location around that time (Paxton 1811).

2012 Excavations

The second archaeological excavation of the Vine Street lot occurred in 2012 and focused on the southern portion of the lot, principally the land the West family formerly occupied (Figure 2). John Milner Associates undertook this excavation on behalf of the DRWC.

The 2012 excavations consisted of the excavation of three test trenches. The only one of the three trenches to be excavated north of Wood Street, Trench 1, was placed perpendicular to the southern trenches excavated by Weber in 1987; it was hoped this trench would produce further evidence of the bulkhead in this location. While successful in documenting the fill sequence of the area, Trench 1 did not produce any further evidence of a wharf structure.

Photo 2. Logs forming part of a grillage wharf (Feature 6) located 6 feet below the surface of the parking lot (John Milner Associates, Inc. 2013, 32).

Trench 2 was a 72-foot-long trench placed along the western edge of the parking lot and spanned most of the length of the original West lot. This trench revealed several foundation walls made of stone and brick (Features 1, 2, 3, 4), as well as some floor joists (Feature 5) (John Milner Associates, Inc. 2013, 26-28). These foundation walls were considered to be representative of a late-nineteenth-century apartment block built on the site and its internal divisions and basement floor. Some of these walls were found to be sitting upon wider and deeper wall structures, which were interpreted as the reused remnants of an earlier nineteenth-century building foundations (John Milner Associates, Inc. 2013, 28). The excavation of builder's trenches associated with these deeper walls, such as those excavated in Test Unit 2, produced late-eighteenth- and early-nineteenth-century material, suggesting a construction date for these earlier structures. Underlying these foundations, at a depth of 6 feet below ground surface (BGS), archaeologists found a series of logs laid parallel to one another and perpendicular to the riverbank (John Milner Associates, Inc. 2013, 31). These logs were interpreted as representing part of the earlier phase of wharfing out of the riverbank, a process accomplished using a grillage wharf system. This grillage wharf system used rafts of overlapping logs laid at right angles and then filled with stone and sediment to build out the land into the river. One full layer of this grillage was observed and documented, and another layer of perpendicular logs viewed briefly before water inundated and obscured the feature (John Milner Associates, Inc. 2013, 31). These logs showed evidence of hewing or joinery, but the matrix in which they appeared was full of woodworking debris. This surface was therefore interpreted as being part of an early pier or wharf upon which ships were built and other waterfront carpentry activities took place (John Milner Associates, Inc. 2013). This Feature 6 grillage wharf deposit was dated to the first quarter of the eighteenth century through diagnostic artifacts.

The last trench John Milner Associates excavated, Trench 3, was situated along the southern edge of the parking lot just above Vine Street. Within this trench, much of the eastern portion was determined to have been disturbed by later action related to the Hertz parking lot (John Milner Associates, Inc. 2013, 36). In the western portion, however, archaeologists identified a stone wall (Feature 9) that ran north to south. This wall was cut into wharf fill sediments containing late-seventeenth- and eighteenth-century artifacts. At a depth of 5 feet, archaeologists also encountered a series of large flagstones (Feature 10) running perpendicular to the wall along the northern edge of the trench. While the soils beneath the Feature 9 wall were interpreted as being related to early-eighteenth- and nineteenth-century wharf construction, the wall itself was attributed to the late-nineteenth-century apartment block (John Milner Associates, Inc. 2013, 36).

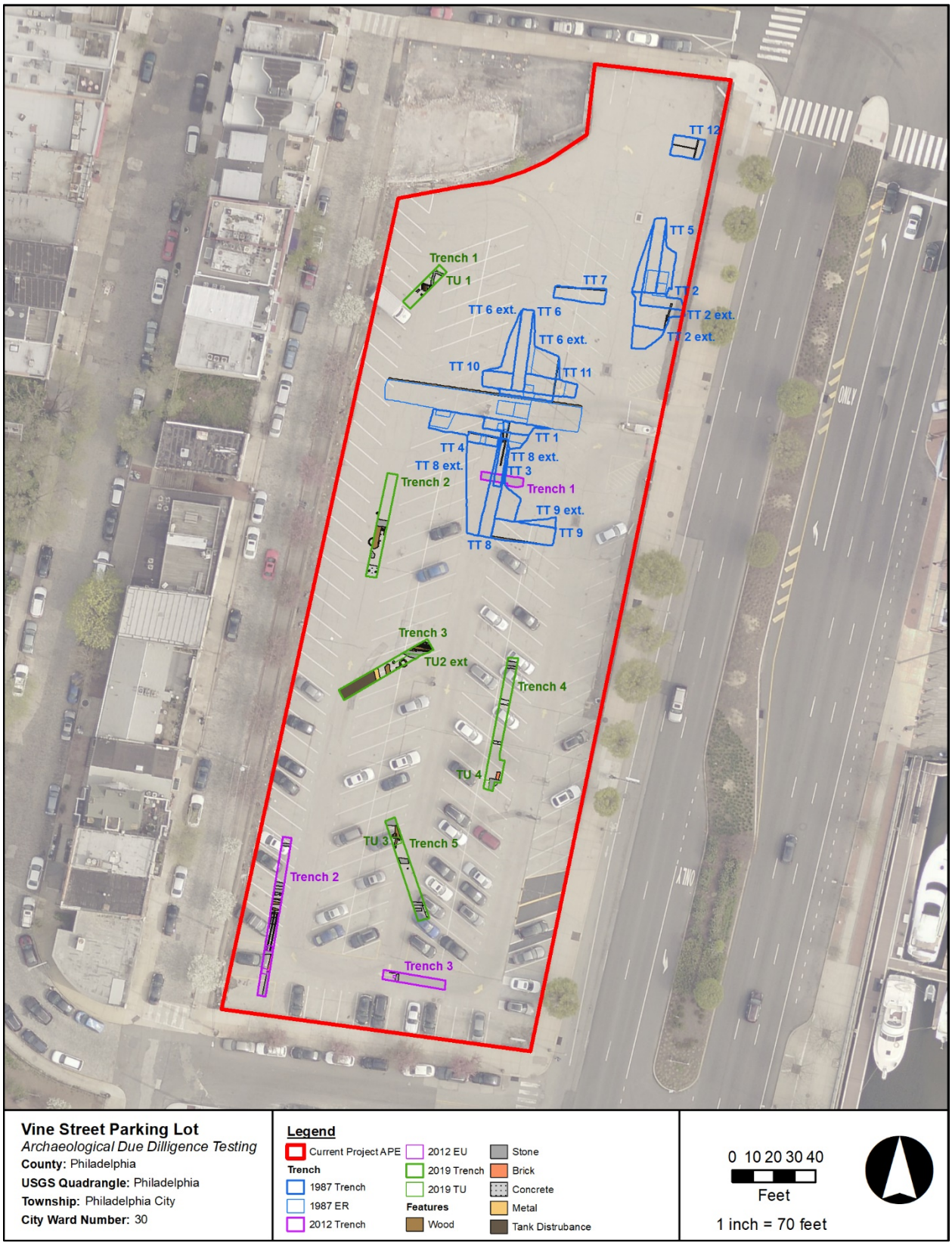

Figure 2. A map of the Vine Street lot showing the locations of previous surveys and key features.

2019 Excavations

A total of 5 archaeological test trenches were excavated during the 2019 due diligence effort conducted by AECOM. All of the five archaeological trenches excavated produced archaeological features and intact cultural deposits. Trench 1, in the northern part of the lot, contained features documenting late-eighteenth-century wharf construction and deposits of woodworking debris, the remains of seventeenth- and early-eighteenth-century woodworking activity along the Delaware riverbank. Trench 2 revealed a mid-nineteenth-century structural foundation and associated floor while uncovering the presence of late-eighteenth- and early-nineteenth-century occupation surfaces. Trench 2 also produced a brick-lined well shaft cut into this early historic occupation surface, likely dating to the first half of the nineteenth century. Trench 3 produced a similar assemblage to Trench 2, also revealing a mid-nineteenth-century structure and floor and a brick-lined well cut into an earlier historic occupation surface. Trench 3 also contained a deposit that likely represented an early-eighteenth-century occupation surface along the Delaware riverbank. The substantial homogenous fill deposit encountered in the western end of Trench 3 marked the extent of twentieth-century disturbance caused during the installation and subsequent removal of an underground fuel tank from the Hertz occupation of the lot. In the southeastern part of the lot, Trench 4 produced additional evidence of mid-nineteenth-century wharf buildings, as well as deposits related to late-eighteenth-century wharf construction and built environment. Trench 4 contained an artifact-rich historic occupation surface dating to the late eighteenth and early nineteenth century; this deposit contained foundations related to a building constructed upon a late-eighteenth to early-nineteenth-century wharf surface (Photo 3). Trench 5, in the southwestern part of the lot, uncovered additional early-nineteenth-century wharf building foundations; it also provided evidence that the grillage wharf technique was used to construct some of the early wharves in the southern part of the project area.

Photo 3. Southern end of Trench 4 plan view. Shown: Context 197, Feature 42, and Feature 44.

All the available evidence from excavations performed within the Vine Street lot seems to suggest that beneath the surface of the parking lot, the historic waterfront from the late seventeenth century to 1850 remains intact and well preserved. Investigations of possible modern disturbance associated with the Hertz occupation revealed that more recent activities have likely only disturbed archaeological deposits in a few discrete locations, the most notable being the site of a former fuel tank encountered in Trench 3. Based on the results of the current excavation, it appears that disturbance is the exception, not the rule. Even in areas like the footprint of the Hertz maintenance facility, which was tested via Trenches 4 and 5, potentially significant and intact archaeological deposits were encountered. Some of this high degree of preservation may be the result of the destruction of this section of the waterfront in 1850, the subsequent redevelopment effort essentially burying the earlier landscape under fill sediment and preserving it from the impact of later disturbance. The fact that evidence of earlier waterfront usage for shipbuilding and wharf expansion has been found beneath and between these late-eighteenth- and early-nineteenth-century structures is a good indicator that deposits related to the earlier seventeenth- and early-eighteenth-century periods will continue to be found intact, as well.

Research Themes and Questions

The following section of this plan presents a list of research questions that may be addressed by the study of archaeological resources that are anticipated to be encountered. These research questions are arranged by temporal period as established by AECOM following its 2019 due diligence testing (Dworsky, et al. 2019).

Shipbuilding

During the late seventeenth and eighteenth centuries shipbuilding was one of the principal industries that occurred within the bounds of the project area. The Vine Street Lot provides the opportunity to examine the physical remains of this early industry which helped to shape the growth of Philadelphia. Archaeologically, shipbuilding sites are an under-investigated site type, and by extension, the variability within such sites is poorly documented and understood. Furthermore, many of the common ships employed in the mercantile trades of the colonial and early Federal economies were built as part of a vernacular tradition, meaning vessel plans and specifications are largely absent. Understanding the sites where these vernacular vessels were constructed offers the opportunity to glean details about the size, scale, and makeup of vessels for which no other physical trace or evidence might remain. Here archaeology offers a way to learn about vessels that were extremely important to the development of the nation but are otherwise invisible to the documentary record. The study of shipbuilding sites offers the opportunity to study the technology and skills employed by past craftsmen that can provide insight into the development of shipbuilding technology and designs. Understanding these sites of production helps to highlight the nature of the shipping industry and its role within the economic and physical development of the colony of Pennsylvania.

Potential Research Questions

- *What are the tangible archaeological remains of the shipbuilding industry that occurred within the Vine Street lot? Is the evidence of this industry particularly ephemeral, or do more robust indicators or infrastructure such as additional slipways survive? If substantive evidence of shipbuilding survives, can the archaeology be used to determine the scale of the shipbuilding effort, the techniques employed, or the scale and type of the vessels constructed there? Can historic documents provide the names and dimensions of historic vessels constructed by shipwrights and, if so, how would vessels of such dimensions have been built or arranged in the landscape of the shipyard, given the archaeological evidence? What might such an effort tell us about how shipbuilding in Philadelphia was undertaken?*
- *How does the archaeological evidence of shipbuilding found at the Vine Street Lot compare to other contemporary shipyards in the greater Atlantic World? Can the arrangement of the yard identify specific activities or techniques employed by the shipbuilders? Were the shipbuilding techniques and shipyard layouts used in Philadelphia unique or did they follow a layout similar to other shipyards in operation throughout the Atlantic World during this time?*
- *Who was contracting the Vine Street Lot shipbuilders to construct vessels? Was the target market local or international or both? Can the owners of the vessels built in the Vine Street yard be identified? Do records related to their construction or subsequent use survive? If so, can the type and intended use of the vessels be ascertained? How did the intended use of the vessels affect the size, layout, placement of the yards?*
- *What was the economic role of the shipwrights within the Philadelphia economy? What can an examination of the types of ships being built by Philadelphia shipwright explain about the role of Philadelphia as a port city? Did they serve only as craftsmen or were their commercial interests more diversified? How were shipwrights compensated for their services?*
- *It is known from historical documents that during the shipbuilding period African Americans, both free and enslaved, labored in the shipbuilding and related industries along the waterfront. James West was himself a slave owner. What can the historical documentation tell us about the lives of these*

individuals? Can evidence of African Americans be identities in the archaeological record? Why or why not?

Waterfront Development

One of the principal themes for the current research effort is to determine how, when, and why the Delaware River waterfront was developed. How the waterfront in Philadelphia developed was a reflection of the economic environment of the city and the city's place within the Atlantic World trade system. Studying the development of the waterfront provides the opportunity to understand the technological means by which land along the waterfront was reclaimed, providing information about the trades and craftspersons involved in the technological means employed by these individuals. Knowledge of how things were built presents a comparative dataset that can be used to interpret not only the Vine Street Lot but other contemporary waterfront sites throughout the Atlantic World as well.

Research Questions

- *How were the seventeenth-, eighteenth- and early-nineteenth-century wharves within the Vine Street Lot constructed? Can a development chronology for the waterfront be established, and if so, what is the sequence of that development? Can the development of sections of the waterfront be temporally linked to the occupations of specific individuals? Did construction techniques show consistency based on the time period of construction, suggesting a predictable chronology for wharf building techniques, or was there substantial variability in construction techniques between properties owned by different landowners?*
- *Was the difference, if any, in wharf construction techniques an artefact of the function of the waterfront improvement? Specifically, is there a notable difference between construction techniques for wharves used for shipbuilding versus those later wharves used for mercantile actives? How does this use difference manifest itself concerning the construction of the wharves themselves?*
- *How does the observed waterfront development chronology of this site compare to other contemporary waterfront sites in Philadelphia, like the Meadows Site? How does the waterfront development sequence for the site compare to temporally contemporaneous sites in other North American cities? How can the similarities or differences be explained, if at all?*
- *What was the composition of materials used in the landfill and how was landfilling achieved? What can the composition of the landfill tell us about the construction of the wharf and the cultural environment in which it was constructed? Are the observed fill sediments the result of discrete dumping episodes, generalized refuse from the community, or was landfilling achieved more deliberately with little input from the larger community? If landfill sediment is comprised of ballast, dredge spoil, or demolition debris can the source of the material be ascertained? Can documentary research help to explain when, how, and by whom such material was brought to the site? If landfills are not principally comprised of deliberate fills like ballast or dredge spoil but are indicative of organic garbage (defined as the remains of preparing and consuming meals) what does the nature of the fill tell us about the adjacent community's relationship to the waterfront as it developed?*
- *Are organic landfill deposits, if present, primarily comprised of craft refuse or were organic garbage and the contents of privies a major component of the landfill? Can the composition or contents within the fill sediments be used to identify a likely origin for the material? Can soil sampling and the examination of the faunal, pollen, and entomological material within such fill sediments provided insight into land reclamation practices, and the communities or individuals responsible for the generation that material?*

Philadelphia Mercantilism and Trade

In the late eighteenth century, the use of the Vine Street Lot transitioned from being a site of ship production on the fringe of the city to a site of commercial activity and mercantile trade in the heart of a mercantile

waterfront corridor. Understanding this transition is important for understanding the development of Philadelphia and its economy. Mercantilism is a major theme not only in the history of the development of Philadelphia and its waterfront but in the development of the nation and the Atlantic World. Viewing the archaeological recourses of the Vine Street Lot through the lens of mercantilism enables comparison between sites of similar function in other areas that might be able to highlight broader trends or regional variance.

Potential Research Questions

- *How did the transition to mercantilism in the late eighteenth century change the physical landscape of the Vine Street lot? What was the physical layout of the mercantile waterfront? How did merchants use the landscape of the waterfront, and what was the role of warehouses and other structures related to the wharves and waterfront?*
- *What role did the wharves play in mercantile commerce along the Delaware River? Were wharves used only as a place to load and offload cargo, or were they also places of commerce and trade? Does the physical construction of observed wharf structures provide any indication of how they were used by merchants? Were structures built upon the wharves and, if so, what were their functions?*
- *Can the range of activities taking place upon the wharves be ascertained through the examination of deposited associated with the wharf surface? If so, what types of activities were taking place on the wharves?*
- *Are there any physical remains indicative of the trading activities that were carried out by merchants who occupied the Vine Street lot? Were the wharves within the Vine Street Lot the center of their commercial trade or did they have stores elsewhere in the city? If so, what role did the waterfront play in their trade and how does it manifest archaeologically? How did the commercial actives of the merchants within the Vine Street Lot fit within the greater framework of Atlantic World trade? What were their markets, who were their factors, and what were their shipping routes? Did their trade follow a regular pattern or was it variable and opportunistic?*
- *Does any evidence of the tradesmen and waterfront industries that supported the merchants survive in association with the mercantile landscape? If so, what industries are represented and how do they manifest archaeologically? What was the role of these trades in supporting the mercantile economy of late-eighteenth- and early-nineteenth-century Philadelphia?*

Post-Great Conflagration Waterfront Redevelopment

Such structural features are related to a period wherein the landscape of the block, and much of the eastern part of Northern Liberties, was remade—and when Delaware Avenue was first established in this area. Examination of these structural features is important to understanding whether portions of the pre-fire landscape were incorporated into the new layout, or whether, as it seems to appear, the landscape of the area was wholly transformed from a landscape dotted by smaller warehouses and shops crisscrossed by alleys, all leading to an informal track along the water, to a formalized block with Delaware Avenue as its eastern boundary—formally establishing the waterfront as separate from the water lots along Water Street. AECOM recommends that foundations and deposits related to this period be fully documented and mapped before their removal, as they are representative of the birth of the modern landscape and layout of the waterfront. Detailed insurance records and documentary evidence about the reconstruction of these structures in 1850/1851 shows that they continued to serve a mercantile function even after the fire, and thus can provide valuable insight into the change and or continuity of activities of the mid-nineteenth-century riverfront economy.

Potential Research Questions

- *What, if any, deposits can be conclusively related to the aftermath of the Great Conflagration and how do they manifest archaeologically? Is such evidence seen across the site or only in discrete locations?*
- *How did the changes to the Vine Street lot after the Great Conflagration, such as the creation of Delaware Avenue, impact the redevelopment of the Vine Street lot in the mid-nineteenth century? Was the landscape physically altered by additional filling and grading? How does the reconstruction activity manifest if at all?*
- *Without direct access to the waterfront, how did the use and layout of the mercantile landscape evolve? As the wharf-related activities moved east toward the river on the other side of Delaware Avenue, did tradesmen and craftsmen migrate, or did they maintain a presence within the newly rebuilt landscape? Can this be addressed archaeologically or are surfaces related to this period absent?*

Potential Archaeological Resources

This section contains an assessment of the types of archaeological resources likely to be contained within the Vine Street Lot project area. This evaluation is based on careful consideration of extensive historical research that has been carried out on this property, and information derived from prior archaeological investigations completed within the lot. Based on this wealth of data, AECOM has identified six major classes of archaeological resources that are likely to be present.

Wharf-Structural Features

Archaeological features of this type were encountered during each of the three previous archaeological testing efforts within the Vine Street Lot. Such features have taken the form of more formalized crib type timber frame wharves and slipway structures such as those that were encountered during the 1987 excavations in the northern portion of the lot, or the earlier raft and grillage style wharf structures encountered during the 2012 and 2019 excavations in the southern portion of the lot. From historical documentation and maps, we know that during the eighteenth and nineteenth centuries this area of the Delaware River waterfront was progressively wharfed out into the river and subsequently built upon with commercial structures and warehouses. As the wharfing out process continued well into the twentieth century, presumably in an additive fashion, it is anticipated that multiple phases of wharf structure will be encountered, and its study will be critical to understanding the development of the waterfront and the activities that drove that expansion.

Pier features

Archaeological evidence of potential pilings related to pier structures was located in several trenches during the 2019 excavations. Like wharves, piers are a means of extending terrestrial access into a body of water to a point at which the water is sufficiently deep to allow a vessel to tie up and take on or unload cargo. Unlike a wharf, where this access is achieved building out into the water and physically creating land, piers are merely a platform supported by pilings. Water can freely flow beneath the platform between the piles. Such a structure provides maximum access to deep water for a more limited expenditure of resources, but they were also more subject to deterioration and damage than wharves. Additionally, such structures were not suited for more industrial activities like shipbuilding as the could not support the necessary weight. Still, such waterfront features are anticipated to have been used in the area either on their own or in combination with wharves. Archaeologically the evidence of these features will likely only present as a collection of post or pilings, so careful mapping of the locations of these individual features will be needed to see the larger pattern of the pier and determine how it functions within the waterfront. As the pilings used in piers were often principally debarked trees, dendrochronology might provide a useful tool for dating the construction of such features and establishing their temporal place in the development of the waterfront within the Vine Street Lot.

Brick-Lined Shaft Features

These archaeological features include the below-ground structural components of wells, privies (outhouses), and cisterns, and have the potential for containing artifact deposits in the form of refuse discarded from the dwellings, stores, and adjacent outbuildings along the waterfront. If deposits dating the eighteenth and nineteenth centuries are preserved within shafts on the site, these deposits have the potential to reveal aspects of daily life (including behavior, beliefs, and cultural patterns) related to the people who once lived and labored along the Delaware River.

Previous archaeological excavations during the summer of 2019 have revealed the presence of two apparent brick-lined well shafts located in the proposed project area. The absence of detailed maps of the early built environment of the site makes it difficult to estimate the number of shaft-features likely to be encountered, the fact that two of the five trenches excavated in 2019 encountered intact shafts it is likely that other similar features will be discovered in other locations across the site.

Building Foundations and Basement Floors

Walls and floors associated with buildings erected on this property will likely be exposed during the archaeological excavations. Foundations most likely to be encountered are expected to be associated with a series of mid-nineteenth-century commercial buildings erected on this site after the Great Conflagration of 1850. However, the 2019 excavations produced evidence in the southern portion of the Vine Street Lot that at least some foundations survive belonging to an earlier mercantile landscape of the late eighteenth and early nineteenth centuries. While the foundations themselves are not expected to be particularly diagnostic, they represent key components for determining the structural development of the waterfront, its use, and spatial organization. As such the delineation, mapping, and spatial recordation of such structural features will be considered to have substantive research potential. Structures built upon made-ground of early wharf structures would not likely have had deep foundations (as they would have compromised the wharf structures and been prone to flooding), so assessing the construction methodology of structures upon the wharf surface will be important to understanding the function of the structures that drove the development of the waterfront.

Historical Occupation Surfaces

These consist of the preserved surfaces on which people in the past carried out their daily activities and can include sections of exterior yards, work areas, storage spaces, as well as interior floor areas. These surfaces can provide important information about the use of space within a given property and be used to help to identify areas reserved for special functions. The 2019 due diligence excavations revealed several intact wooden floor surfaces associated with the interiors of buildings and identified several horizons that appear to be representative of preserved wharf and riverbank surfaces. Careful excavation of such former surface horizons and features can provide critical temporal data and environmental data, but most importantly the analysis of material culture and its distributions can provide information about how the occupants of the waterfront used and navigated the landscape.

Bake Oven Features

Based on city directory and insurance record research carried out during the 2019 due diligence excavation it was determined that several of the commercial enterprises operated within the Vine Street Lot during the late eighteenth and early nineteenth-century mercantile period were bakeries. Such bakeries would have needed substantial infrastructure like wells for water, bake ovens, substantial chimneys, and commercial and storage space. It is therefore likely that some material remains of a bakery will survive somewhere on the site. If features like a bake oven footer or chimney are encountered, it will enable a definite ascription of an activity to an area along the waterfront. As many of the commercial warehouse operations along the waterfront dealt in perishable materials that do not survive well archaeologically, it may be difficult to provide accurate interpretations of such commercial spaces. The identification of a chimney or bake oven foundation associated with a bakery offers a less ephemeral lens by which to study a prominent waterfront industry. Understanding the layout and design of bakery related deposits can provide a means for understanding the development of an entire waterfront industry, its markets, and its role in local and Atlantic World trade.

Archaeological Potential and Sampling Strategy

The goal of the current research effort is to document as many resources and collect as much relevant archaeological data as possible from the southern portion of the Vine Street Lot before development. AECOM has developed a sampling strategy that prioritizes informationally rich areas to maximize the efficiency of the data recovery efforts. Based on recommendations put forth by John Milner Associates and AECOM following the archaeological surveys of 2012 and 2019 it is clear that archaeological resources are best preserved along the western edge of the site running parallel to Water Street (John Milner Associates, Inc. 2013, Dworsky, et al. 2019). The ground along Water Street comprises the pre-development riverbank of the Delaware River and as such, it is also the best location to search for the earliest resources related to activities such as shipbuilding which sprung up along the riverbank in the late seventeenth century. AECOM proposes to fully sample the entirety of the western edge of the project area encompassing the whole footprint of the original riverbank and thereby maximizing the likelihood of encountering shipbuilding related resources. This strategy also provides the opportunity to study how the eastern side of Water Street developed in the eighteenth and early nineteenth centuries as the area transitioned in use from shipbuilding to mercantilism. The 2012 and 2019 surveys of the lot have shown that this strip of ground along Water Street contains deposits related to early wharf building and land reclamation activity, as well as the remains of buildings that were subsequently erected on this artificial ground. During excavations in 2019 evidence of natural soils related to the original tidal mudflats of the Delaware River was encountered in several trenches along this western edge of the project area (Dworsky, et al. 2019). Such soil deposits not only provide an opportunity for examining the Delaware River bank for evidence of early shipbuilding activity but may also offer the opportunity to identify pre-contact deposits as well, given the site's location south of the confluence of the Delaware River and Pegg's Run and the demonstrated pattern of pre-contact settlement in the vicinity (AECOM Burlington 2014). Sampling the entirety of the western edge of the project area, therefore, offers the greatest potential informational return for the excavation effort and as such its investigation will be prioritized.

While the western portion of the project area is highly sensitive and likely to contain early historic resources, the eastern half of the lot closer to the Delaware River is known to have been part of the river channel before the last decade of the eighteenth century and is therefore unlikely to contain resources related to the early historic period. There is known to have been some early development of wharf structure prior to the mid-eighteenth century on the West and Rakestraw lots but historic mapping suggests that this development only extended about halfway across the E-W span of the project area (Dworsky, et al. 2019). The intensive creation of artificial land into the river channel seems to have occurred during the early mercantile period of the late eighteenth and early nineteenth centuries. Maps from this period suggest that there was little early development within the Porteus and Colley lots during the early mercantile period as compared to the development that accompanied the West family's transition from shipbuilding to mercantilism. Starting in the late eighteenth century the West family abandoned shipbuilding and transformed their land into a substantial mercantile complex, which by the mid-nineteenth century came to dominate the entirety of the project area. The early hub of mercantile activity was seemingly focused along Water and Vine Street and grew slowly north eventually comprising a network of wharves, warehouses, alleys, and waterfront industries/shops like coopers and bakeries (Dworsky, et al. 2019). Evidence from the 2019 due diligence excavation has shown that structures erected on the artificial ground created during this period appear to survive in the southern portion of the proposed project area within the West and Rakestraw lots in both the east and west of the lot. As this landscape was wholly lost during the Great Conflagration in 1850, examining the core of this early mercantile activity is a great opportunity to understand the not only the technology and techniques involved in wharf building and artificial land creation but also view the transition from shipbuilding to mercantilism and understand the nature of the mercantile activities which drove the expansion of the waterfront in this area. The 2019 excavations in the eastern portion of the Porteus and Colley lots did not reveal any wharf structure nor wharf buildings related to the mercantile period. The 2019 due diligence survey in the eastern portion of the only identified thick homogenous

deposits of Atlantic Ocean dredge spoil used to build artificial ground. As the informational potential of this dredge spoil material is low, AECOM proposes to only sample the upper 3.5 feet of this area down to the potential mercantile cultural surface but continue no deeper. Excavating deeper in this area would be highly labor and time-intensive to excavate and is unlikely to provide information that cannot be readily gleaned from full depth excavations of the West and Rakestraw properties to the south.

AECOM plans to conduct a full depth (12-foot-deep) excavation across the full width (120 feet) of the West and Rakestraw lots (Stages 1-4) and a full-depth excavation of a 75-foot-wide span of the western half of the Porteus and Colley Lots (Stages 5-7) (see Appendix A: Figure 4). The remaining ground within the project area will be bulk excavated to a depth of 3.5 feet and examined for evidence of historic structures and features, but in these less sensitive areas excavation will be halted at this depth. Features found within this area will be documented and sampled as necessary. Logically, focusing the full-width excavation efforts on the southern lots (Stages 1-4) makes sense as they are known to have had substantial historic occupations during the shipbuilding and early mercantile periods and thus the density of archaeological resources in this area is apt to be high. Furthermore, these properties are associated with shipwrights like James West and Michael Hulings and merchants of the West family all of whom have substantive primary and secondary documentary records that can help to provide the necessary context to derive maximum interpretive advantage from the archaeological material recovered. Focusing efforts in the northern 3 stages (Stages 5-7) to the 75 feet closest to Water Street enables for the full examination of the early riverbank and its shipbuilding potential but excludes the less sensitive areas of artificial ground to the east which testing has shown has more limited informational potential. The bulk excavation of the remaining portions of the project area to 3.5 feet below grade will enable the delineation of post-Great Conflagration features and structures related to the mercantile period, but will not incur the logistical challenges of extending deeper and looking for wharf structure in deep deposits of homogenous dredge spoil, especially as the desired information about wharf construction and development can be derived from the full-depth excavations in Stages 1-4 to the south. This sampling strategy helps to limit the amount of ground that needs to be archaeologically investigated while maximizing the informational recovery such excavations will provide.

Work Plan for Archaeological Investigations

The work plan developed for archaeological investigations at the Vine Street Lot represents a multi-tiered research design comprised of several distinct task sets: 1) background research, 2) bulk excavation, 3) controlled field excavations, 4) post-fieldwork laboratory processing and analysis of recovered artifacts, 5) performance of appropriate specialized artifact studies, and 6) report preparation. Each of these project components is discussed in the sections below, as are the specific methods and procedures to be employed during each stage of work.

Background Research

Prior to fieldwork, AECOM will review local primary source repositories (the Philadelphia Water Department, for example) to attempt to delineate the history of utilities and other construction activities that may have affected the project area. As part of the analysis and reporting process, AECOM will incorporate a comprehensive review of the existing relevant literature and primary sources documents relating to the West Shipyard, the Hertz Lot, the Delaware River Waterfront, and Philadelphia archaeology, paying particular attention to those projects where made land was investigated.

Bulk Excavation Strategy and Site Set-Up

The goal of bulk excavation is to allow the removal of non-archaeologically sensitive modern fill sediment to expose the underlying archaeologically sensitive deposits. Work carried out during this phase of the project will primarily involve the use of mechanized excavation equipment, and members of the AECOM archaeological team will closely monitor this work at all times. Archaeological monitors will direct all machine excavations and will have full authority to stop or redirect these activities when active utility lines or intact archaeological resources of any kind are encountered. It is understood, per the requirements of the statement of work, that members of the AECOM team will secure all necessary permits from the City before the start of excavation, and that all active utilities contained within the target excavation area will be delineated before the initiation of any digging.

Bulk excavation sequence of events

1. Site set up and mobilization and public outreach/site interpretation set up
2. Removal of the upper three feet of fill in the pile line to facilitate the installation of exterior site shoring; establishment of the spoils storage pile
3. Installation of soldier beams and wooden lagging (in four-foot deep lifts)
4. Bulk removal of asphalt across all sections of the site
5. Excavation of the study area to a 12-foot depth (maximum), completed in a sequence of contiguous sections
6. Exposure, identification, and mapping of all archaeological resources.

Bulk excavation of the Vine Street Lot will involve the use of a variety of mechanized equipment, depending on the specific task being accomplished. The excavation of soils from within the target area will be completed using a track hoe equipped with a flat-bladed bucket. These machines are the most effective means of carefully but expediently excavating fill deposits from within the archaeological study area. Soils will be transported from the data recovery study area to the spoils storage area and stockpiled pending site backfilling. Additional mechanized equipment to be employed in this phase of work will be discussed in the appropriate sections below.

Based on existing knowledge, the proposed initial 3.5-foot bulk excavation cut is almost certain to encounter only recent fill deposits. Excavations below this initial cut will likely encounter intact archaeological resources of one kind or another, and as such will proceed in a more systematic, patterned fashion.

The bulk excavation of the remainder of the target area is expected to proceed in a pattern moving generally from south to north in a sequence of contiguous sections (averaging 50-foot wide) following historic property boundaries. Based on the known historical development of the Vine Street Lot, this area was comprised of a series of long lots extending into the river from Front Street. These lot boundaries eventually became wharf boundaries, and subsequently warehouse and structure boundaries. As these buildings and wharf structures are apt to be preserved within the project area, they should serve to divide the project area into a series of seven east-west oriented sections. These excavations sections will serve both logistical and analytical purposes. Consequently, bulk excavation is expected to follow the pattern of these historic property boundaries sections, again moving in sequence from the south (Vine Street) to north, with soil removal within each section progressing from west to east moving from the original shoreline to reclaimed ground.

Bulk excavation within the project area of the site will progress until the AECOM archaeological monitors identify intact archaeological features and/or deposits or sterile subsoils. It is understood that any historical resources present may not be located at a uniform depth across the site, and all necessary precautions will be taken to ensure that no inadvertent disturbance is inflicted on these materials. It is currently anticipated that any remaining intact resources will be encountered at depths of approximately 3.5 to 5 feet below ground surface. Furthermore, it is assumed that no undisturbed archaeological resources, other than those associated with more deeply constructed shaft features, will be contained in any portion of the target area. During bulk excavation, all possible efforts will be made to preserve in place all identified foundation walls,

including those associated with later-nineteenth-century structures built on the site. While not directly related to the target time period of this investigation, these features could provide important information regarding how this parcel developed and changed over time and will need to be documented before being removed to investigate deeper deposits. All identified or suspected eighteenth-century or seventeenth-century architectural remains, or pier or wharf structure encountered will be preserved in place until it can be fully documented via mapping, total station, and where possible LiDAR scanning.

Once the machine excavation of fill deposits has been completed members of the AECOM archaeological team will remove any remnant fill materials using simple hand tools, to expose all archaeological features and/or deposits that may be present. Once fully exposed, all features and deposits will be thoroughly documented via high-resolution digital photography, recorded on standardized forms, and precisely mapped using a geolocated total station. All archaeological documentation will strictly conform to the reporting standards outlined in Guidelines for Archaeological Investigations in Pennsylvania (Pennsylvania Historical and Museum Commission (PHMC) Revised 2017).

All work completed during the bulk excavation phase will be carried out in compliance with all appropriate OSHA guidelines and regulations.

Site Excavation Shoring

The archaeological study area for this data recovery investigation will conform in size, shape, and location with that indicated in Figure 4. This space will be shored during bulk excavation through the installation of steel soldier beams/H-piles and associated timber lagging (Appendix A: Figure 4). The H-piles will be spaced at intervals of 8 feet around the west, south, and east perimeters of the target area. Soldier piles will be installed immediately following the removal of the uppermost three to four feet of fill in trenches along the study area perimeter. Piles will be set at a maximum depth of 22 feet below ground surface (so that the tops of each are flush with the existing grade) and will be grouted in place.

In developing this shoring system, available maps of the Vine Street Lot were consulted; H-piles were placed in a pattern that both maximizes the efficiency and safety of the shoring, while at the same time is unlikely to directly impact any known or currently anticipated archaeological resources within the site. Standard three-inch wood lagging will be installed within the soldier pile framework as bulk excavation proceeds. Based on an assumed maximum bulk excavation depth of 12 feet below the present grade, no tie-backs or similar supplemental shoring elements will need to be installed to ensure maximum safety for members of the AECOM team or visitors to the site.

Exterior Site Fencing

Throughout excavation, the 6-foot iron perimeter fence currently surrounding the parking lot will remain in place to control access to the site and separate the work area from the surrounding cityscape. This fence is solid and is cemented into the ground preventing it from being moved or manipulated, which offers security for the site during off-work hours. This fence offers decent visibility into the work area for the public, without compromising site security and public safety. A gate has been installed at the site of the former parking lot entrance and will be used as the primary way in and out of the site but can be closed to prevent unauthorized pedestrian or vehicular access to the site during excavation and off-work hours.

Public Engagement

In general, the excavations are intended to be public friendly. Public engagement is under development but is likely to include interpretive signage attached to the perimeter fencing and AECOM archaeologists available to engage with the public during work hours. The wet screening stations where cultural soils will be processed will be located along the eastern edge of the site along the Columbus Boulevard sidewalk so that visitors can engage with the archaeologists as they screen, and the archaeologists can show interested that members of the public can view the cultural materials as they emerge from the screened soil. Archaeologists and the public would always be separated from one another by the site's perimeter fence ensuring that the public remains safe as they view the excavations.

Stockpile Sediment Control Measures

Per the scope of work, all excavated fill material and soils will be temporarily stockpiled in a designated area in the northwestern corner of the Vine Street Lot (Appendix A: Figure 4). To prevent these largely unconsolidated materials from spreading out onto the adjacent parking lot, primary sediment control will be provided through the installation of fabric silt socks. Silt socks will extend around the entire perimeter of the spoils stockpile. Additional sedimentation control will be gained using a loader or bulldozer to shape and compact the soils as they are excavated from the site. If it becomes necessary, large reinforced vinyl tarps will be used to cover the stockpile and prevent any wind-driven movement of fine soil particles. Details of all sediment control measures will be specified in detail in an S&E plan to be submitted to the Philadelphia Water Department in association with current permitting requirements.

Equipment Access and Circulation

As indicated above, the primary access to the site, for both mechanized equipment and personnel, will be from an existing gate located along the Columbus Boulevard side of the project area. Inside the site fence, primary construction access into and out of the archaeological site will be by way of earthen ramps constructed at, or near, the northwest and northeast corners of the section of the project area being excavated at that time. Ultimately, the exact placement of these ramps will depend on several factors, including the presence/absence of archaeological resources. It is currently anticipated that any such ramps will be created and removed as necessary during the progression of the excavation from the southern to the northern end of the site. As the western side of the site, being the area that encompasses the most original riverbank, has the highest potential for containing intact archaeological features or deposits any entrance or exit ramp for each section will be, if possible, placed in the eastern portion of the site. As the data recovery activities in one section are completed and the next area begun the excavated sediment from the new section will be used to infill the deeper portion of the previously excavated section. The southern section will be built up as the northern section is taken down. While it may be moved as the excavation progresses northward, a ramp will be maintained along the eastern side of the excavation area throughout the excavation, to provide for the movement mechanized equipment and sediment as well as continued site access for the archaeological crew during data recovery activities.

Construction Trailer

AECOM proposes to locate the site construction trailer along the Columbus Boulevard fence line just south of the main gate on the eastern side of the project area (Figure 4). Locating this structure in the northern portion of the site removes it from the active area of excavation and provides a muster point outside of the core of excavation activities and close to the main gate. The location is also the site of an existing powerline connection that feeds parking lot lights so it should be relatively easy to establish an electrical hookup without the need for substantial additional infrastructure. Additionally, by locating this facility on the perjury of the site north of the principal excavation area this location would be out of the way of all bulk excavation equipment and thereby provide less restricted movement for that machinery.

Sanitary Facilities

This plan also allows for the placement of two portable sanitary toilet facilities within the project area for use by all members of the AECOM team for the duration of the project. Given the above-proposed placement of the construction trailer, the most logical location for these facilities is also in the northwestern corner of the site, just to the north of the main site gate in Columbus Boulevard (Figure 4). Placed here, the toilets could be readily and easily dropped off, regularly serviced, and removed from the site at the conclusion of the investigations.

Bulk Excavation Tasks

For this plan, it is assumed that archaeology-related fieldwork on the Vine Street Lot will begin in the Spring/Summer of 2020.

- Asphalt removal. Will occur in two phases during excavation to maintain a stable surface for truck movement
- Bulk excavation to 3.5 feet will occur for each of the seven sections
- Installation of soldier beams and utility relocation/shoring
- Installation of wood lagging for each additional four feet in depth the excavation reaches in each stage.

Controlled Field Excavations

The following research design is derived from this assessment of archaeological probability for the Vine Street Lot. More specifically, the field approach and methodologies discussed below have been fashioned to provide the most effective means of identifying, excavating, and documenting this set of presumed archaeological resources. The laboratory process and analyses proposed are designed with a particular eye toward the recovery of meaningful data from the range of depositional contexts and types of historical artifacts likely to be contained in or associated with these feature classes.

The controlled field investigations portion of the project involves the use of systematic hand excavation procedures to carefully recover and record any archaeological deposits that may be used to address the research questions proposed for this investigation. This phase of work will be initiated following the conclusion of bulk excavation activities and will employ the specific excavation techniques and methodologies discussed below.

Excavation Phasing

The Vine Street Lot occupies nearly an entire city block bounded to the north by Callowhill Street, to the east by Columbus Boulevard, to the south by Vine Street, and to the west by Water Street. This area comprised the eastern half of all of the original seventeenth-century Delaware River water lots granted by the Penn family and subsequently developed and wharfed out into the river by successive generations or shipbuilders and merchants. The proposed data recovery excavation will encompass all of the land areas within the Vine Street Lot south of the Wood Street steps being bounded to the south by Vine Street. The original water lot properties that fall within this project area include the West Lot (location of the West Shipyard), the Rakestraw Lot, the Colley Lot, and Porteus Lot. According to documentary records and maps this area, particularly the West and Rakestraw lots, were the heart of the early shipbuilding industry in Philadelphia and was also the portion of the lot within the project area that was first wharfed out into the river.

Following the removal of the asphalt and gravel fills during the bulk excavation phase, AECOM will divide the project area into seven stages based on the aforementioned historic property boundaries, which will, in effect, act as horizontal controls for the excavations (Appendix A: Figure 4). To facilitate an excavation that does not require large volumes of soil to be trucked off-site, or for substantial additional shoring to be introduced during excavation AECOM proposes to excavate the project area by stage in a series of 4-foot stepped phases. Once the surface of a stage of excavation has achieved a depth of 4 feet below the adjacent stage excavation in that area will be halted until the adjacent stages can be taken to the same level either via hand or via machine excavation. To maintain the appropriate safe working depth for each stage, an excavation stage phasing order has been devised (Figure 3). As each stage excavated down the shoring system on the west and south side will be advanced in 4-foot increments while the eastern side will be sloped to a stable 1.5/1 grade. The advancing of the shoring system will continue until the final depth of excavation at 12 feet is achieved. All shoring will be installed by qualified construction personnel and will be sufficiently reinforced to provide for continued safe working conditions. All shoring will be periodically inspected by a certified engineer to ensure that safe working conditions are maintained. All applicable OSHA safety standards will be strictly followed.

To ensure that excavation spoil does not need to be trucked off-site and to minimize the number of areas of deep excavation open at any one point in time, a generalized backfilling plan has been devised to work in tandem with the phased excavation plan (Figure 3). These two plans working in concert are designed to keep excavations safe and limit the frequency with which and distance that excavation spoil is migrated. This backfilling plan proposes to use the spoil generated from adjacent phases of excavation to backfill previously excavated areas. Within the excavation/backfilling coordinated plan the backfilling operations on site will not begin until step 6 of the phased excavation plan. Before phase 6, all excavation spoils will be stored with the bulk excavation material in the main spoil heap in the northwestern portion of the lot (Appendix A: Figure 4). The material generated during excavation phase 6, and subsequent excavation phases thereafter, will be used to infill the formerly excavated phases of excavation. Sediment from phase 6 will be used to infill the former location of phase 3 (in Stage 1) and material from the excavation in phase 7 will be used to infill portions of the phase 1 and phase 5 excavations. As the excavation proceeds northward the generated spoil material will be taken southward into the previously excavated areas and used to infill those locations (Figure 3). This excavation infill will be done in a series of terraced 4-foot lifts with tapered ramped edges along their northern edge to prevent the material from sliding and require shoring. Once the excavation reaches its northernmost terminus the spoil material from the initial phases of excavation will be retrieved from the main spoil heap and used to fill the northernmost excavations. The last step in the backfilling process will be to migrate all of the stockpiled bulk excavation material back to its original position, bringing the ground surface of the study area back to a similar grade as it was after the removal of the asphalt surface.

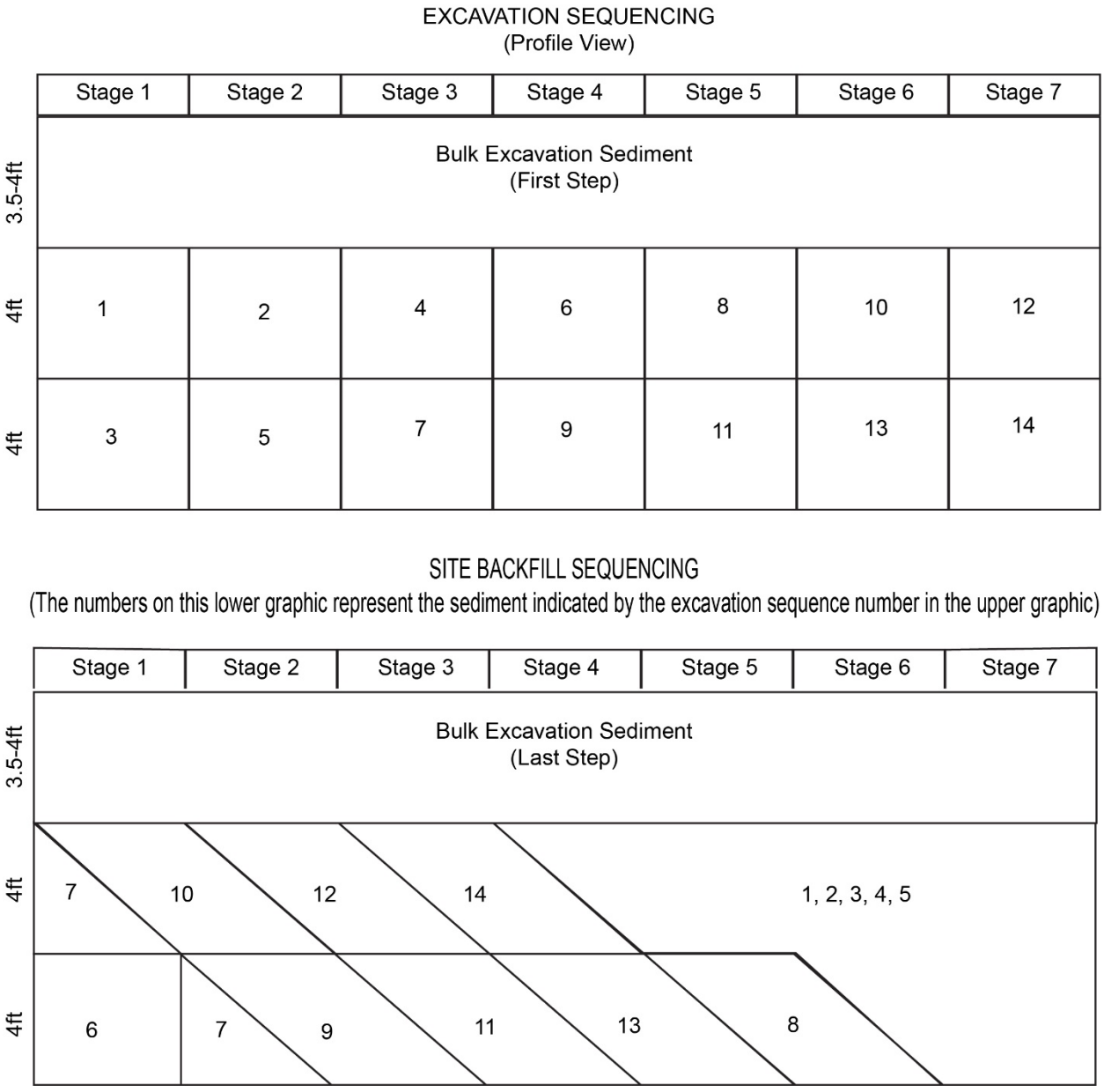

Figure 3. Diagram showing the phasing of excavation by stage and depth. Stage locations are indicated in Figure 4 in Appendix A (Top). Diagram showing the estimated placement of excavation spoils generated during the phase excavation shown in the upper diagram (Bottom). The placement of the backfill sediment for phases 6-14 will follow the sequencing of the excavation of those areas. The area infilled by the sediment from phases 1-5, and 8 will all be done at roughly the same time at the conclusion of excavations.

Universal Methodologies and Procedures

Standardized field forms will be used to record data relating to the depths, Munsell color and texture, and artifact content for each context. Excavation profiles will be fully recorded continuously as each 4-foot section is taken down. Recordation will include hand-drawn cross-sections of the excavation area and, if necessary, plan and profile drawings of any features encountered during excavation. Depositional profiles of sections of the excavations, as well as bisected features, will be fully recorded through hand-drawn maps and by high-resolution digital photographs. Planview mapping will be achieved by the use of hand-drawn maps tied to coordinates established by the use of a geolocated total station. Planview mapping will be supplemented using photogrammetry. Using this technique overhead shots of sections of the site will be

digitally combined and referenced to mapped locations on the site to create a largescale composite image of the excavations scaled to its real-world proportions and spatial position. In instances where substantial features and structural remains are encountered AECOM will employ LiDAR to construct a high-resolution 3-D model of the excavated landscape capturing the layout of the site in precise detail and preserving a 3-D record of the site for future research and public interpretation.

In general, the excavation will proceed by observed soil strata, although arbitrary depth controls will be employed where strata exceed 0.65 feet (20 centimeters) in depth. All occupied ground surfaces and feature deposits will be excavated entirely by hand, using shovels and trowel One hundred percent (100%) of all excavated matrix to be water-screened in the field through graduated 1/4 and 1/16-inch hardware cloth. All artifacts recovered during screening will be retained for subsequent cataloging and analysis and will be maintained in containers labeled with all necessary provenience and identifying information. Representative samples of bulk building materials (such as concrete and brick) will be retained from each provenience unit, the exact sample size to be discussed with PHMC before the start of fieldwork.

All artifacts and samples will be assigned a sequential Field Sample number (FS#) the precise location and stratigraphic context of those materials afforded any appropriate temporary conservation and/or stabilization procedures that may be required, retained in plastic bags labeled with precise horizontal and vertical provenience and information, and temporarily stored in corrugated, acid-free cardboard boxes. For the sake of security, artifact boxes will be transferred to an off-site location daily for temporary storage, pending the start of laboratory processing and analyses. At this time, it is anticipated that artifacts will be transferred daily to the AECOM laboratory in Burlington, New Jersey.

Constant-volume soil samples will be collected from all intact and artifact-bearing primary deposits within the site and retained for flotation and/or future specialized studies. Soil samples will not exceed two liters in size. These soil samples will be set aside for flotation processing after fieldwork.

Intact Occupation Surfaces

If the presence of intact occupation surfaces is confirmed within the Vine Street Lot study area, any remaining overburden will be hand-stripped from these areas and archaeological testing will be undertaken to determine the horizontal and vertical extent of these deposits, and also to determine whether or not artifact-bearing horizons are present. Initial testing will involve the use of small-bore hand augur to probe into these soils. If any evidence is produced that suggests that artifact deposits may be present more intensive testing measures will be initiated.

More intensive testing will take the form of a series of contiguous three by three-foot, or five by five-foot square excavation units (EUs), with the number of units completed and the placement of units determined by the AECOM supervising archaeologist. All EUs placed within the Vine Street Lot will be excavated by discreet natural strata and in arbitrary 4-inch (ca. 10cm) levels within undisturbed soil horizons. Excavations will proceed to a depth of at least 4 inches (10 cm) into sterile subsoil deposits.

Historical Building Foundations and Wharf Structure

During and after the bulk excavation all possible efforts will be made to preserve in place all foundation walls and wharf structures identified within the study area, including those associated with later-nineteenth-century structures built on the site. When a foundation is encountered it will be fully delineated and recorded before determining if it can be removed. Every effort shall be made to document foundations and wharf structure in greater detail paying specific attention to potential differential phases of construction. Where present, builder’s trenches will be investigated and sampled to help provide diagnostic material to help temporally place such structure. All wharf structures and structural foundations will be left in place until it can be fully documented, which will be included hand-drawn mapping, aerial photogrammetry, and LiDAR recordation. This structural information is important to understanding how the Delaware River Waterfront developed and changed over time and will at the same time help to enhance the experience of visitors to the site. Upon completion of rigorous mapping and photo documentation, a structural feature may be removed to investigate deposits occurring below it. The same treatment will apply to any additional wharf

or structural features encountered in the underlying deposits. If and when the decision is made to remove portions of the wharf structure, samples of wooden timbers will be collected for dendrochronological analysis to help refine the construction phasing of the waterfront development.

Shaft Features

All shaft features identified within the study area will be subjected to archaeological testing to determine whether or not intact, primary or secondary fill deposits are present, and that may be used to address the research questions outlined in this proposal.

If the depth of a shaft is determined to exceed the OSHA maximum safe depth of 4 feet, then the controlled excavation of shaft features will be facilitated through the construction of wooden shoring boxes around the exterior of each feature. Shoring boxes will be of sufficient size to fully encapsulate each feature as well as to provide for an appropriate workspace for members of the excavation team. All shaft feature shoring will be installed by qualified construction personnel and will be sufficiently reinforced to provide for continued safe working conditions. All feature shoring will be periodically inspected by a certified engineer to ensure that safe working conditions are maintained.

Testing of shafts within the shoring will be conducted entirely by hand and will proceed in a series of approximate 4-foot segments. AECOM archaeologists will excavate soils from around shafts to expose each four-foot segment and then will dismantle the shaft by hand and examine feature contents. More recent, secondary fills and rubble that may be contained within the upper portions of the feature will be inspected to determine the nature and approximate age of associated artifacts but will not be screened. To assist in the dating of fill deposits representative samples of temporally diagnostic artifacts contained within these levels will be retained for further study. Soil samples from fill levels may also be retained.

If intact primary and secondary deposits are present, controlled testing of the shaft contents will be undertaken to evaluate the probable age and content of said fills. Testing will involve the bisection of these fill deposits to a depth not to exceed four (4) feet below the top of identified intact deposits. To provide for the rapid and accurate dating of any primary artifact deposits, AECOM will ensure that a qualified Material Culture Specialist is assigned to the project and available on an on-call basis to assess any deposits as necessary.

Groundwater

Once groundwater is encountered—at depth of between 5 and 6 feet below ground surface, according to the tide—the excavations will be dewatered. AECOM understands that the water pumped from the excavations can be discharged into the Philadelphia storm-drain system provided it meets certain contamination standards. AECOM and its subcontractors will obtain a groundwater discharge permit from the Philadelphia Water Department (PWD) for this purpose. Groundwater from the site will be pumped into an on-site storage tank to allow sediment to settle out and to facilitate discharge monitoring. AECOM environmental staff will test groundwater from the site at least once a month, per PWD permitting requirements, submit the samples for analysis, and certify that any groundwater discharged into the sanitary sewer will comply with established contaminant standards. If groundwater does not meet the contamination limits necessary to enable it to be discharged into the city sewer system, arrangements will be made for the stored water to be taken off-site for treatment and disposal.

Security and Safety

Before fieldwork, AECOM will ensure that all field personnel have been thoroughly briefed regarding site safety and security; each member of the field team, contractors, and visitors will be required to sign the project Health and Safety Plan. AECOM's subcontractor shall be responsible for providing crowd-control barriers for use during the project. AECOM will ensure that at the end of each workday the excavation is covered, using planking and plywood sheeting overlain by plastic sheeting. When the excavation is uncovered, at least one person from AECOM will be onsite to ensure that no unauthorized person enters the project area. Artifacts will be secured in the job trailer before transfer to the AECOM Burlington, New

Jersey laboratory at the end of each day. All equipment will be secured in an onsite lockbox or shipping container or AECOM field vehicles. Following the conclusion of the excavations, the area will be backfilled and compacted by the shoring contractor.

Soil Sampling

Constant-volume soil samples will be collected from all intact and artifact-bearing primary/secondary deposits within the site and retained for flotation and specialized studies. The purpose of taking flotation samples is primarily to recover plant remains—seeds and charcoal—from excavated sediments. These plant parts have the potential to provide information about diet, urban markets, the urban environment, and similar issues that might not otherwise be obtained.

Within features, natural ground surface, or occupation surfaces, a 2-liter flotation sample will be taken systematically from every stratum and arbitrary 20-centimeter level within strata. Additional samples, or a 2-liter sample, will be collected on a judgmental basis in contexts with the highest preservation potential for macrobotanical remains, such as waterlogged contexts or deposits with lots of charcoal. If specific features are encountered and intensively sampled, a small number of soil samples will be taken outside of these contexts to provide a comparative baseline for the macrobotanical analysis of the known archaeological context. For example, if AECOM samples a filled feature, we will try to identify a sample location outside the feature in a context deposited at a similar time.

The field crew will collect soil samples by scooping dirt from several different locations in the stratigraphic unit into a measuring pitcher, avoiding obviously disturbed contexts. The team will sample early on in the excavation of the stratum so that the samples are not contaminated. Samples will be placed in plastic bags labeled with the sample type and usual provenience data.

Laboratory and Conservation

Artifacts excavated during the Exploratory and Data Recovery phases of this investigation will be processed and inventoried at AECOM Archaeology Laboratory in Burlington, New Jersey. All artifacts and samples recovered from the Vine Street Lot will be fully processed, analyzed, conserved, and curated per the PHMC guidelines (Pennsylvania Historical and Museum Commission (PHMC) Revised 2017). Basic artifact processing and collections management tasks will begin immediately following the conclusion of fieldwork. The following paragraphs outline general tasks to be conducted and guidelines to be adhered to during any required laboratory phase of the project. Laboratory processing of recovered materials will be conducted by AECOM qualified lab staff and will include the specific tasks outlined and discussed in greater below. Processing and analyses of artifacts will occur at the AECOM lab facilities in Burlington, New Jersey.

In addition to these lab tasks, supplemental background research may be conducted by AECOM staff after fieldwork to collect historical documentation required for the thorough investigation of identified research questions. It is anticipated at this time that any additional research performed will relate to the development of more detailed contextual information that will be used to interpret artifacts and archaeological data recovered from the site.

Artifact Processing

Artifacts recovered in the field will be hand-delivered to the AECOM archaeological laboratory in Burlington, New Jersey. It has been estimated that up 150,000 artifacts will be recovered. Artifacts will be washed or dry-brushed, as appropriate. Artifacts in need of conservation will be noted and separated at this time. After the artifacts are dry, they will be separated by artifact class and placed in individual 4-ml polyethylene bags labeled with provenience information in permanent marker and an accompanying paper tag. The individual bags will be placed within a large bag(s) for the entire provenience. All bags will be labeled and will be pierced for air circulation. After this processing, the artifacts washed in both laboratories will be hand-delivered to the material specialists for inventory and analysis.

Artifacts will be hand-delivered to AECOM's archaeological laboratory in Burlington, New Jersey laboratory along with copies of the field records to ensure that the strictest control over provenience information is maintained. The AECOM laboratory is fully 36CFR79 compliant and is capable of processing, analyzing, and temporarily storing the recovered collection. The AECOM laboratory is fully equipped to handle collections of all sizes; AECOM material specialists have extensive expertise in the analysis of landfill collections dating to the eighteenth and nineteenth centuries and have the benefit of support staff and specialized equipment to properly deal with the collection in a timely and efficient manner.

The artifacts will be inventoried using a custom-built archaeological database designed to records will comply with standards documented *Guidelines for Archaeological Investigations in Pennsylvania*. Artifacts will be entered and bagged as individual entries, as appropriate, and the unique inventory catalog numbers will be placed on each bag. After the inventory is completed, at least one artifact from each bag will be marked using archival-quality inks and sealants. An acid-free tag will be placed in each bag. The tags will contain the site name and accession number, the catalog number, the FS number, item count or quantity, and a brief description of the artifact therein.

Photo documentation

During cataloging, selected artifacts will be photographed by a professional photographer with proven expertise in artifact photography. Photographs will be taken primarily for three reasons: 1) to use in reports, exhibitions, brochures, professional presentations, and other public outreach projects, and 2) to provide a visual record of some of the artifacts and artifact processing, particularly during conservation 3) to provide an archival record of an artifact that will not be maintained as part of the final collection (i.e. wood chip debris). The artifacts chosen for photography will be from significant contexts or will be noteworthy as examples of particular classes of material, styles, or manufacturing techniques. All photographic documentation of the collection will be completed via a high-resolution digital camera.

Conservation

Field Stabilization and Triage Conservation Plan Development

Due to the potentially brackish riverine environment of the site and the anticipated waterlogged nature of the archaeological deposits within the site, several potential artifact stabilization issues may need to be addressed shortly after excavation to prevent damage to the recovered material culture. Some such issues included the presence of a variety of soluble salts within artifacts, which if not removed can cause these salts to crystalize damaging the structure of an artifact. Organic materials, such as wood, from this deposit, may exhibit signs of waterlogging and cellular decay. Leather and other proteinaceous materials may also be waterlogged and adversely affected by exposure to other chemical reactions from both the burial context, as well as decay from other artifacts. Chloride levels will be high in ceramics, especially in low- fired earthenwares, such as Delft. The soluble salts will also have adverse reactions to iron artifacts and the greater category of white metal, including tins, pewter, and lead within the deposits, and copper alloy objects will likely exhibit corrosion known as bronze disease. While in the ground many of these artifacts will have reached an equilibrium, a major factor in their survival, however, upon removal from this environment and introduction of new environmental factors like heat, air, etc. deterioration can be accelerated.

To help its employees remain aware of the factors involved in keeping excavated artifacts stable, AECOM will develop a field stabilization plan or "Triage" conservation plan in consultation with Nicole Doub of the Maryland Archaeological Conservation Laboratory (MAC Lab). This plan will outline how to handle artifacts recovered from different types of environments and how such material will need to be treated immediately after excavation to maintain a stable environment and prevent deterioration.

Unstable Artifact Conservation

Conservation of the at-risk artifacts within the collection will be performed by Nicole Doub of the Maryland Archaeological Conservation Laboratory (MAC Lab) in St. Leonard, Maryland. Before excavation AECOM will consult with the MAC Lab and will prepare a Conservation Plan outlining any issues involved in the conservation and stabilization of artifacts from landfill and riverine deposits, specifically addressing the removal of soluble salts. In very general terms, such a program would involve a process of "triage", where

unique and/or at-risk artifacts will be segregated from the body of the collection and receive priority evaluation and assessment for their individual conservation needs. Upon recovery, at-risk artifacts will be stabilized according to the triage procedures outlined in the Conservation Plan until a more detailed assessment of the conservation requirements can be made.

Following excavation, during artifact processing and analysis phase AEOCM laboratory staff will compile a list of artifacts that remain in an unstable condition or that require further conservation. Once compiled, this list will be presented to Nicole Doub of the Maryland Archaeological Conservation Laboratory (MAC Lab) for assessment and recommendations. No conservation work will be undertaken until consultation with the MAC Lab has been completed, AECOM receives recommendations for treatment. Upon receiving treatment recommendations from the MAC lab, the AECOM Laboratory staff will collect and transport the necessary artifacts to the MAC Lab for active conservation by Nicole Doub and the MAC Lab staff. Upon receipt at the MAC Lab facility, the approved stabilization measures will be initiated immediately following the treatment plans provided by the MAC Lab. Throughout the conservation process, detailed records related to the assessment and treatment of the collection will be maintained, and these documents will be provided to AECOM at the conclusion of the conservation effort. These conservation records will be included as an appendix to the data recovery report and a copy will be archived with the artifact collection.

Artifact Analysis

All artifacts recovered from the data-recovery excavations will be fully inventoried and cataloged. At a minimum, basic analyses performed on these artifacts from any given archaeological context will include the identification of key characteristics for each object, including general form and function (e.g., nail – architectural), material composition (ceramic, glass, metal, etc.), manufacturing technique, date of manufacture, maker's marks (if present), and the total number of artifacts with such characteristic within a specific context.

Artifacts recovered from intact deposits will additionally undergo more intensive analyses designed to facilitate the interpretation of these materials and the context in which they were found, as well as to help address the research themes developed for this project. In particular, glass and ceramic artifacts will be cross-mended both within and between appropriate depositional contexts, and the mending information used to calculate the minimum number of vessels present (MNV). Additional artifact characteristics will be recorded for identified vessels, including those related to methods of decoration, motifs, and use-wear. Efforts will also be made to more accurately date all identified vessels, and to utilize that data to establish terminus post quem (TPQ) and terminus ante quem (TAQ) dates for specified intact archaeological deposits. Additional dating analyses including percent contribution will be used to establish the temporal association of cultural deposits.

Specialized Studies

Soil Flotation

Soil samples collected in the field will be processed through standard flotation equipment to facilitate the recovery of both floral and faunal samples, as well as other residual artifact samples contained within the soil matrix. It is anticipated that this process will be completed at the AECOM laboratory facilities in Burlington, New Jersey. Where sufficient samples have been collected, a standard quantity of two liters of soil will be processed through flotation equipment. Artifacts recovered from each sample context will be subsequently sorted by type, placed in plastic bags labeled with all appropriate provenience and other identifying information, and prepared for subsequent specialized studies or other analyses.

Faunal Remains

The basic identification, quantification, and analysis of faunal remains will be performed by Marie-Lorraine Pipes, Ph.D. at SUNY Geneseo. She will use a standardized recording spreadsheet to record a series of observations for each of the specimens. Basic faunal data collection activities will involve the identification of all sample specimens as to species, when possible, and by class and size range in the case of fragmentary or indistinct remains. Furthermore, faunal remains will be classified by body parts represented,

age at death, and will be inspected for signs of cut marks and other evidence of butchery or additional secondary bone modification. This data will be entered into a computerized database and summarized and interpreted for the final report, including faunal representation by species and body part, and estimates by provenience regarding the minimum number of individuals (MNI) of each species present. From this quantified data, interpretations regarding the diet and the development of urban markets will be formulated.

Floral Remains

Seeds and charcoal recovered from the floatation will be identified and analyzed by the macrobotanical specialists at the AECOM laboratory in Burlington, New Jersey. The laboratory houses a substantial comparative collection of macrobotanical materials, including seed, fruit, and wood specimens. Botanical materials recovered from water screening and soil floatation samples will be sorted according to plant part categories (e.g., wood, seed, nutshell), examined for charring, and quantified by weight and fragment count. Specimens will be analyzed under low magnification (10X–40X) and identified as to species, family, or genus, depending on the degree of preservation and representation. Analytical findings will be tabulated into the artifact database and used to address issues relating to diet, urban markets, and activities taking place around the Philadelphia waterfront as it developed during the seventeenth, eighteenth, and nineteenth centuries.

Soils Analyses

The analysis of phytolith, pollen, and parasites contained in recovered soil samples will be performed by Linda Scott Cummings of the PaleoResearch Institute (PRI). For soil samples derived from privies, the analysis of these biological remnants can generate significant data regarding health, sanitation, and medical care in the seventeenth, eighteenth, and nineteenth centuries, including aspects of diet and commonly, suffered gastrointestinal ailments. If any intact ground surfaces are identified within the site, these studies can provide exceptional information that can be used in delineating and interpreting the use of space, including the identification of possible functionally specific activity areas.

Dendrochronology

Dendrochronology, the study of tree ring growth patterns, utilizes the signature of environmentally influenced variable growl left in the rings of trees as they grow to estimate the age of a tree at the time it was felled. AECOM will utilize dendrochronologist, Michael Worthington, of the Oxford Tree-Ring Laboratory for this project. Dendrochronology will be utilized in situations where large structural timbers, likely those related to the construction of wharves and shipways are encountered, and accurate dating of the construction of such features is desired. Tree ring cores or cross-sections of timbers that possess a sufficient number of rings to get an accurate date will be collected and stored for subsequent analysis. Timbers, where both the heartwood and surface below the bark are present, will be selected for this analysis as that provides the most substantial cross-section of the tree ring pattern chronicling its life until it was felled. By comparing the tree ring pattern found in an archaeological timber to that of an established region tree ring chronology the age of the tree when it was felled can be established, and by association the archaeological structure. Such a dating will prove extraordinarily useful in establishing development chronology of the waterfront should substantial timber structure be encountered.

Report Preparation

AECOM will prepare a report that fully documents the archaeological investigation described within the project's scope of services. The draft report will be consistent with the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (Appendix C, DO-28, 1997) and relevant sections of the Pennsylvania State Historic Preservation office' *Guidelines for Archaeological Investigations in Pennsylvania* (Pennsylvania Historical and Museum Commission (PHMC) Revised 2017). The draft report will be completed following completion of all fieldwork and adequate laboratory work to support reported results. The draft will carry pagination and will be complete in every respect, meeting all content requirements stated in the scope of services. The report will be organized according to Pennsylvania Historical Museum Commission standards and will include, at a minimum, the following: abstract, table of contents, list of figures and tables, introduction, project location and general description, background research, and context, research design, field and laboratory methodology, field results, artifact description

and analysis, artifact description and analysis, site interpretation (addressing research questions and themes), summary and recommendations, works cited, and relevant appendices containing the artifact catalog, and an updated state of PASS site form.

Reporting Schedule

- A draft data recovery report will be completed and submitted to the client for review within sixteen (16) months of the receipt of documented concurrence with the management summary by the PHMC.
  - Upon the conclusion of the client review, the draft report will be submitted to the PHC and PHMC for their review. These agencies will have thirty (30) days to review the document and provide comments.
- Within six (6) months after submittal of the draft technical report to PHMC and PHC, AECOM will submit to the PHMC, suitably bound paper copies of the final technical report that has taken into account any comments on the draft report. Per the guidelines laid out in the PHMC's in the *Guidelines for Archaeological Investigations in* Pennsylvania, AECOM will provide one bound hard copy and one PDF electronic copy (on a CD) of the final technical report and will also furnish project area shapefiles for inclusion in the CRGIS database (PHMC Revised 2017).

Permanent Curation of the Collection

During analysis, the artifact and specialized study samples will be secured at AECOM's laboratory facilities in Burlington, New Jersey. After the laboratory analyses are complete, artifacts will be prepared for permanent curation with the PHMC in Harrisburg, Pennsylvania. All artifacts will be hand-delivered to the PHMC, the repository for this collection, in corrugated, vented boxes. The boxes will be of an acid-free composition, such as Hollinger Record Storage Boxes or an equivalent. Artifacts within the boxes will be packaged in labeled, vented, zipper-sealed polyethylene bags. Along with the artifact collection, an electronic format copy of the artifact database will be provided in Microsoft Access and Microsoft Excel formats and will be provided on a CD-R. All notes, photographs, drawings, maps, and both original and duplicate copies (photo-reproduced onto acid-free paper) of all field documentation and notes will be turned over to the PHMC for long-term curation with the artifact collection. Digital versions of these materials will also be provided in *pdf* and *jpg* versions and provided on a CD-R for long-term curation (Pennsylvania Historical and Museum Commission (PHMC) Revised 2017).

Public Outreach

During the archaeological investigations, the AECOM will undertake an on-site public education program to inform the visiting public of the rationale for the archaeological investigations and present any significant findings the investigation may generate. Information will be conveyed through interpretive media posted at the site along the perimeter of the site and information about the archaeology itself will be presented by designated AECOM staff who will be on-site to talk to the public and answer questions. AECOM will also host an on-site event that will offer the public the opportunity to visit the site to view the excavations (from a safe distance) and interact with the archaeologists and artifacts. The date for such an event is yet to be determined.

AECOM is dedicated to educating and informing the public of the results and findings of the data recovery excavations at the Vine Street Lot. The most effective way of reaching the public will be through a web presence, and one component of the public-outreach program will be to create, maintain, and periodically update a website containing details about the excavations. AECOM archaeologists will provide the content for the webpage postings (photographs, graphics, text, etc.). The archaeological webpage will be initiated once the data recovery investigations begin. It will be maintained throughout the project and will be updated as events warrant. Minimally, the webpage will explain in clear language the type of archaeological site that

is being excavated, the goals of the excavation, the findings from the field, and our interpretation of their meaning and significance. How this archaeological site fits into and contributes to our understanding of the development of the Philadelphia Waterfront will also be presented following the conclusion of interpretation and analysis.

As a final element to the outreach program, once the data recovery report has been submitted and all findings accepted, AECOM archaeologists will prepare articles for the professional archaeological community. The purpose of this effort is to assure that the findings from these investigations make the maximum contribution possible to professional archaeologists working in the area.

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Appendix A – Excavation Site Plan

Figure 4. Map of the project area showing the proposed order of excavation and the layout of the site facilities.

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Due Diligence Archaeological Investigations of the Vine Street Lot

New Excavations at the West Shipyard/Hertz Lot (36PH0028), Philadelphia, Pennsylvania

Prepared for:

The Durst Organization

Prepared by:

AECOM

DUE DILIGENCE ARCHAEOLOGICAL INVESTIGATIONS OF THE VINE STREET LOT

NEW EXCAVATIONS AT THE WEST SHIPYARD/HERTZ LOT (36PH0028),
PHILADELPHIA, PENNSYLVANIA

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Abstract

Between July 22, 2019, and September 6, 2019, AECOM conducted an archaeological due diligence investigation of the Vine Street lot, a 1.5-acre (65,293-square-foot) parking lot that at the time of excavation was operated by the Delaware River Waterfront Corporation (DRWC) but is now under the ownership of the Durst Organization. This project area encompassed the bulk of the former city block between Water Street and Columbus Boulevard and Vine Street and Callowhill Street in the Northern Liberties neighborhood of Philadelphia, Pennsylvania. The archaeological due diligence testing effort was conducted on behalf of the Durst Organization who plans to develop the lot. The archaeological due diligence testing utilized five mechanically excavated test trenches to sample targeted areas within the parking lot. The goal of this effort was to establish the presence or absence of cultural deposits, assess the degree of preservation/disturbance, and identify cultural features. Trenches were placed in locations designed to provide information about areas not previously surveyed during the two preceding archaeological efforts and to examine the locations of known disturbances to assess the degree to which these ground-disturbing actions have impacted the archaeological record.

All of the five archaeological trenches excavated produced archaeological features and intact cultural deposits. Trench 1, in the northern part of the lot, contained features documenting late-eighteenth-century wharf construction and deposits of woodworking debris, the remains of seventeenth- and early-eighteenth-century woodworking activity along the Delaware riverbank. Trench 2 revealed a mid-nineteenth-century structural foundation and associated floor, while uncovering the presence of late-eighteenth- and early-nineteenth-century occupation surfaces. Trench 2 also produced a brick-lined well shaft cut into this early historic occupation surface, likely dating to the first half of the nineteenth century. Trench 3 produced a similar assemblage to Trench 2, also revealing a mid-nineteenth-century structure and floor and a brick-lined well cut into an earlier historic occupation surface. Trench 3 also contained a deposit that likely represented an early-eighteenth-century occupation surface along the Delaware riverbank. The substantial homogenous fill deposit encountered in the western end of Trench 3 marked the extent of twentieth-century disturbance caused during the installation and subsequent removal of an underground fuel tank from the Hertz occupation of the lot. In the southeastern part of the lot, Trench 4 produced additional evidence of mid-nineteenth-century wharf buildings, as well as deposits related to late-eighteenth-century wharf construction and usage. Trench 4 contained an artifact-rich historic occupation surface dating to the late eighteenth and early nineteenth century; this deposit contained foundations related to a building constructed upon a late-eighteenth to early-nineteenth-century wharf surface. Trench 5, in the southwestern part of the lot, uncovered additional early-nineteenth-century wharf building foundations; it also provided evidence that the grillage wharf technique was used to construct some of the early wharves in the southern part of the project area.

The current and previous excavations within the Vine Street lot have demonstrated that most of the lot maintains archaeological integrity and contains intact archaeological deposits. Given this demonstrated archaeological integrity and the established archaeological significance of the site, as evident by its inclusion as a listed property on both the Philadelphia Register of Historic Places and the National Register of Historic Places, AECOM recommends that an archaeological data recovery be performed as mitigation to disturbances caused by the proposed development of the site. This document contains AECOM's conclusions pertaining to the current excavation effort, as well as recommendations and preliminary research questions for such a data-recovery effort.

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1. Introduction

The following report presents the results of archaeological work performed for the Durst Organization as due diligence testing in preparation for the development of the Vine Street Lot in Philadelphia, Pennsylvania. The proposed development area, or area of potential effects (APE), was formerly a municipal parking lot operated by the Delaware River Waterfront Corporation (DRWC). The APE is bounded to the north by Callowhill Street, to the east by Columbus Boulevard, to the south by Vine Street, and to the west by Water Street (Figure 1.1).

The development of the Vine Street lot will involve the construction of a multi-story, mixed-use structure within a portion of the lot. While plans for this development have not yet been finalized, it is anticipated that the foundation and support systems for the new structure will require ground disturbance which could result in disturbance to archaeological resources preserved within the lot.

The Hertz Lot/West Shipyard, Penny Pot House archaeological site (36PH0028) encompasses broadly the same boundaries as the Vine Street lot. As this site is listed on the National Register of Historic Places (NRHP), archaeological testing and, if necessary, archaeological mitigation of construction impacts was made conditions of the sale of the property as established in the project Request for Proposals (RFP). The project area has been archaeologically investigated twice, once in 1987 by the City of Philadelphia(those excavations were focused in the northern part of the lot and located an intact early-nineteenth-century shipyard) and again in 2012 by John Milner Associates (whose efforts were limited to the southern portion of the lot and focused on locating evidence of the seventeenth-century West Shipyard occupation). Despite these previous surveys, large sections of the proposed development area remained unexplored. AECOM's current due diligence testing targeted areas of the lot that had yet to be archaeologically sampled during previous efforts and where the presence, nature, and integrity of cultural resources remained unknown. This due diligence testing effort was undertaken in order to aid the Durst Corporation in their project planning for the development of the Vine Street lot by identifying areas of intact archaeology, while assessing the archaeological integrity of areas that have been impacted by modern development, like the Hertz maintenance facility.

This report presents the findings of the due diligence archaeological testing consisting of five mechanically excavated test trenches within the boundaries of the Vine Street Lot. This due diligence archaeological testing was performed in accordance with Section 106 of the National Historic Preservation Act (NHPA) and was conducted in accordance with requirements the Pennsylvania Historical and Museum Commission (PHMC) set forth in *Guidelines for Archaeological Investigations in Pennsylvania* (PHMC 2016). AECOM archaeologists conducted the field investigations between July 22 and September 6, 2019. Oversight of these excavations was performed by the Philadelphia Historical Commission (PHC) and the Pennsylvania Historical Museum Commission (PHMC). Copies of this report and all field notes, photographs, and project maps are on file at the offices of AECOM in Burlington, New Jersey.

Acknowledgments

Excavations at the Vine Street lot were performed on behalf of the Durst Organization. AECOM would like to offer thanks for their support of public archaeology at the site, and their assistance in bringing the archaeological interpretation of the site to the general public of Philadelphia. Additional thanks go out to those members of the public who attended the two public archaeology days, and to Doug Mooney of AECOM for his aid in regard to public archaeology and client coordination, which both helped make those events and the excavation a success.

AECOM would like to thank the DRWC for its support during the planning and execution of the excavation, with special thanks to Ben Rantuccio, who assisted AECOM by organizing the relocation of cars within the lot, clearing the area for excavation. Special thanks also go out to J. G. Crozier Contractors Inc. for their help with the mechanical excavation and site setup.

Our thanks go out to Jordan Smith, Christopher DiMaiolo, Abdul Jones, and Joelle Browning for their tireless efforts in the field under challenging conditions. Further thanks go out to them for their efforts in aid of writing up interpretations of the features they excavated. Our gratitude to Melanie Millman for her diligent efforts drafting the profile and plan view drawings for the report. Finally, thanks go out to Carolyn Horlacher, John Stanzeski, Mozelle Shamash-Rosenthal, and Lindsay Adams for their efforts processing and cataloging the artifacts recovered during excavation.

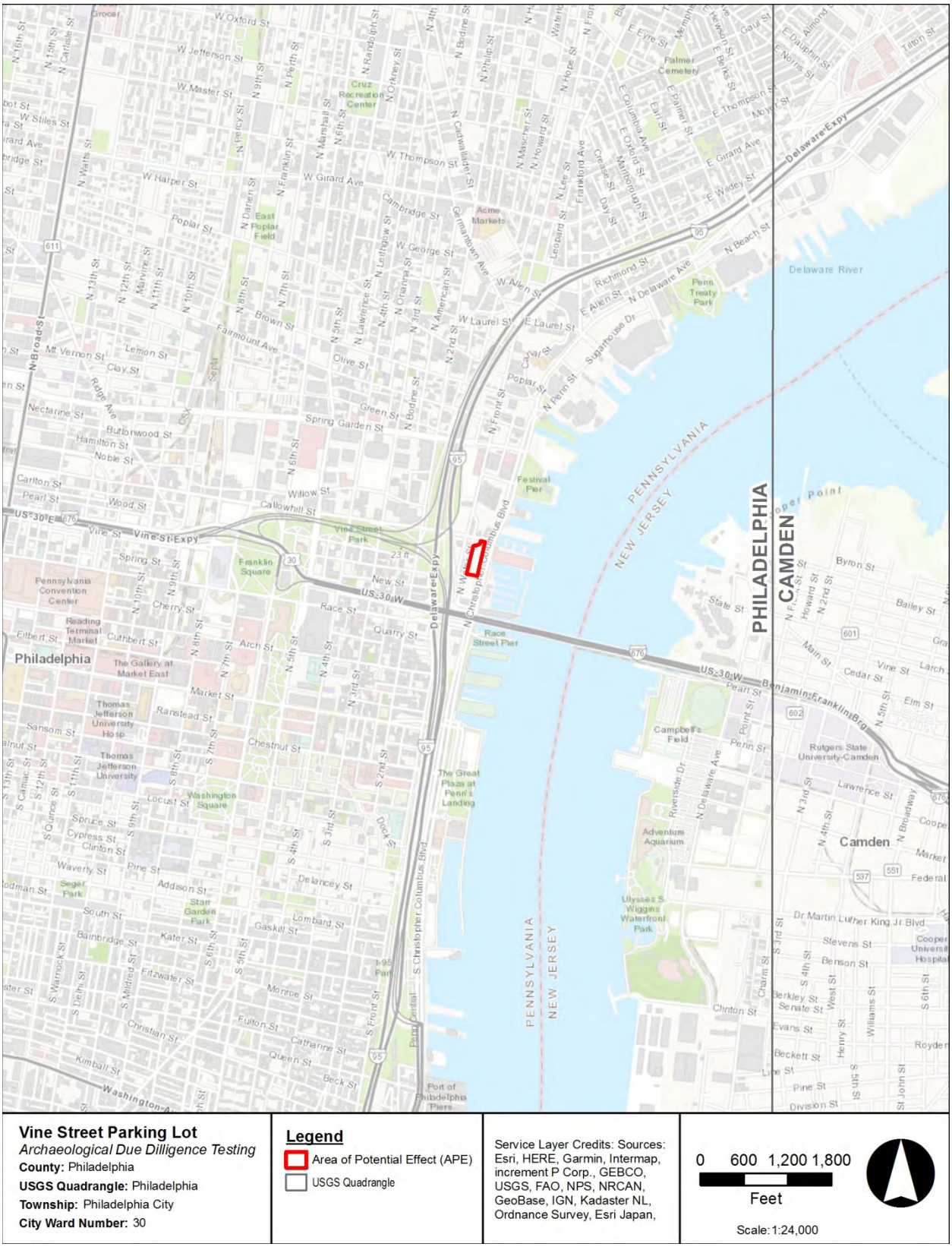


Figure 1.1. Map showing the location of the Vine Street Lot project.

2. Project Location and General Description

Physiography, Hydrography, Geology, and Land Use

The APE is situated between Callowhill and Vine Streets and between Water Street and Columbus Boulevard in the Northern Liberties neighborhood of Philadelphia. This location is located within the Lowland and Intermediate Upland section of the Atlantic Coastal Plain physiographic province (Figure 2.1). The Lowland and Intermediate Upland section is an area of southeastern Pennsylvania between the Delaware River to the east and the Piedmont Upland section to the west and north. Geologically, the project APE sits upon a portion of this deposit referred to as the Trenton Gravel Formation (Qt) (Figure 2.2). The Trenton Gravel Formation is characterized by gray or pale-reddish-brown, very gravelly sand interstratified with cross-bedded sand and clay-silt beds. This deposit type is known to include areas of Holocene alluvium and swamp deposits (Berg 1980).

The project area is located along the banks of the Delaware River in the Lower Delaware River, Watershed F. The project APE is located on sections of former floodplain and river channel along the western bank of the Delaware River. This area has been successively infilled and built out into the river over the last four centuries. The average ground elevation of the project area is on average 7–8 feet above mean sea level (amsl) at the western edge of the APE, along Water Street, and 5–6 feet amsl at the eastern edge of the APE, along Columbus Boulevard.

Both the USDA Web Soil Survey application and the Soil Survey of Bucks and Philadelphia Counties, Pennsylvania, classify the project area as Ub-Urban land (Agriculture 1975). This soil classification is very general and used to describe soils within urban environments that are typically disturbed. The classification of the area as Ub-Urban land would seem to suggest that an area has been modified or disturbed, which does appear to be the case within the APE. However, this disturbance has not eliminated the potential for cultural deposits. Cultural deposits in this area were found cut into the C horizon, as well as within historic fill episodes that, once established, became historic living surfaces.

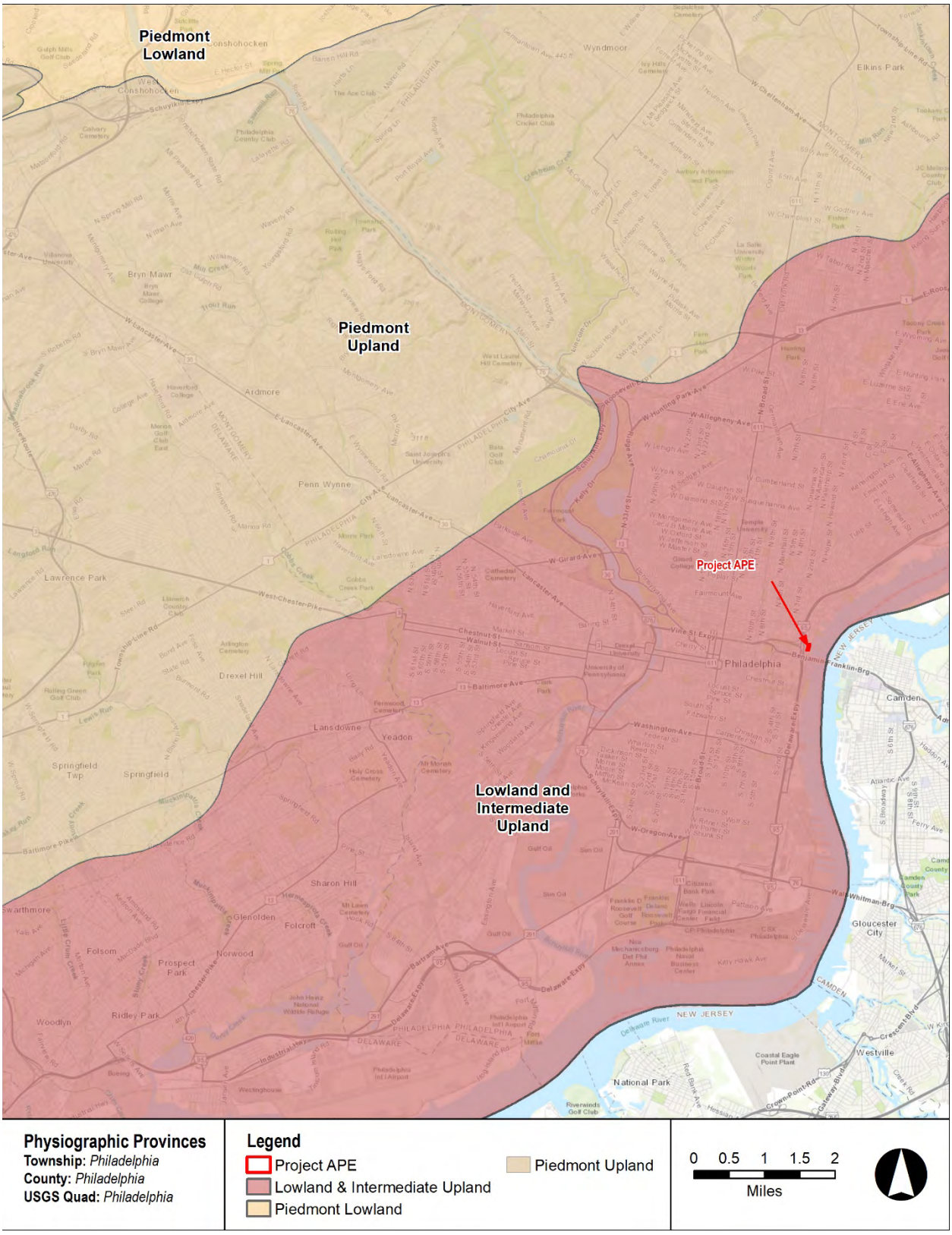


Figure 2.1. Map showing the project area relative to its physiographic province.

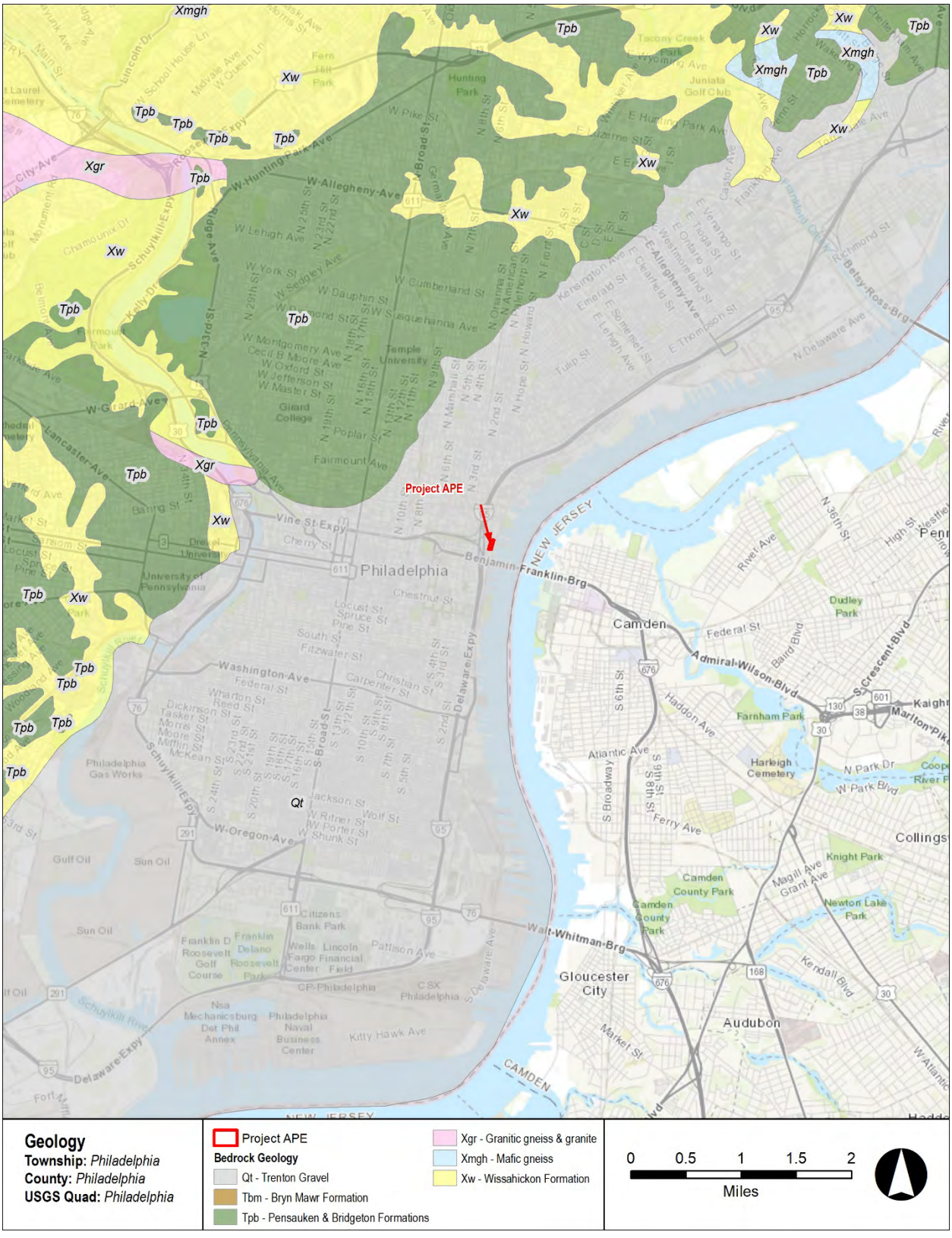


Figure 2.2. Map showing the project APE relative to the local bedrock geology.

Current Land Use

The project area, which encompasses approximately 65,293 square feet, was at the time of excavation a macadam-paved municipal parking lot operated by the DRWC. The western edge of the site is dominated by a mortared stone retaining wall of about 6 feet in height, which separates the parking area from Water Street to the west. The perimeter of the site is protected and delineated by a black metal fence. The only standing structure within the parking lot is the toll booth at its entrance.

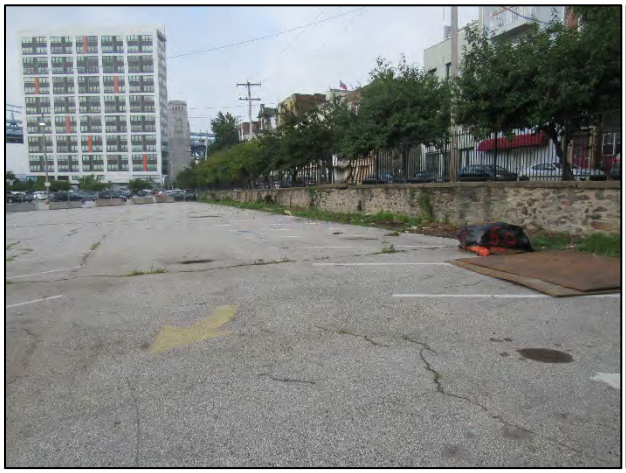


Photo 2.1. A view of the project area looking southwest toward the stone retaining wall along the edge of Water Street.

Photo 2.2. A view of the project APE looking southwest toward Vine Street from the entrance of the parking lot.

3. Background and Context

Precontact and Contact Period Overview

Eastern North American prehistory is usually discussed in terms of major time periods characterized by differing cultural configurations and adaptations to changes in the natural and cultural environment. The following pages briefly outline the major cultural and environmental constructs presently recognized for the northeastern United States, with particular reference to the greater Delaware Valley.

Paleoindian Period (Circa 10,000–8000 B.C.)

Paleoindian societies were groups highly mobile hunters of late Pleistocene megafauna, such as mastodon, mammoth, horse, camel, and bison (Mason 1962, Gardner 1974). Artifacts diagnostic of this period are uncommon throughout the East in general, and habitation sites are rare. The fact that these people were probably nomadic or otherwise mobile hunter-gatherers, most likely organized into tightly knit yet fluid band structures, contributed to the low artifact/site density. Such societies typically leave little trace on the landscape. However, a relatively high concentration of Paleoindian sites is known for the Delaware and Hudson River valleys of northeastern Pennsylvania, southeastern New York, and northwestern New Jersey (Eisenberg 1978, 6). Among the more important of these is the Shawnee Minisink Site, which dates to the ninth millennium B.C. and was interpreted as evidence for a more generalized foraging adaptation during this period (McNett 1985).

In studying Paleoindian occupations of the Hudson and Delaware Valleys, Eisenberg argued that the retreating Laurentide Ice Sheet resulted in “glacial disruptions,” producing a patchy environment of “both coniferous and deciduous elements” (Eisenberg 1978, 122). This observation was supported by palynological studies and the remains of animals adapted to a variety of settings. Based on site locations, Eisenberg suggested that Paleoindian groups were keyed into the resources associated with major streams, lowland swamps, and upland deciduous forests (Eisenberg 1978, 138). As a result, a wider range of food resources appears to have been exploited by Paleoindians than has been traditionally believed (Dent and Kauffman 1985, Meltzer and Smith 1986, Moeller 1980).

Archaic Period (Circa 8000–1800 B.C.)

The long Archaic period was typically divided into subperiods: Early, Middle, Late, and Terminal. The Early Archaic (circa 8000–6000 B.C.) witnessed a shift from Pleistocene climates and environments to those of the essentially modern Holocene. The gradual retreat of the ice sheets and periglacial conditions prior to circa 7000 B.C. created an environment more favorable to human habitation, with increased carrying capacities for certain game animals, fish, shellfish, seed plants, nut-bearing tree species, and other resources. Early Archaic hunters were believed to have largely followed the same mobile lifestyle of their Paleoindian forebears (Gardner 1974, Custer 1985), while subsequent Middle and Late Archaic societies underwent cultural changes as they adapted to the changing environment. By the latter half of the Archaic period, regional diversity in artifact types, styles, and configurations can be recognized that reflect differential adaptations to local environmental conditions (Cleland 1966, Custer 1984, Custer 1985, Custer 1996), which in turn probably reflects the development of distinct autonomous societies or “tribes.”

Information about site locations and assemblage compositions available for the Early Archaic period suggests a continuation of the Paleoindian pattern. Dent (1991) and Evans (1985), however, argue that the incipient Early Archaic lithic assemblage from the Shawnee Minisink Site in the upper Delaware Valley indicates “a shift toward more specialized procurement activities” (Dent 1991, 133, Evans 1985). They contrast this with a generalized procurement strategy of the earlier Paleoindian occupants of the site (Dent 1991, 136-137).

Regarding the Middle Archaic (circa 6000–3000 B.C.), Gardner (1977) and others (Custer 1984, Custer 1996, Wall 1991) have observed that considerable changes occurred “in almost all aspects of the cultural

system...with the…onset of the Middle Archaic" (Gardner 1977, 258). Wall notes that additional ecological settings were occupied during the Middle Archaic compared to the Paleoindian and Early Archaic periods, including major and minor upland ridges and floodplains, swamp margins, open valleys, and converging headwater zones (Wall 1991, 59). Concomitant with the increased range of habitats frequented by Middle Archaic groups was an increase in assemblage diversity. Gardner (1977) and Wall (1991) indicate that Middle Archaic sites exhibit a decrease in the use of cryptocrystalline lithic sources and a trend towards more expedient chipped-stone tools. Drills, chipped-stone axes, and groundstone tools were additions to Middle Archaic assemblages (Wall 1991, 58). The addition of groundstone implements to the tool kit suggests a more intensive use of plant resources than in earlier periods, presaging major developments during the Late Archaic.

The Late Archaic period (circa 3000–1800 B.C.) reflects an increasingly expanded economic base, in which groups exploited the richness of the now-established oak-dominant forests of the region. They depended on the procurement of large and small mammals, as well as birds, turtles, fish, and shellfish. Evidence for the use of nuts, seeds, and other plant foods of the deciduous forests also becomes more common. Gardner (Gardner 1983, 28-29) and others argue that a shift in focus occurred, whereby riverine resources were emphasized over forest resources. As such, "Late Archaic base camps were generally associated with low order streams or floodplain swamps" (Wall 1981, 23). Stewart observes that the Late Archaic pattern was a continuation of earlier trends; however, populations were larger and denser, and basic subsistence needs were met with restricted seasonal movements (Stewart 1983, 59-60).

Late Archaic adaptations in the Northeast generally display a marked increase in sedentism, larger and more permanent settlements, economic diversification, and overall cultural elaboration (Griffin 1967). The band-territorial settlement pattern ceased to be based on unrestricted wandering in search of foodstuffs. Rather, more restricted movements were predicated on seasonal exploitation of resources within a more or less circumscribed band or tribal territory. Typical Late Archaic subsistence-settlement systems involved spring fishing activities, particularly in areas where spring-spawning species were available (Kingsley and Benedict 1991). Where present, shellfish could be taken at various times of the year. Floral resources were the subsistence foci during the summer and fall, with the harvesting of nuts predominating in the latter. Migratory waterfowl were another fall resource. Game animals were exploited year-round, but particularly during the winter months when other kinds of food resources were rare or absent. Site types and settlement patterns were geared toward the seasonal round and were structured by the nature of the population's seasonal movements. Base settlements in strategic locations, with ancillary or seasonal task-specific campsites in proximity to particular resources, were a common Late Archaic pattern (Custer 1984, Custer 1996).

Following the Late Archaic was a period known as the Transitional or Terminal Archaic (circa 1800–800 B.C.) (Witthoft 1953). Cultural changes have been consistently documented for this period, but their significance remains somewhat unclear. Changes and/or additions to the lithic tool kit are evident. Narrow-bladed projectile points characteristic of the Late Archaic gave way to broad-bladed, triangular or leaf-shaped points (Kinsey 1972). This development was generally referred to as the Broadspear Tradition. While Broadspear points are usually believed to postdate the narrow Late Archaic types, it is still uncertain whether the Broadspears represent a replacement of, or an addition to, the narrow-bladed points (Cook 1976). It is also uncertain whether they functioned as hafted knives or projectile points.

Another important technological innovation that occurred during the Terminal Archaic was the advent of carved steatite (soapstone) vessels (Witthoft 1953, Kent, Smith and McCann 1971). These stone vessels, which were apparently used for cooking, were the predecessors of later ceramic pottery, which first appeared in the Mid-Atlantic region by the end of the period.

Lifestyles and settlement systems show certain continuities with the preceding Late Archaic; i.e., a general hunter-gatherer system based on a seasonally scheduled resource-procurement round. However, many Terminal Archaic sites evidence distinct riverine orientations, suggesting a greater reliance on aquatic resources and/or greater emphasis on watercourses for transportation and communication (Witthoft 1953, Ritchie 1965). It is believed that the existing trend toward greater sedentism in settlement and the establishment of societal territories continued throughout the Terminal Archaic period.

Woodland Period (Circa 800 B.C.–A.D. 1500)

Similar to the Archaic, the Woodland period is divided into Early, Middle, and Late subperiods. The Early (circa 800 B.C.–A.D. 0) and Middle Woodland (circa A.D. 0–1000) periods generally show marked changes from their Archaic antecedents throughout most of eastern North America. These periods are characterized by increasingly stable subsistence economies, in some places involving the practice of horticulture, and other cultural elaborations such as long-distance trade and the construction of earthen mounds for the burial of the dead (Griffin 1967). Technological innovations include the development of ceramic vessels for cooking and storage. By the end of the Middle Woodland period, well-established semisedentary settlement systems had developed, with societies organized into defined territories (Custer 1984, Custer 1985, Custer 1989, Custer 1996, Raber 1985).

The Early and Middle Woodland periods were first defined based on archaeological data from the Midwest that indicated two very different cultural configurations were in evidence. In the Delaware Valley, by contrast, evidence for temporal and cultural continuities prevails over evidence for discontinuities in this region. In the Delaware Valley, a continuum of development occurred that was marked by subtle changes in artifact styles. Ceramics show a gradual progression from the thick-walled, crude, poorly made vessels of the incipient Early Woodland period to the thin-walled, well-made, often elaborately decorated pottery of the late Middle Woodland period. In the lithic realm, a wide variety of projectile point types were used.

The Late Woodland period (circa A.D. 1000–1650) represents the culmination of the economic and social trends of preceding periods. Sedentary lifestyles based primarily on corn, bean, and squash agriculture were the rule throughout the East, though numerous exceptions or otherwise unusual cases were known. Most of these groups were seasonally sedentary and relied on horticulture and hunting and gathering to meet their subsistence needs, yet the extent to which agriculture was an important element in the Delaware Valley subsistence system was not altogether certain at this point, though it appears that agriculture became a predominant mode of subsistence only by later Late Woodland times (Stewart, Hummer and Custer 1986, Kraft 1986). During the early Late Woodland, hunting, fishing, and the collecting of wild foodstuffs continued to be the foci of subsistence pursuits. Late Woodland site types and settlement patterns in the lower Delaware Valley indicate the presence of a base camp/ancillary camp system, no doubt geared to the seasonal extraction of food resources (Stewart, Hummer and Custer 1986).

Most Late Woodland sociopolitical systems can be characterized as tribal and egalitarian. However, in many areas of the Midwest, South, and Southeast, true chiefdoms existed, with real political power and authority based on lines of succession within high-status kin groups (Griffin 1967, Brown 1971). In the Delaware Valley and the Mid-Atlantic region in general, political evolution and overall cultural elaboration never reached the levels attained in other regions prior to the end of the Late Woodland period (Custer 1984, Custer 1996, Turner 1986). Social organization in the region was most likely based on tribal-level structures and integrative mechanisms.

Several traditions and phases of Late Woodland occupation have been documented in the Delaware Valley and adjacent hinterlands, and it seems likely that the region was inhabited by several different societies rather than a single system. The marked social and cultural diversity evidenced in the greater Delaware Valley was generally characteristic of the Late Woodland period, during which local/regional societies appear to have developed out of previous larger social configurations.

Specifically, in the Upper Delaware Valley, the Pahaquarra and Minisink Complexes show cultural ties to Owasco Tradition societies in New York State (Kraft 1986, Ritchie 1965, Stewart 1985). In the Middle/Lower Delaware Valley, artifactual evidence principally in the form of Overpeck Incised ceramics indicates the presence of a different autonomous society (Siegel, Benedict and Kingsley 1999). Similarly, the Minguannan Complex has been defined for the northern Delmarva Peninsula and the mouth of the Delaware River (Custer 1984, Stewart 1985).

Contact Period (Circa 1500–1650)

The Contact period was the historically documented time when aboriginal populations in the Northeast came into contact with European colonizers. The natives indigenous to southeastern Pennsylvania and

western New Jersey at the time of European contact referred to themselves as the Lenape (the Real or Original People). Because of their association with the Delaware River, Europeans referred to the natives as the Delawares. Apparently, no pan-tribal political structure existed among the Lenape; rather, a loosely knit clan or phratry system served as the societal integrative structure that unified the Lenape population. It appears that persons belonging to any clan could be found living anywhere within Lenape territory (Kraft 1986b).

Initially, relations with Europeans were largely peaceful, and native and European populations coexisted in the Delaware Valley. While Lenape interactions with Europeans were generally peaceful, European diseases like smallpox and measles ravaged the Lenape and drastically reduced the populations in the region. Throughout the seventeenth century, such diseases continued to plague native populations and as their numbers decreased, so too did their hold on their ancestral lands (Soderlund 2015). During the seventeenth century, many Lenape began to adopt aspects of European material culture, often trading land and furs for items like iron tools and manufactured goods like glass (Kraft 1986b, Newcomb 1956). During the late seventeenth through early eighteenth centuries, Europeans gradually purchased much of the Lenape territory in the Lower Delaware Valley. By the early eighteenth century, with their populations reduced by disease and access to their traditional hunting and gathering grounds forfeited to Europeans, most of the Lenape in the Lower Delaware Valley had moved north up the Schuylkill and Delaware Rivers or west to the Susquehanna Valley (Newcomb 1956, Cotter, Roberts and Parrington 1993, Soderlund 2015). The so-called “Walking Purchase of 1737,” involving a tract of land near Kintnersville, Bucks County, Pennsylvania, represented the last piece of land the Lenape sold to Europeans and effectively closed the period of Indian-European contact in the Delaware Valley (Becker 1985).

General Philadelphia Settlement History

The first recorded European expedition to the greater Philadelphia area occurred in 1497, when John Cabot explored the east coast of North American under a commission from Henry VII. However, Europeans did not settle the area until 1638, when a Swedish expedition of 25 men aboard the *Kalmar Nyckel* and the *Fogel Grip* established Fort Christina on the current site of Wilmington, Delaware. Beginning in 1640, additional expeditions arrived bringing Swedish, Finnish, Dutch, and German settlers, domestic animals, supplies, additional soldiers, officers, and a minister (Craig 2001, Carlsson 1995, 172-174, Johnson 1914, 107). Over the next two decades, the inhabitants of New Sweden established numerous settlements on both sides of the lower Delaware River, including Techoherassi near the mouth of Ridley Creek (1642), Upland at the mouth of Chester Creek (1642), Finland at Marcus Hook (1642), Fort New Gothenburg above Darby Creek on Tinicum Island (1643), Kingsessing between Cobbs Creek and the Schuylkill River (1645), and Fort Korsholm on the Schuylkill River (1647). Nevertheless, populations remained low due to food shortages, disease, and irregular material support from Sweden, exacerbated by rampant desertion to nearby Dutch settlements, New Amsterdam, and the English colony at Kent Island (Maryland), provoked by the unpopular rule of Governor Johan Printz (1643–1653). After more than a decade of occupation and immigration, less than 400 colonists resided in New Sweden (Craig 2001, Acrelius 1874, 42-47, Scharf and Westcott 1884, 74). At midcentury, Dutch attempts to counter the growing Swedish presence on the lower Delaware River by establishing Fort Beverdsreede near the mouth of the Schuylkill River (1648) and Fort Casimir in Delaware (1651) proved relatively ineffectual until 1655, when Dutch Governor Pieter Stuyvesant ended Swedish rule of the colony by seizing Fort Christina (Craig 2001, Johnson 1911a, 281, Johnson 1911b, 582-584; 603-610).

At the time of European contact, several hundred Lenape who were organized into highly mobile groups of 15–30 individuals lived in the lower Delaware River Valley, where they hunted, fished, foraged, and engaged in limited maize horticulture. The Lenape of the Lower Delaware River Valley-known historically as the Unami (“downriver people”)—quickly assimilated to the European market economy of New Sweden, trading Indian corn and furs to colonists for European manufactured goods (Becker 1989, 113-114, 117-118). Although free of large-scale armed conflict for nearly three quarters of a century, early Native-European interactions in Pennsylvania were profoundly disruptive to Native American communities. Eyewitnesses indicated that European diseases may have reduced native populations in the late-seventeenth-century Delaware Valley by as much as 90%. In 1633, competition for hides sparked violent conflicts with the Susquehannocks that resulted in territorial losses for the Lenape. The demand for alcohol and European

goods among the Delaware undercut their political and economic autonomy and weakened their resolve in resisting European encroachment on their territory. And despite the Quaker goals of treating fairly with the Delaware, cultural misunderstandings about the nature of Native-European land purchases alienated Native American groups from their traditional territories and set the stage for future conflict. As soon as the first decade of the eighteenth century, Native Americans were seldom encountered in the colonial settlements of southeastern Pennsylvania (Sugrue 1992, 11–13, 19–20, 21-25, Zabel 2012, 19–21).

After the Dutch takeover, many Swedes and Finns remained in the colony under the liberal conditions of Dutch rule and expanded their settlements in the Lower Delaware River Valley. In the decade after 1664, as a result of the Second and Third Anglo-Dutch Wars, the colony traded hands several times, finally returning to English control under the terms of the Treaty of Westminster in 1674. By the time of the first English census in 1671, what would become Philadelphia was predominantly occupied by dispersed Swedish and Finnish swidden farmers living in simple log homes (with the exception of the area around Passyunk [southwest Philadelphia], which was settled predominantly by the English). Early settlers grew rye, wheat, Indian corn, and barley and raised cattle, hogs, sheep, and horses. English newcomers commented favorably on the quality of the linen, cider, and butter local residents produced, as well as the availability of wild and domesticated fowl, venison, bear, and fish (Craig 2001, Myers 1912, 251–253, Tvengsberg 1995, 283–286).

By 1681, when Charles II granted William Penn land in America to establish an “ample colony,” the lower Delaware Valley was occupied by several thousand Lenape Indians scattered along the Delaware River and its tributaries—along with about 2,000 Europeans, the descendants of several hundred Swedes and Finns that had settled parts of New Jersey, Pennsylvania, and Delaware and small groups of Dutch and English colonists that began settling in the Delaware Valley at midcentury. In all, about 50 European families occupied the territory that would become modern Philadelphia. Beginning in 1681, they were joined by hundreds of English, Irish, and Welsh Quakers actively recruited to Penn’s “holy experiment,” vastly increasing the European presence in the lower Delaware Valley and rather quickly overwhelming older Swedish and Finnish communities. Penn, a member of George Fox’s Society of Friends, intended his plantation to be “a peaceful home for the persecuted members of the Society of Friends” and an “asylum for the good and oppressed of every nation” (Dunn and Dunn 1982, 3–4, Scharf and Westcott 1884, 82–83).

Drawn by Penn’s active promotion of the new colony, his comparatively democratic Frame of Government (1681), Charter of Liberties (1683), and Charter of Privileges (1701), and his liberal policies regarding the free practice of religion, “yeomen, artisans, shopkeepers, and well-to-do merchants” began flocking to Philadelphia in the fall of 1681. Many waited for their properties to be surveyed in camps and caves along the Delaware River, in tents, or in Swedish-style log cabins. By 1700, Pennsylvania’s European population reached nearly 18,000, of which a little more than two-thirds were English, one-fifth were Welsh or Irish, and one-twentieth were German or Dutch. Many of the remaining settlers, perhaps 1,200–1,300, were of old Swedish or Finnish ancestry (Carlsson 1995, 176–181, Craig 2001, Lemon 1987, 122, Scharf and Westcott 1884, 96, Watson 1850, 171–172m, Zabel 2012, 23).

Philadelphia’s population had reached 20,000 by 1775. Immigration increased throughout the eighteenth century, creating cramped conditions and the need for more housing. By 1783, the districts of Southwark and Northern Liberties alone had a population of 39,000 (Nash and Smith 1975, 366). Temporary dwellings were built along the riverfront to accommodate the exploding population. The city’s unhealthy conditions led to the Yellow Fever Epidemic of 1762. Two other epidemics followed: a severe one in the summer of 1793, and another moderate outbreak in the years 1794–1798 (Miller 1982).

The towns bordering the Delaware River on the outskirts of Philadelphia were magnets for industries such as fishing and shipbuilding. At the beginning of the nineteenth century, Philadelphia was poised to become one of the world’s largest manufacturing centers. Investment capital poured in, making Philadelphia a center for chemicals, textiles, glass, ships, and iron-related products (Cotter, Roberts and Parrington 1993, 57). Other smaller industries included cigar making, breweries, leather works, and furniture making. A diverse manufacturing base helped Philadelphia weather the financial panics of the nineteenth century. Philadelphia’s early focus on shipping gave way to turnpikes, canals, and railroads. In the 1830s, anthracite coal transformed the city and surrounding areas into a highly industrialized manufacturing region and paved

the way for the development of the nation's railroads. In 1854, the districts and communities in the portion of Philadelphia County surrounding the original core of the city were consolidated under the municipal government of the City of Philadelphia (Wainwright 1952, 276).

Waves of immigrants poured into Philadelphia in search of manufacturing jobs. By 1860, 30% of the city's inhabitants were foreign-born. Crowded, unsanitary conditions spread the rate of disease. Outbreaks of cholera, malaria, typhoid, and tuberculosis killed thousands before the city modernized their sewage and water systems in the first decade of the twentieth century. Manufacturing and commercial uses became the predominant aspects of the city in the 1920s, as the more affluent residents migrated to the suburbs. Left behind were the working-class ethnic enclaves, such as Italians in South Philadelphia and Polish/Eastern European families in North Philadelphia. With the departure of its affluent residents, many of the neighborhoods within Philadelphia fell into economic decline, a condition that was further exacerbated by the steady erosion of its manufacturing base, which has plagued Philadelphia since the end of World War II. The city experienced a turnaround when the nation's bicentennial celebration in the 1970s touched off a commitment to historic preservation and heritage tourism.

Site-Specific Context

The development of the Philadelphia waterfront within the project area has been the subject of several previous studies that have provided a rich wealth of property background research about the development of the lot over time. These previous research efforts conducted by Carmen Weber (1987) and John Milner Associates, Inc. (2012) involved substantial deed research and historic map analysis, and the creation of a site-development chronology (Weber and Yamin 1988/2006, Mancl, Balicki and Yamin 2013). The following section builds upon this deed research, which is summarized and expanded upon in Appendix B.

Early Waterfront Development and Shipbuilding

Settlement within the project area began in the late seventeenth century, commensurate with William Penn's initial layout of the city of Philadelphia. At this time, however, the project area sat just to the north of the city proper, Vine Street at that time being the city's northern limit. The original ground lots patented within the project area extended from Front Street (the Great Road) to the Delaware River, an average distance of 255 feet. At this time, there was no formal Water Street, only an informal 30-foot-wide cartway that ran along the riverbank. As part of their original patent, the landowners were often encouraged if not required to establish wharves along their water lots.

By the early 1680s, shipwright James West had begun building vessels within the project area. James West occupied a 100-foot-wide lot just north of Vine Street and by 1690 had purchased the Penny Pot Tavern, which he also operated (Weber and Yamin 1988/2006, 2). To the north of James West, a ropemaker name William Rakeshaw set up his operation. These two men were the first to establish themselves in the shipbuilding trade within the project area. While the southern portion of the project area was developing a nascent shipbuilding industry, the area in the northern portion of the lot, north of the Wood Street steps, was occupied by a mix of tailors (John Jennett), yeomen (Francis Rawle), and surgeons (John Goodson). The great success of the West Shipyard soon drew other shipwright and maritime tradesmen to the vicinity, and so by the 1720s, most of the original lots within the project area were now engaged in the shipbuilding trade. Jacob Casdorf, shipwright (1717–1759), took ownership of the Goodson lot south of Callowhill, the Langston and Rawle lots came under the control of the Lynn shipbuilding family in 1717, and the Porteus and Colley lots came under the control of Joseph Fox, also a shipwright. In the south, William Rakestraw had been replaced by shipwright Michael Hewling; south along Vine, the West Shipyard continued to operate under James West's son Charles West. The final holdout was the Jennett lot, which was not purchased by a shipwright until 1737, when it came under the operation of Richard Allen, who was followed in succession by James Parrock and William Taylor, all of whom pursued the trade.

During this period, many of the shipwrights in this area became well respected and renowned for their trade. The accounts of merchant John Reynell reveal his esteem for shipwright Charles West, who he repeatedly engaged to construct vessels. In 1740, Reynell employed Charles West to construct the *Mary*, which West subsequently launched from his shipyard in 1741 (Middlebrook 1934, 128-129). Reynell acted as a go-

between for a contract on another ship—the *Tetsworth*, for his friend Elias Bland, a London-based merchant—in which Bland specifically requests Charles West. Charles was seemingly occupied, as the order for the vessel was eventually filled by Charles's son, James West, with the *Tetsworth* being launched around 1748 (Gillingham 1932, 179-180). Richard Deeble had John Reynell engage Michael Hulings (the Wests' northern neighbor) to build for him the ship *John and Anna* in 1733–1734 (Gillingham 1932, 166-167). In the 1740s, others—like Philadelphia merchant William Till—contracted shipwrights like John Parrock to build vessels for their London contacts (Lawrence Williams). While John Parrock (likely the son of James Parrock, neighbor to the Hulings and Wests) may not have been the first choice of Till, he describes him as an "esteemed good builder" and states he is available while C. West or Hulings are otherwise engaged (Farley 2014). This seems to suggest that Philadelphia shipwrights were doing a booming business and merchants were happy to find a competent builder to build them a vessel when the premiere shipwrights were busy. It seems therefore that during the first half of the eighteenth century, the project area was home to a series of high-end shipwrights who were busy crafting the vessels upon which Philadelphia and the Atlantic World conducted its maritime trade (see Appendix B.).

While the original land patents and deed records seem to emphasize the desire to build wharfage, most occupants in the shipbuilding community did not seem to take the practice to heart in the second quarter of the eighteenth century. Views of the riverbank recorded in 1720 show only one wharf, at the West Shipyard (Cooper 1720). A second view from 1754 shows only two wharves in the project area. In the 1754 view, the southern wharf is owned by shipwright Charles West, son of shipwright James West; the other wharf, on the former Rakestraw lot to the north, was occupied by shipwright Michael Hulings. The 1754 view shows that the northern portion of the project area was still largely undeveloped riverbank by this point in time. The lack of wharves did not seem to prevent the construction of vessels, however, as this same image shows a number of vessels being constructed directly on the marshy riverbank across most of the northern half of the current project area (Figure 3.2). Given the vernacular shipbuilding methods of the day and the comparably small size of the vessels, shipwrights in the late seventeenth century and early eighteenth century did not require much more than a gently sloped portion of the riverbank near slow deep water, offering protection from storms in order to build and launch a vessel (Dworsky 2011, 15, Ford 2007). Surveying these images along the full length of the Delaware riverbank, it appears that most ships shown under construction were being built on largely unaltered riverbank, with only a few in shipways, suggesting that slipways and more established infrastructure were the exceptions, not the rule for shipbuilding at this time (Dworsky 2011, Goldberg 1976). Eight years later, by the time the next detailed map of the city was drafted, West and Hewlings were still the only shipwrights within the project area to improve or wharf out their water lots (Scull, Clarkson and Biddle 1762). By 1762, a third wharf had been built at the northern end of the project area, this one owned and operated by Samuel Shoemaker, a Quaker merchant. Between the Hewlings and Shoemaker wharves—where Joseph Lynn and sons, Richard Allen, William Taylor, James Parrock, and Joseph Fox were all engaged in shipbuilding—the area was still depicted as natural riverbank (Figure 3.3).

Figure 3.1. A vessel under construction at the West Shipyard (right edge of frame) with the Penny Pot house (#24) behind. Extract from *The South East Prospect of the City of Philadelphia* by Peter Cooper, circa 1718 (Cooper 1720).

Figure 3.2. A view of the West Shipyard wharf and shipbuilding within the project area, circa 1754. Extract from *An East Prospect of the City of Philadelphia* by George Heap and engraved by Thomas Jeffreys (Heap, Scull and Jefferys 1754).

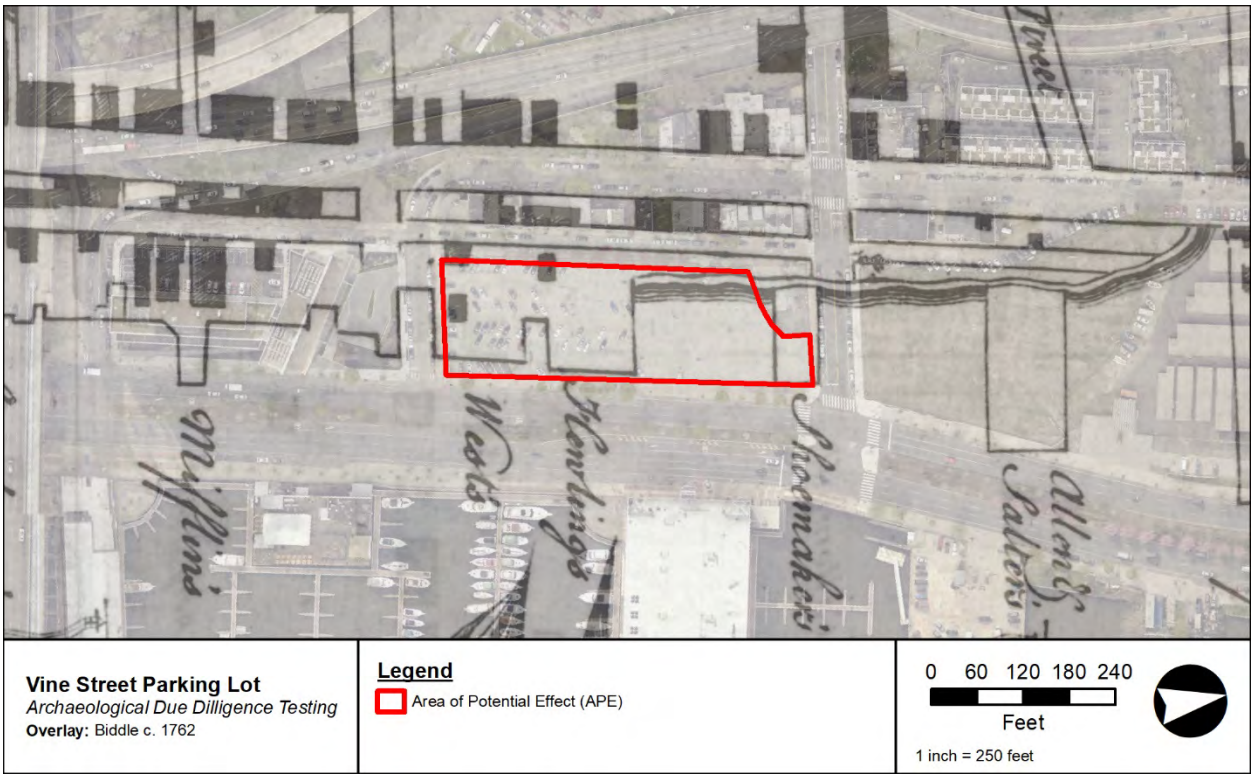


Figure 3.3. Overlay of the 1762 map of Philadelphia (Scull, Clarkson and Biddle 1762)

Early Mercantile Period

By the mid-eighteenth century, the character and landscape of the project area were beginning to evolve. Samuel Shoemaker had established a mercantile wharf on the northern edge of the project area in 1759 and had been quite successful (Deeds 1759). As the city grew and expanded, the waterfront was becoming more valuable and shipbuilding seems to have begun to relocate farther norther in Northern Liberties and Kensington. After three generations of shipbuilding on the West lot, the practice fell by the wayside shortly after the death of Charles West Sr. in 1761. While his son James, also a shipwright, persisted for a bit after his father's passing, he died shortly thereafter in 1762 (J. West 1761). By the time of his brother James's death in 1762, Charles West Jr. had begun to establish himself as a merchant on the southernmost portion of his family's land along Vine Street. He was joined shortly thereafter by his nephew, William West, son of the late James, who also transitioned to mercantile business on the northern portion of the family's waterfront lot, which had been given to him via his father. These lots had been divided by a 16-foot alley per the will of Charles West Sr. in 1761 (C. West 1761).

As the second half of the eighteenth century progressed, the number of former shipyards being taken over by merchants drastically increased. Shipwright Christopher Smith remained in operation on the Rawle lot between 1777 and 1784 before selling the land to a merchant, Isaac Hazlehurst (Deeds 1784). By 1791, the land and shipyard formerly of Michael Hulings passed to his son-in-law merchant/sheriff Joseph Cowperthwaite, and the lands of William Taylor, shipwright, were passed to his son Bankson Taylor and his business partner Jacob Clements, both merchants (Deeds 1791, Deeds 1791). By the mid-1790s, the project area was no longer the domain of shipwrights, but was now the realm of merchants like Thomas Britton, William Massey, John Harrison, George Knorr, Isaac Hazlehurst, Jacob Clements, Joseph Cowperthwaite, William West, and Charles West (Hills 1796).

With the transition to a mercantile economy within the lot came a substantial physical transformation in the landscape. Wharves were built rapidly, and by 1794, nearly all the project area had been wharfed out past the point of modern-day Columbus Boulevard (Figure 3.4). By this point, the waterfront was no longer within the current project area, as the whole area had been wharfed out and mercantile structures built upon the new land. Construction of warehouses, stores, and dwellings also seemingly increased around this time and into the early nineteenth century, and shipyards disappeared (Figure 3.5). By the early nineteenth century, the route of Water Street had been formally established, as the riverbank had moved so far east of Front that it no longer served its intended purpose. The Water Street routeway was established at a 40-foot width in 1795 (Brooke, Keen and Schneider 1795). Maps from this time period in the early nineteenth century show a landscape characterized by warehouses divided by a series of alleys, all fronting on Water Street. The circa-1800 map Adam Ritter presented in *Philadelphia and Her Merchants* suggests that by the turn of the nineteenth century, much of the land south of Wood Street was owned and operated by the Wests and their associates, who were principally engaged in the salt trade. In the north, lumberyards dominated, and in between were bakeries, producing ships bread and biscuit. In the Goodson lot, a tavern and a series of dwellings had been erected (Figure 3.6). This configuration of warehouses, stores, and dwellings separated by a network of alleys seems to have persisted until just about the mid-nineteenth century, with the economy of the area remaining focused on ship provisioning, shipping, and lumber trade (Figure 3.7; Figure 3.8).

Figure 3.4. **Overlay of map *To Thomas Mifflin, governor and commander in chief of the state of Pennsylvania, this plan of the city and suburbs of Philadelphia is respectfully inscribed by the editor, 1794* (Folie and Allardice 1794)**

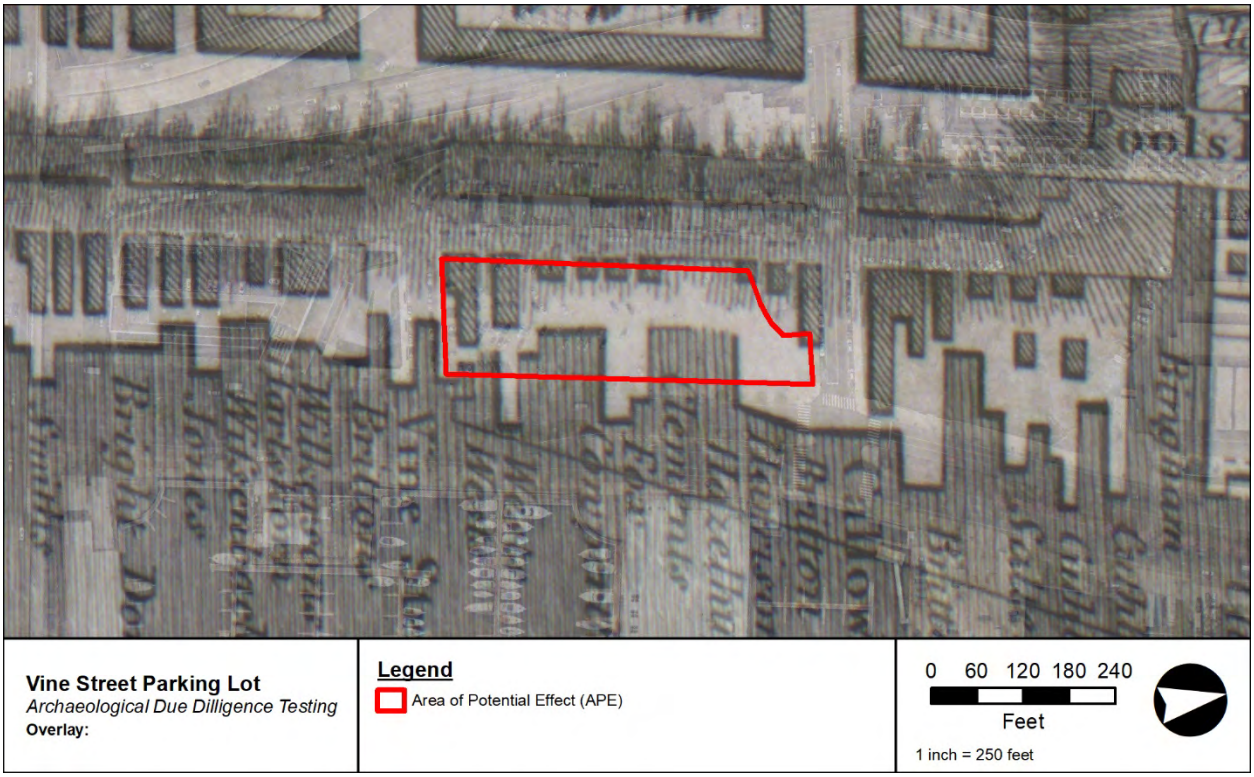


Figure 3.5. **Overlay of map *This plan of the city of Philadelphia and its environs…*, circa 1796 (Hills 1796)**

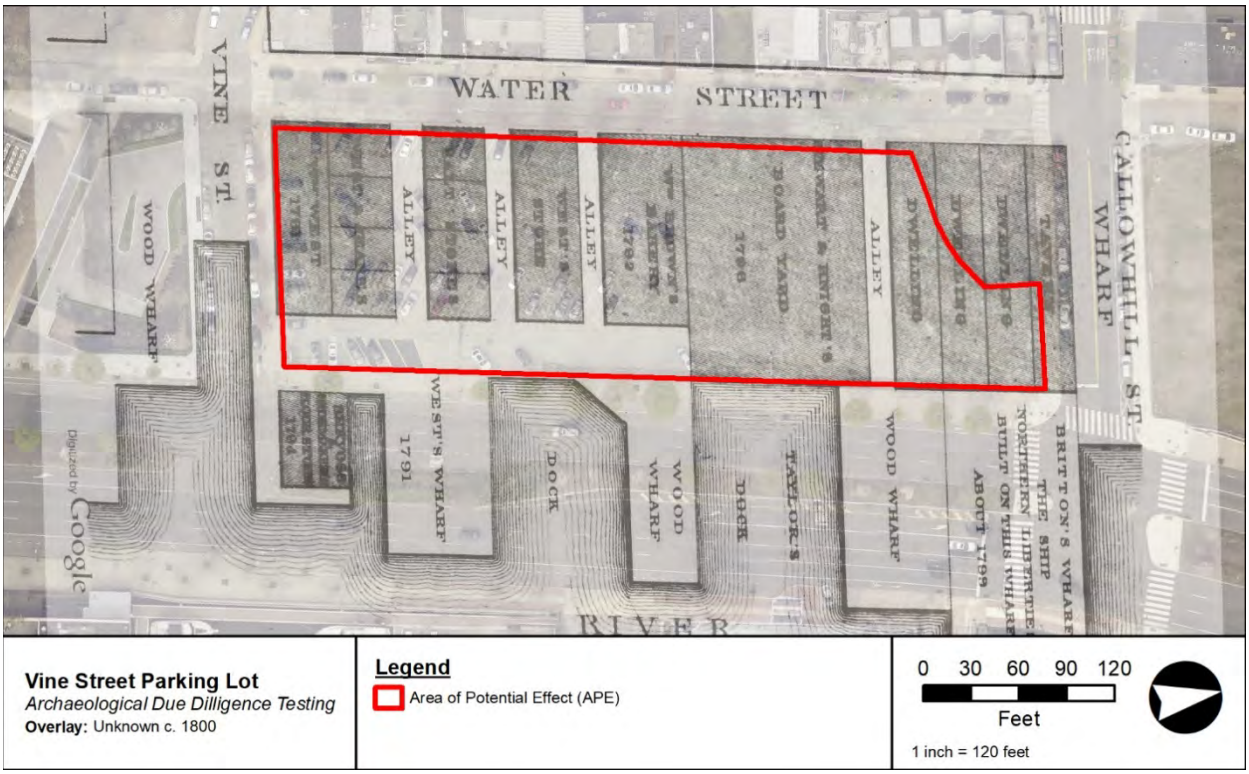


Figure 3.6. Overlay of map *Wharves-Vine to Callowhill*, circa 1800, mapmaker unknown, reprinted in *Philadelphia and Her Merchants* (Ritter 1860)

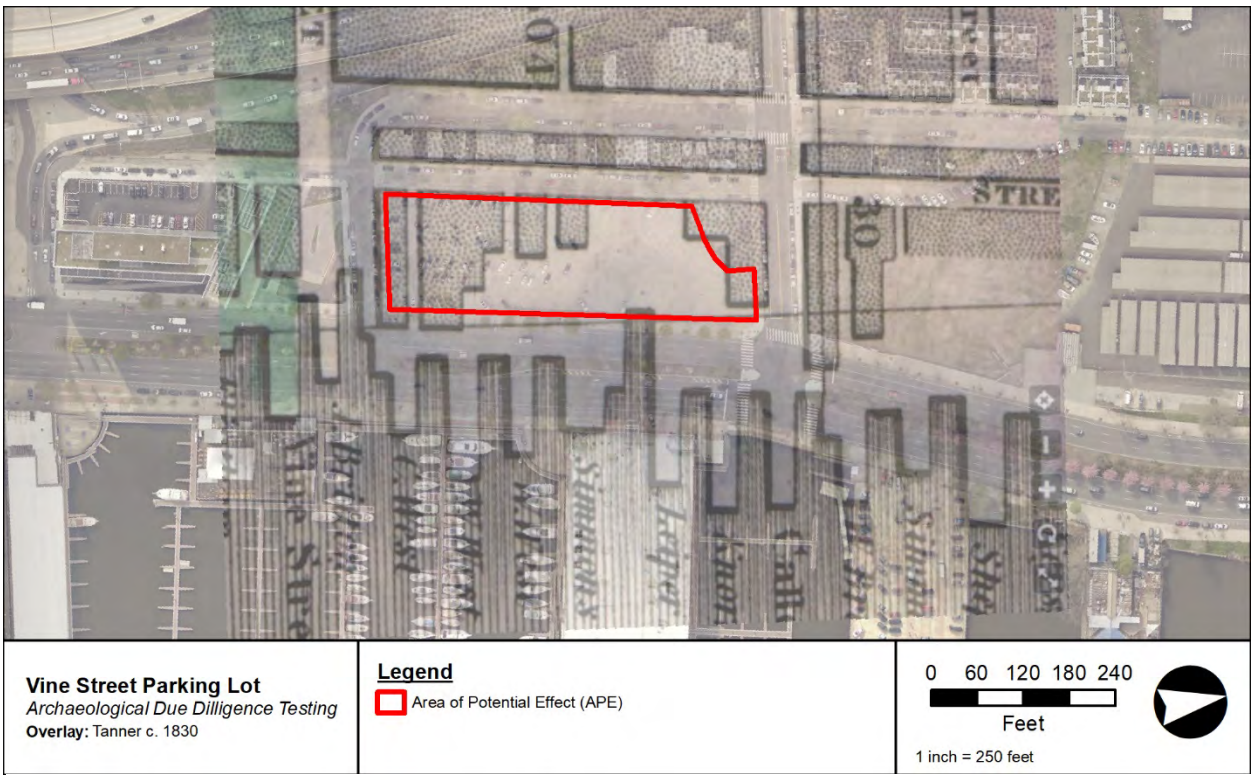


Figure 3.7. Overlay of map *Plan of the city of Philadelphia and adjoining districts: shewing the existing and contemplated improvements*, circa 1830 (Tanner 1837)

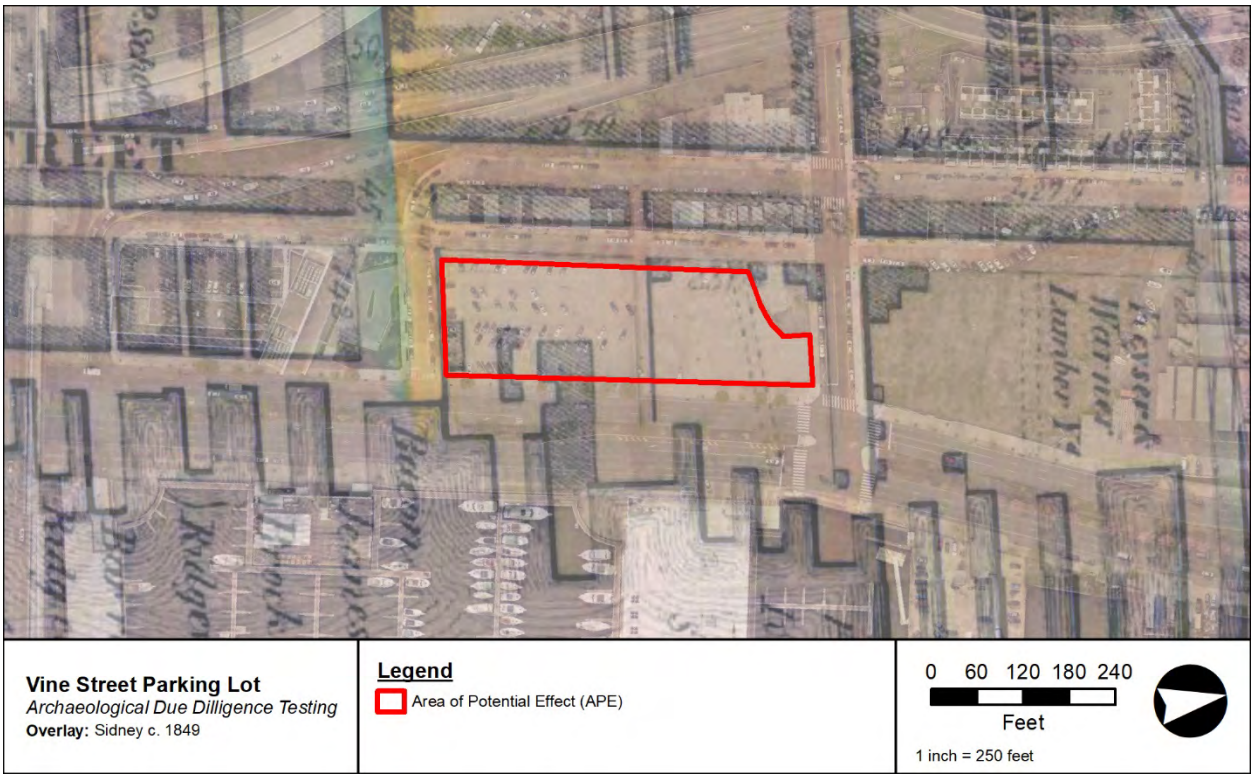


Figure 3.8. Overly of map *Map of the City of Philadelphia together with all the surrounding Districts* (Sidney 1849)

The Great Conflagration of 1850

On July 9, 1850, workers were lowering molasses into the basement of a warehouse located at 139 Water Street, between Vine and Race Streets. Friction from the hoisting machine caused a fire, igniting a store of straw in the warehouse (Latest Particulars of the Fire 1850). This warehouse, belonging to merchants John Brock & Co. and Gordon & Berger & Co., began to burn and the alarm was raised. Unfortunately, as the fire burned down, it ignited the stores of saltpeter on the first floor of John Brock's warehouse, causing a massive explosion that sent flaming debris several blocks in all directions, catching a substantial portion of the northern part of the city and much of Northern Liberties alight. The resultant fire, which eventually became known as the Great Conflagration, killed upwards of 17 people and consumed a total of 367 houses and businesses. Properties as far west as Fourth Street, as far south as Race Street, and north past Callowhill were all destroyed, and debris from the explosion was found as far west as Broad Street (Latest Particulars of the Fire 1850). The damage from this fire totaled over 1.5 million dollars in 1850, and nearly bankrupted most insurance companies in the city. A survey of the Mutual Assurance records at the Historical Society of Pennsylvania reveals that all the houses on Front and Water Street opposite the current project area were listed as total losses circa 1850 as a result of this fire. A newspaper account, dated July 11, 1850, states that on the east side of Water Street, between Callowhill and Vine (the boundaries of the current Vine Street parking lot), 8–10 buildings were destroyed (Latest Particulars of the Fire 1850). Examination of the insurance files of the Philadelphia Contributorship confirm that much of the block was listed as a total loss in 1850 and then was subsequently rebuilt during the following two years (Knight 1852, Knight 1851, Knight 1851).

Figure 3.9. A print by Charles Rosenberg showing the explosion that started the Great Conflagration (Rosenberg 1850)

Post-Great Conflagration Waterfront Redevelopment Period

Following the Great Conflagration in 1850, the project area and the surrounding block were subsequently rebuilt (Knight 1852, Knight 1851, Knight 1851). City planners took advantage of this “clean slate” and extended the route of Delaware Avenue north of Vine Street, its previous terminus, all the way into the heart of Northern Liberties. Joseph H. Siddall drafted plans for the new Delaware Avenue just four months after the fire (Siddall 1850). By 1851, many of the businesses along Water Street had been rebuilt in new and larger structures, which fronted on the newly established Delaware Avenue, not just Water Street. This new configuration of the block is well documented by the creation of the 1858–1859 Hexamer map series (Hexamer & Locher 1859). These newly created structures depicted on Plate 43 of the Hexamer map series show that the new buildings spanned the entire width of the newly created block. Most of the new buildings in the southern half of the block were rebuilt at least four stories tall, while the northern portion of the lot stayed largely empty apart from the northern edge along Callowhill Street (Figure 3.11). Despite the new built environment, the merchants still tended to dominate the landscape of the block, with the West family and their kinsman the Bacon family continuing to sell goods and salt on the southern edge of the block along Vine Street. In the middle of the block, several additional large mercantile buildings were erected and similarly served principal functions as mercantile warehouses. The northern part of the block continued to be dominated by lumber and coal yards as it had prior to the fire, and the tavern and house along Callowhill Street were also rebuilt. The usage of the northern portion of the block seems to have remained static throughout the third quarter of the nineteenth century, with the lumberyard of Edward B. McClees occupying the area just to the north of Wood Street alley, and the Joseph B. Bloodgood coal yard occupying the remaining land to the north between the lumberyard and the tavern and domestic buildings along Callowhill. South of Wood Street, some structural change did take place. As shown in Figure 3.12, by the mid-1870s,

the area between the rebuilt warehouses near Vine Street and those to the north along Wood Street had been infilled with a large market building owned by Edward Browning (Hopkins 1875, Deeds 1873). This structure, the Delaware Avenue Market, persisted until the block was razed at the end of the century.

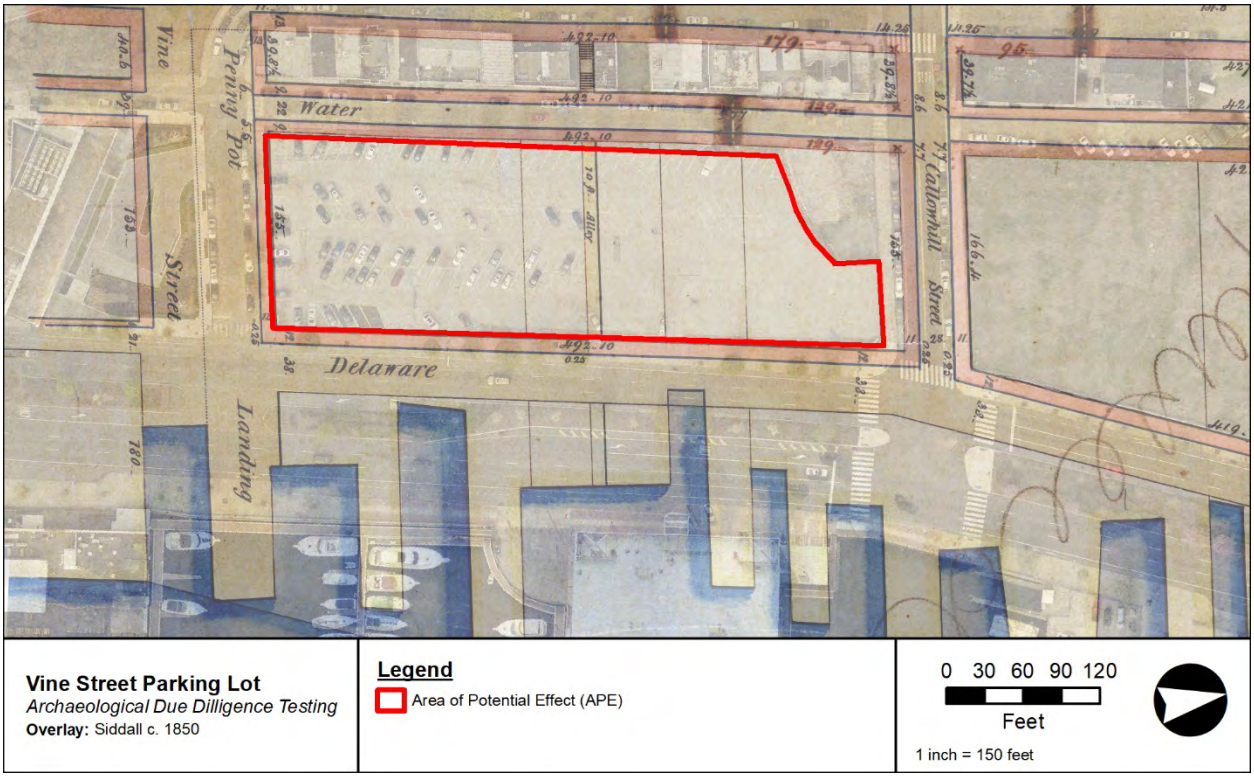


Figure 3.10. Overlay of map *Plan of Delaware Avenue from Vine St. to Cohocksink Creek in the District of the Northern Liberties*, September 27, 1850 (Siddall 1850).

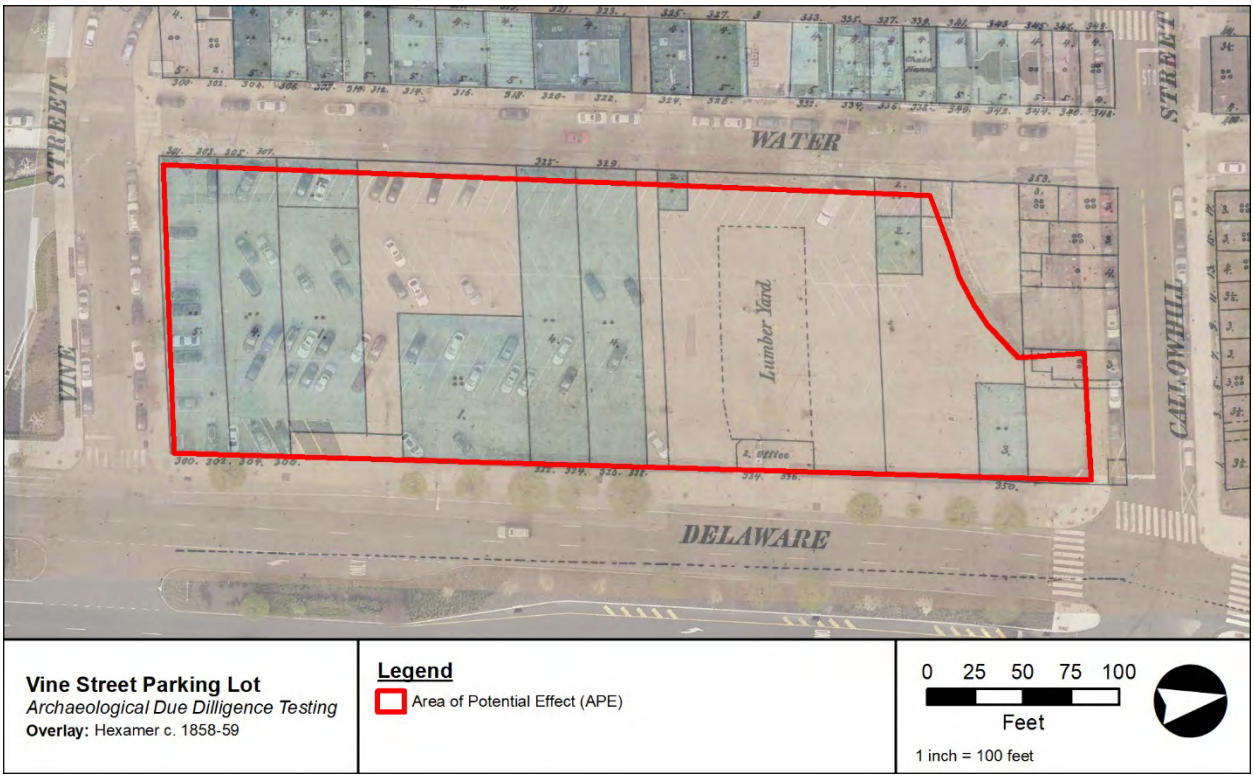


Figure 3.11. Overlay of map "11th Ward – Plate 43" from the Hexamer and Locher *Maps of the City of Philadelphia, Volume 4* (Hexamer & Locher 1859).

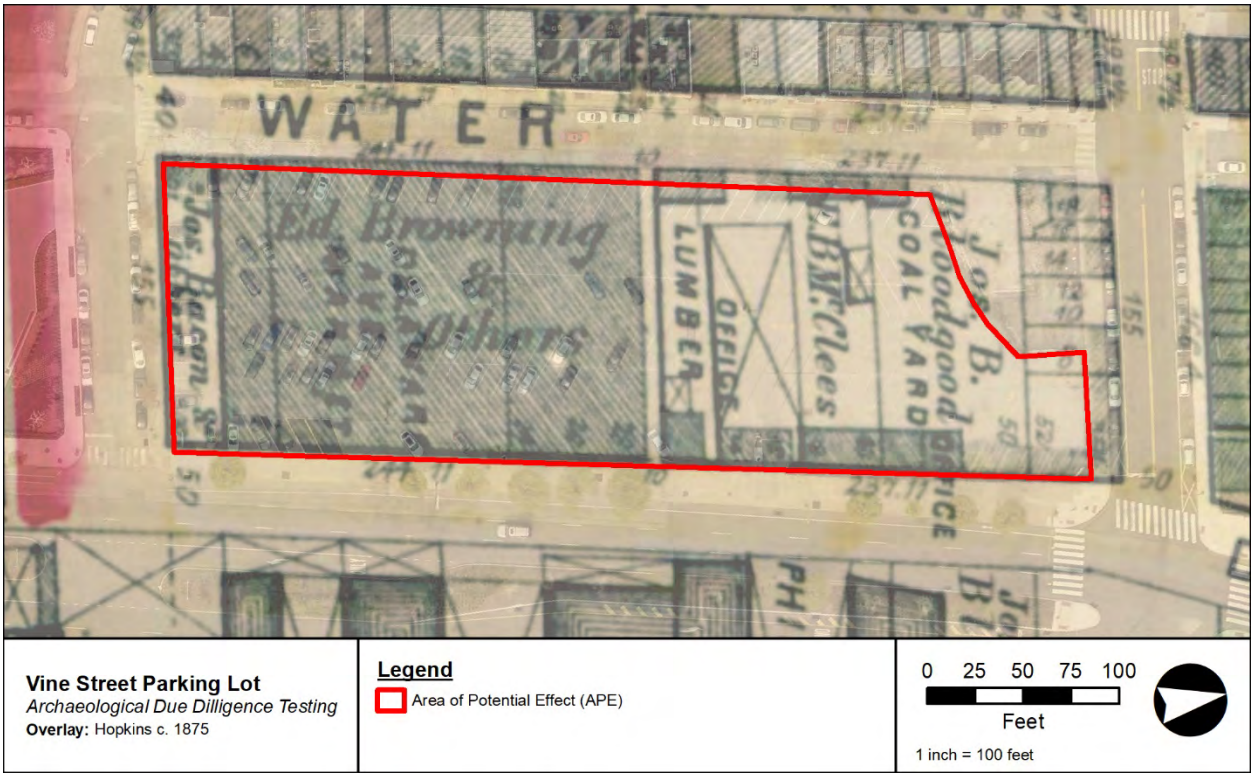


Figure 3.12. Overlay of "Plate I" from *City Atlas of Philadelphia, Vol. 6, Wards 2 through 20, 29 and 31*, circa 1875 (Hopkins 1875).

Late Nineteenth-Century

During the late nineteenth century, the southern portion of the block, south of Wood Street, remained physically unaltered from its 1870s configuration. However, by the 1890s, the former Edward B. McClees lumberyard had been replaced with a network of small buildings and dwellings—six fronting on Water Street, six on Delaware Avenue. In between these new dwellings was a fruit warehouse erected sometime between 1875 and 1885 (Hopkins 1875, Baist 1885). The portion of the lot fronting on Callowhill Street remained largely consistent; however, the northeast corner of the block at the intersection of Delaware Avenue and Callowhill had seen a new structure erected. The coal yard, between the new houses and the mid-century dwellings along Callowhill Street, remained in operation, but had by 1895 seen a substantial number of additional sheds and structures built within its footprint. While the southern portion of the block seemed to remain fully commercial in function, the northern portion had begun to lean sharply toward domestic and small-scale commercial usage.

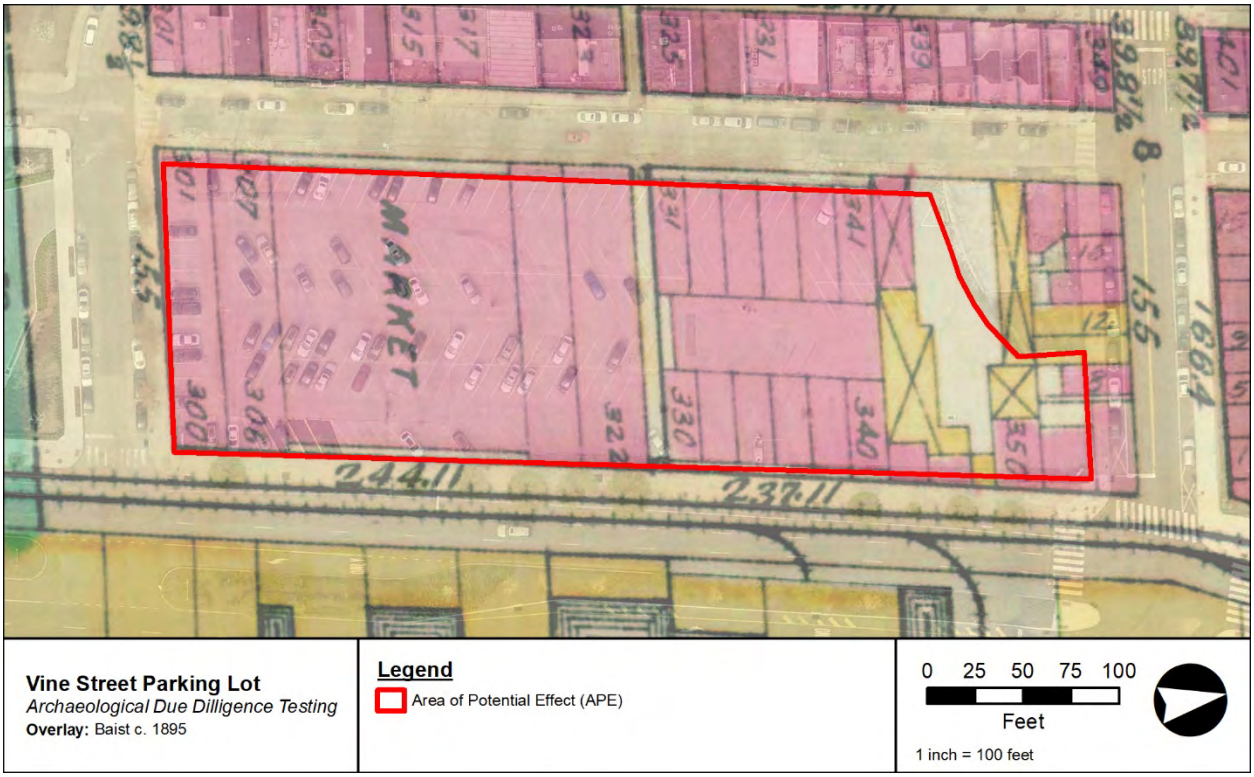


Figure 3.13. Overlay of map "Plan 20" from *Baist's Property Atlas of the City and County of Philadelphia, Penna, complete in one volume, 1895*) (Baist 1885).

Modern Period

At the close of the nineteenth century, the Pennsylvania Railroad Company began buying up the land between Vine and Callowhill Streets and between Water Street and Delaware Avenue in order to build a railyard. The company began purchasing properties on the block in 1892. Much of the land was initially acquired by a land agent, Henry M. DuBois, before being transferred to the Pennsylvania Railroad Company later that same year. By the dawn of the twentieth century, the railroad had razed the entire block and erected in its place a series of rail sidings that connected to the tracks already extant along the route of Delaware Avenue (Figure 3.14). Historic photographs show that the stone retaining wall that lines the western edge of the Vine Street lot was extant during the usage of the railyard, and the block had been graded flat to near its current level. The area featured two parallel rail sidings, and the yard itself was paved in cut stone block (Photo 3.1). In 1969, the Hertz Rent-a-Car company purchased the Vine Street lot and turned it into a car rental lot and maintenance facility. Hertz erected several structures, including a large maintenance garage building in the southern portion of the lot, while the remaining area was used for

parking. In the late twentieth century, Hertz sold the lot to the DRWC, who has retained ownership since that time. Under the ownership of the DRWC, the maintenance buildings were torn down and subsurface tanks removed, and the entire lot was turned into a paid parking lot.

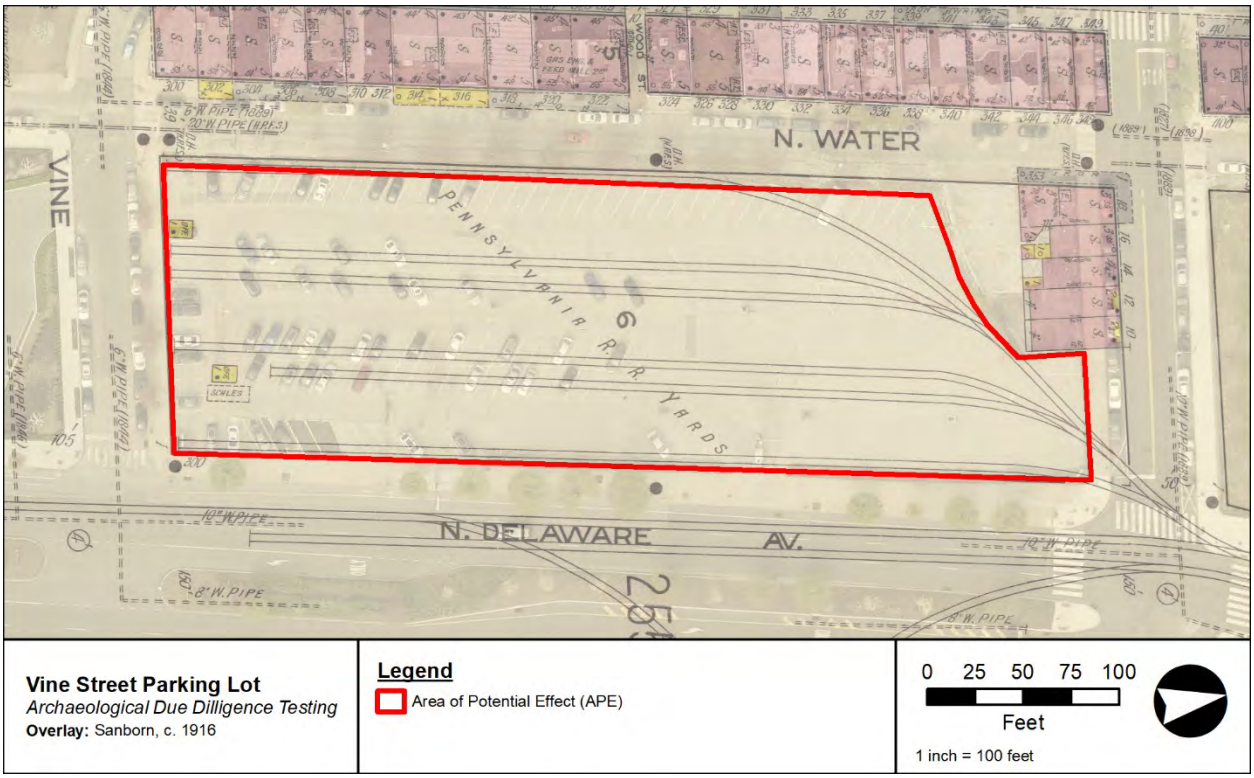


Figure 3.14. Overlay of map "Sheet 209" from *Insurance maps of Philadelphia, Pennsylvania, Vol.3*, 1916 (Sanborn Map Company 1916).

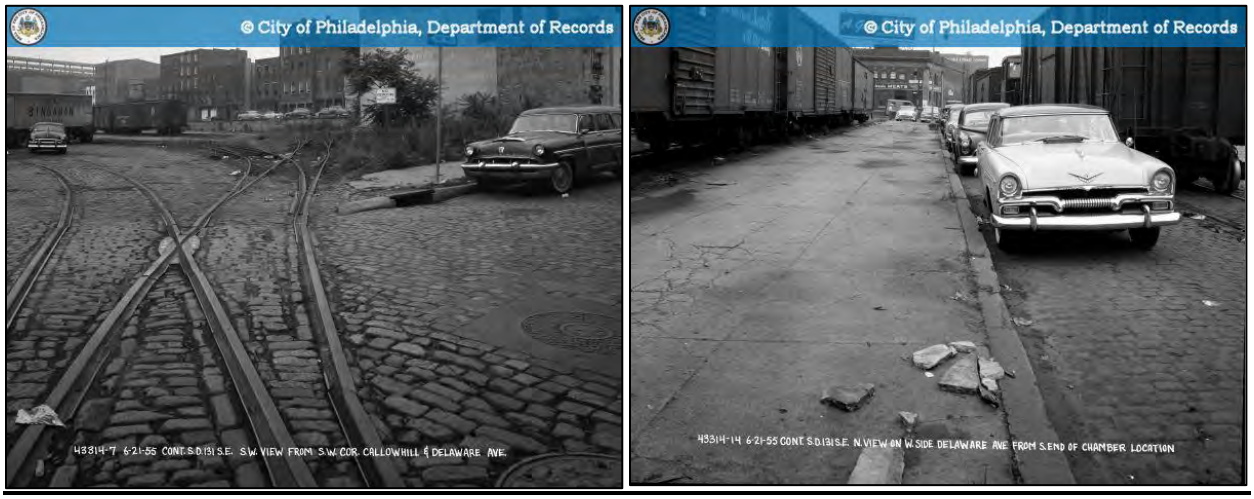


Photo 3.1. A view looking southwest at the Vine Street lot from the southwest corner of Delaware Avenue and Callowhill (left). A view of Delaware Avenue facing north, showing its relationship to the railyard and sidewalk (right). (Philadelphia Department of Records Public Works 43313-14-33296 and Public Works 43313-14-33290).

Previous Archaeological Research

The Vine Street lot has been the subject of two previous archaeological investigations. The first such investigation was conducted by the Philadelphia Historical Commission in 1987, under the direction of City Archaeologist Carmen Weber, and the second by John Milner Associates on behalf of the DRWC in 2012 (Weber and Yamin 1988/2006, John Milner Associates, Inc. 2013). The 1987 excavations focused on the northern portion of the Vine Street lot and the 2012 excavations on the southern portion.

Figure 3.15. A map of the Vine Street lot showing the locations of previous surveys and key features.

1987 Excavations

Carmen Weber's excavations of the Hertz lot in 1987 focused principally on the portion of the lot north of the Wood Street steps (Figure 3.15). Weber's excavations were successful in locating substantive evidence of eighteenth- and nineteenth-century wharves, related to the early expansion of the waterfront. Weber documented the prevalent use of timber crib construction infilled with gravel, sand, and silt during both the eighteenth and nineteenth centuries, and documented the use of a variety of timber joinery techniques in crib construction (Weber and Yamin 1988/2006). While crib construction was the most pervasive, Weber found that raft-type wharf construction in combination with dredge spoil was also used to create new land. Weber noted that while evidence of the eighteenth- and early-nineteenth-century wharf structures appeared to be well preserved, material from the later use of the site was largely absent, apart from some ephemeral structural remains (Weber and Yamin 1988/2006).

Photo 3.2. A view of the fully excavated shipway found during the 1987 excavations (Weber and Yamin 1988/2006)

The most notable find was the discovery of a well-preserved slipway—used for hauling ships out of the water for repair or refit. About 83 feet of this structure was uncovered, showing two parallel wooden rails set 8–9 feet apart, upon which a cradle would have been set. Small ships or schooners were then able to sail into the cradle from the river and, once secured, the ship and cradle could then be hoisted up the sloped rails to drier land, where it could be worked on (Weber and Yamin 1988/2006, 18-19, 31). Weber's report suggests that this shipway likely dates to the early nineteenth century under the occupation of Thomas Leiper, as the 1811 Paxton map shows a possible structure in the approximate location around that time (Paxton 1811).

2012 Excavations

The second archaeological excavation of the Vine Street lot occurred in 2012 and focused on the southern portion of the lot, principally the land the West family formerly occupied (Figure 3.15). John Milner Associates undertook this excavation on behalf of the DRWC.

The 2012 excavations consisted of the excavation of three test trenches. The only one of the three trenches to be excavated north of Wood Street, Trench 1, was placed perpendicular to the southern trenches excavated by Weber in 1987; it was hoped this trench would produce further evidence of the bulkhead in this location. While successful in documenting the fill sequence of the area, Trench 1 did not produce any further evidence of a wharf structure.

Trench 2 was a 72-foot-long trench placed along the western edge of the parking lot and spanned most of the length of the original West lot. This trench revealed several foundation walls made of stone and brick (Features 1, 2, 3, 4), as well as some floor joists (Feature 5) (John Milner Associates, Inc. 2013, 26-28). These foundation walls were considered to be representative of a late-nineteenth-century apartment block built on the site and its internal divisions and basement floor. Some of these walls were found to be sitting upon wider and deeper wall structures, which were interpreted as the reused remnants of an earlier nineteenth-century building foundations (John Milner Associates, Inc. 2013, 28). The excavation of builder's trenches associated with these deeper walls, such as those excavated in Test Unit 2, produced late-eighteenth- and early-nineteenth-century material, suggesting a construction date for these earlier

structures. Underlying these foundations, at a depth of 6 feet below ground surface (BGS), archaeologists found a series of logs laid parallel to one another and perpendicular to the riverbank (John Milner Associates, Inc. 2013, 31). These logs were interpreted as representing part of the earlier phase of wharfing out of the riverbank, a process accomplished using a grillage wharf system. This grillage wharf system used rafts of overlapping logs laid at right angles and then filled with stone and sediment in order to build out the land into the river. One full layer of this grillage was observed and documented, and another layer of perpendicular logs viewed briefly before water inundated and obscured the feature (John Milner Associates, Inc. 2013, 31). These logs showed evidence of hewing or joinery, but the matrix in which they appeared was full of woodworking debris. This surface was therefore interpreted as being part of an early pier or wharf upon which ships were built and other waterfront carpentry activities took place (John Milner Associates, Inc. 2013). This Feature 6 grillage wharf deposit was dated to the first quarter of the eighteenth century through diagnostic artifacts.

Photo 3.3. Logs forming part of a grillage wharf (Feature 6) located 6 feet below the surface of the parking lot (John Milner Associates, Inc. 2013, 32).

The last trench John Milner Associates excavated, Trench 3, was situated along the southern edge of the parking lot just above Vine Street. Within this trench, much of the eastern portion was determined to have been disturbed by later action related to the Hertz parking lot (John Milner Associates, Inc. 2013, 36). In the western portion, however, archaeologists identified a stone wall (Feature 9) that ran north to south. This wall was cut into wharf fill sediments containing late-seventeenth- and eighteenth-century artifacts. At a depth of 5 feet, archaeologists also encountered a series of large flagstones (Feature 10) running perpendicular to the wall along the northern edge of the trench. While the soils beneath the Feature 9 wall were interpreted as being related to early-eighteenth- and nineteenth-century wharf construction, the wall itself was attributed to the late-nineteenth-century apartment block (John Milner Associates, Inc. 2013, 36).

4. Methodology

The scope of the current due diligence effort was limited to the excavation of five test trenches across the Vine Street lot placed to sample locations not previously investigated during the preceding 1987 and 2012 excavations (Figure 4.1). The goal of the survey was to test in areas of proposed impact, but also to assess the degree of disturbance caused by the construction of the Hertz facility in the twentieth century. In addition to documenting intact archaeology, this testing effort sought to assess and identify areas of disturbance where archaeological deposits do not survive. The project APE comprises approximately 65,293 square feet of parking lot. The current testing effort sampled approximately 1,265 square feet of the lot, bringing the total square footage from all archaeology efforts to 7,414 square feet, or 11.35% of the total APE.

Research Design

Prior to excavation, the location of the five planned test trenches were plotted in *ArcGIS*, allowing for their placement to maximize informational potential (Figure 4.1). The trench locations were selected to address specific project goals and research questions, as well as to provide data on areas of the Vine Street lot not sampled during previous research efforts. Prior to excavation, maps showing these trench locations were submitted for approval to the Philadelphia Historical Commission (PHC), along with a description of the rationale for their placement.

The position of Trench 1 and Trench 2 would allow for AECOM to further examine the northwestern edge of the Vine Street lot, but in an area farther to the west than Carmen Weber sampled in 1987. This was done because previous research had indicated that the western edge of the lot held the greatest portion for deposits related to the earliest phase of historic occupation, as it was likely the only place where natural riverbank was apt to be encountered. Trench 1 was 5 feet in width and 25 feet in length, running southeast to northeast at an angle of about 30° relative to Water Street. This trench was positioned to straddle the property line between the Rawle and Goodson lots, to capture any evidence of wharf-related structures along the edge of the properties, and to assess the potential deposits and disturbance related to the late-nineteenth-century domestic/commercial occupations in the northwest corner of the Vine Street lot.

Trench 2 was 5 feet in width and 50 feet in length and was positioned to run parallel to Water Street and perpendicular to the former route of Wood Street, spanning the footprint of the former Colley, Porteus, and Jennett lots. The principal goal of this trench was to determine if any evidence of the former Wood Street alleyway or additional stairway survives. This trench also sought to determine the potential for survival of structural features flanking the route of the historic routeway from the eighteenth- and nineteenth-century occupations.

Trench 3 was a 5-x-50-foot trench within the footprint of the original Rakestraw lot. It was oriented northeast to southwest, running at a 45° angle relative to Water Street, and was placed to assess the degree of disturbance caused by the installation and subsequent removal of a fuel tank installed during the mid-twentieth-century Hertz occupation. The position of this trench in the eastern portion of the former Rakestraw lot was located in an area that a 1762 map indicates was one of the first areas to be built out into the river during the shipbuilding period (Scull, Clarkson and Biddle 1762). In addition to determining the scale of possible disturbance, it was hoped that excavations in this trench would provide evidence of early wharf construction related to the shipbuilding period.

Trenches 4 and 5 were placed to investigate the degree of disturbance the construction of the Hertz maintenance facility in the mid-twentieth century caused to the underlying archaeology. Trench 4 was placed in the eastern portion of the lot and was planned as a 5-x-50-foot trench. This trench was located to look for evidence of wharf bulkheads related to the early building out of the wharves in the area of the West and Hewling's shipyard, as depicted on the 1762 map (Scull, Clarkson and Biddle 1762).

Trench 5, like Trench 4, was placed in the eastern portion of the Vine Street lot, beneath the foundation of the mid-twentieth-century Hertz maintenance facility building. This trench location was selected to

investigate the former West family lot and determine if evidence of their shipbuilding activities and/or wharves had survived despite the potential disturbance caused by the construction of the late-nineteenth-century market building and the subsequent Hertz facility. This area was also the location of several historically indicated mercantile stores and warehouses, separated by small alleyways, as indicated by historic maps and deeds (Ritter 1860, 34, Tanner 1837, Hills 1796).

Excavation Methodology

Prior to excavation, trench locations were marked out with spray paint and then the pavement along the marked area was cut with a road saw. The asphalt was subsequently removed using a mechanical excavator and material was stored separately for off-site disposal. Where necessary, reinforced concrete was also cut in a similar manner and removed for off-site disposal. Mechanical excavation was performed by a machine using a flat-bladed bucket, so that as fill strata were removed in incremental layers, the sediments were cut smoothly, making the presence of contrasting fill sediments potentially indicative of cultural features more readily identifiable. The incremental mechanical removal of historic fill sediment was monitored by an RPA-certified archaeologist who meets the Secretary of the Interior standards. At the depth at which historic features were first encountered, mechanical excavation was terminated, and features were photo-documented, measured, and mapped. Profile drawings of at least one wall of the trench were generated for each trench. In areas of interest where cultural features were present, judgmentally placed test units were manually excavated in the floor of the trench, providing a controlled sample of potentially diagnostic strata or features. Once all features had been explored at a certain depth, the mechanical excavation of the trench was resumed. If additional cultural features were encountered, the aforementioned documentation and hand-excavation process was repeated, as necessary. Throughout the mechanical excavation process, additional plan view and profile drawings were generated, as necessary, to document the full extent of the trench stratigraphy. Mechanical excavation continued in each trench until sterile sentiment was encountered or groundwater inundation prevented further excavation. Where possible, historic fill deposits, whether mechanically excavated or excavated by hand, were examined for cultural material that might prove diagnostic. Sediment was only consistently screened when it was hand-excavated from test units in a controlled manner. Samples taken from other deposits were recovered by hand based on field observation, but were not collected in a systematic manner.

Figure 4.1. A map of the Vine Street lot showing the placement of the current trenches and test units relative to previous excavations.

Artifact Processing and Analysis

Artifacts were processed in accordance with the Pennsylvania Historical and Museum Commission (PHMC) curation guidelines, as revised in 2006. All artifact material received catalog numbers, serving as a reference throughout processing and analysis. Items assigned a point provenience in the field will retain the field catalog number assigned during the excavation but will receive a final catalog number as well.

All artifacts recovered during due diligence archaeological testing were appropriately washed or dry-brushed and analyzed at AECOM's laboratory in Burlington, New Jersey. Analysis focused on using recovered artifacts to date the contexts from which they were recovered. This effort was made to enable the creation of a general timeline for the construction of the wharves and the building sequences observed during excavation. The analysis and dating of cultural deposits relied on two techniques: terminus post quem and percent contribution, both of which were used to establish an estimated date range.

Terminus Post Quem

Terminus post quem (TPQ), which translates to the "date after which," is a dating technique used to determine the earliest possible date for a given provenience based on the most recently produced artifact within it. If the deposit has not been subject to subsequent disturbances, it can only have been created after that object was first produced.

Percent Contribution

Percent contribution is a refinement of Stanley South's (1977) original mean ceramic date calculations. It is useful in understanding occupation peaks across sites because it shows a range rather than a single date. The percent contribution indicates the probability of a randomly selected sherd from a particular provenience being manufactured in a given year. The method used to create this chart is found in Bartovics (1982). The formula used is:

P = S/(N*D)

Where:

P	probability contribution for one year
N	total number of datable sherds in the provenience
S	number of sherds of the ware type
D	range of manufacture in years

P is determined for each ware type with a unique date range (for example, 1744–1775 for scratch-blue decorated white salt-glazed stoneware). The value is then entered into each year of manufacture for that ware type. Each year's cumulative probability is determined by adding all the values of P for each ware type manufactured in that year. This cumulative percent value is then graphed for the range of years.

For example, a 10-sherd collection dataset (as shown in Table 4.1) would yield the percent-contribution chart Table 4.1, which represents the likelihood that any artifact in the collection was deposited in a given year. While the overall date range of the assemblage spans the years 1794–1840, the peak probability occurs between 1820 and 1830, suggesting that this is the most likely depositional date range for the assemblage.

Table 4.1. Example of Percent Contribution (only five years are shown as an example)										
Ware	**Total (S)**	**Begin Date**	**End Date**	**Range (D)**	**Percent (P)**	**1797**	**1798**	**1799**	**1800**	**1801**
Pearlware, Plain	3	1794	1830	36	0.8333%	0.8333%	0.8333%	0.8333%	0.8333%	0.8333%
Pearlware, Painted	4	1800	1830	30	1.3333%	0.0000%	0.0000%	0.0000%	1.3333%	1.3333%
Pearlware, Shell Edge	3	1820	1840	20	1.4286%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Grand Total	10 **(N)**					0.8333%	0.8333%	0.8333%	2.1666%	2.1666%

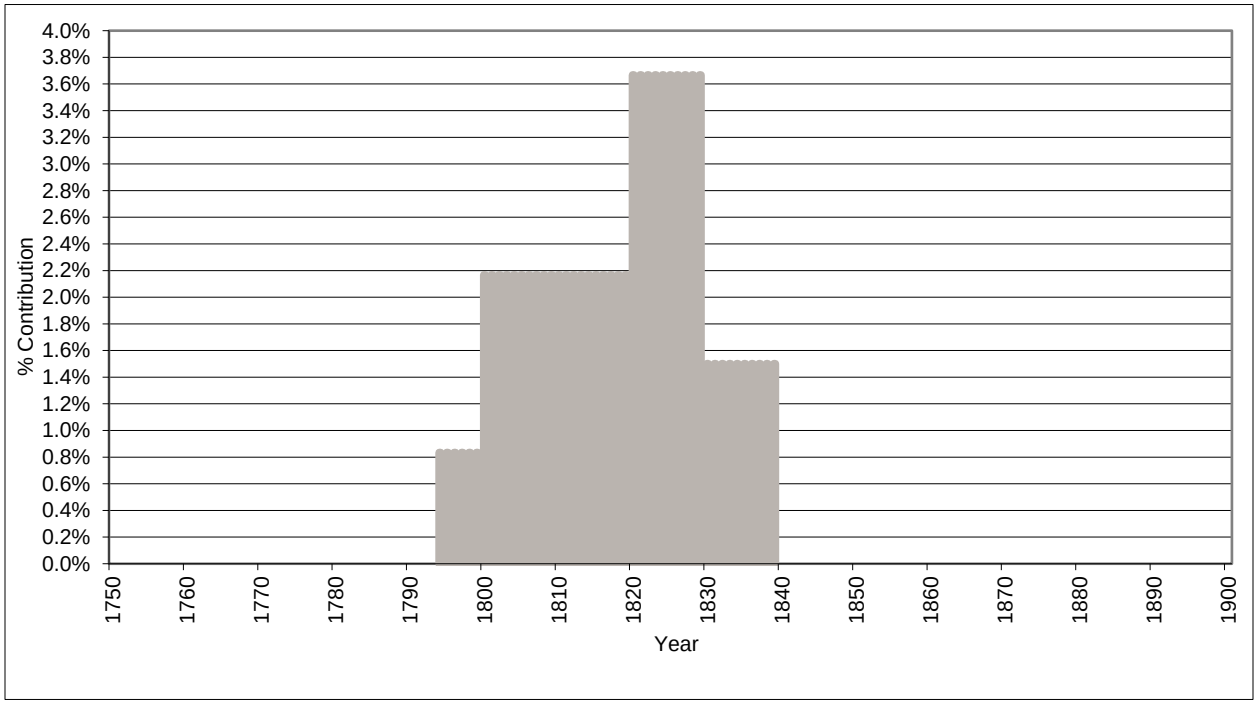


Figure 4.2. Percent contribution graphed.

5. Field Results

Trench 1

Trench 1 was a 5-x-25-foot-long trench mechanically excavated to a terminal depth of 8.9 feet below ground surface (BGS). This trench produced a total of eight cultural features, including a foundation, several wharf-related beams, a plank surface, and a post/piling. Initial mechanical excavation within Trench 1 was halted at an approximate depth of 3.7 feet, removing late-nineteenth-century demolition debris, including disarticulated large marble slabs, brick, and mortar, the remnants of the late-nineteenth-century building that was demolished to establish the railyard in the early twentieth century. At a depth of 3.7 feet BGS, a series of cultural features were encountered, and mechanical excavation was halted in favor of hand excavation. A 5-x-5-foot test unit, Test Unit 1, was established at the northern edge of the trench to investigate Feature 1/2, a stone foundation. To the south of Feature 1/2, Features 3, 4, and 5 were identified. Feature 3 (Context 9) was a large deposit of decaying wood chips and chunks that were the byproduct of hand-hewing and squaring timbers. The timbers in question may also be associated with Feature 4, a planked walkway laid over the underlying silt soil as a stable surface. Feature 5 (Context 17) was just east of Feature 4 and was a large hand-hewn wooden beam, possibly used as part of a bulkhead, as it is in alignment with a timber bulkhead structure (Feature 6) identified to the east during the 1987 excavations (Weber and Yamin 1988/2006, 26).

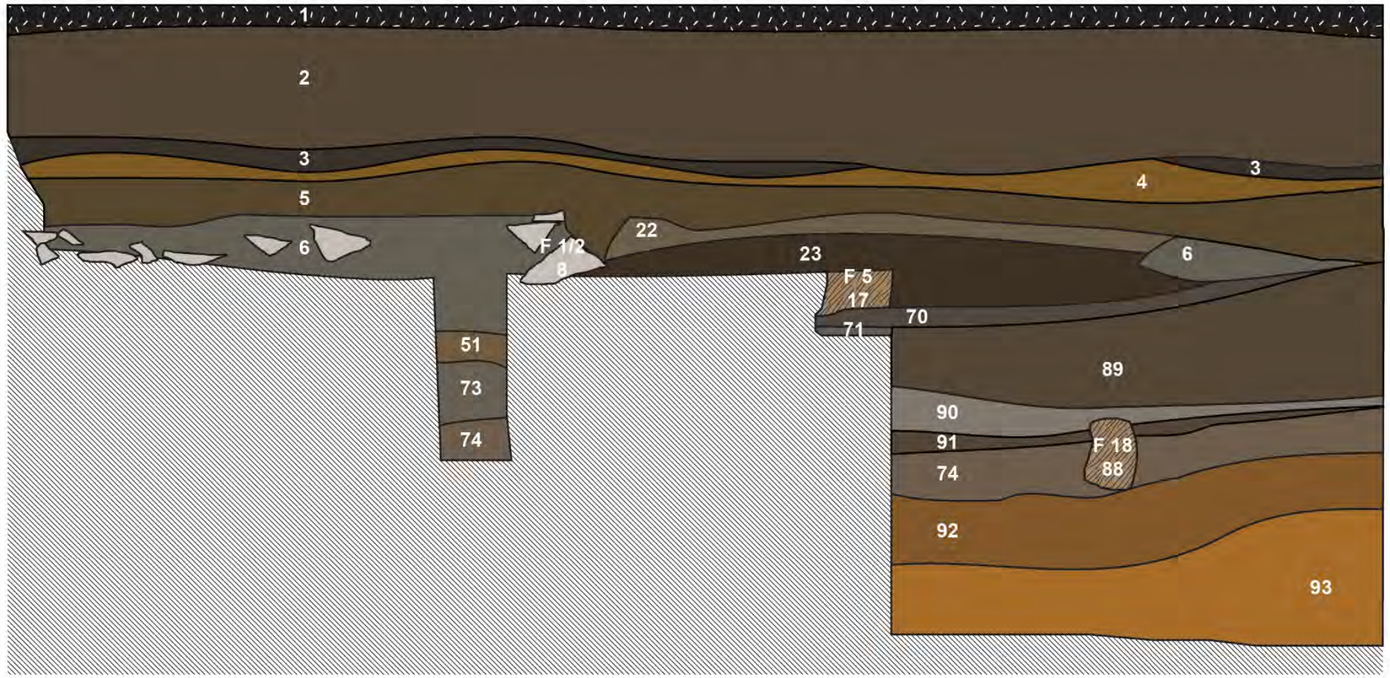
The southern portion of the trench was mechanically excavated to a deeper depth than the northern portion, as this area did not include foundation features. The deeper stratigraphic profile in this southern half of the trench revealed a series of thin bands of organic material, and woodworking debris (ax-cut timber chunks), Contexts 70 and 91, separating thick layers of dark gray silty sands fills (Contexts 71, 89, & 90). Context 74, encountered at depth of 6.3 feet BGS, was a layer of scoured sand interpreted as representing the former surface of the Delaware riverbank. In the eastern wall of the trench, an additional large hewn timber, Feature 18/Context 88, was found cut into the Context 74 matrix. This timber was also potentially related to early wharf construction, though no other timber structures were found in association. This timber was capped by a thicker deposit of organic fill with inclusions of brick and wood, Context 89, which may represent an early wharf fill. Underlying Context 74 were two deposits of coarse sands with large rounded gravels (Contexts 92 and 93) that appear to be representative of the natural C horizon (Trenton Gravel Formation) that form the bedrock geology of this area. In the eastern wall of the trench, a post or pile, Feature 6/Context 87, was found protruding from the top of Context 74, encountered at a depth of 4 feet BGS. Upon following this feature down in profile, it was found to extend into the underlying Context 92 and 93 Trenton Gravel deposits. This Feature 6/Context 87 post appeared roughly squared on its visible face and continued down into the Trenton gravels for almost 3 feet of its 4-foot length. The presence of the Feature 6 post/beam at the same level as Feature 88 and its association with the Context 74 riverbank surface suggest that it was likely related to wharf or pier construction.

Context 1 - Asphalt
Context 2 - Very dark grayish brown (10YR 3/2) sandy loam, 80% gravel, brick inclusions
Context 3 - Black (10YR 2/1) silt sand loam, 80% fine angular gravel
Context 4 - Dark yellowish brown (10YR 4/6) medium coarse sand, 30-40% small round pebbles, some brick inclusions
Context 5 - Dark olive brown (2.5Y 3/3) silt sand, 20-30% pebbles with brick inclusions
Context 6 - Dark gray (2.5Y 4/1) fine silt sand
Context 8 - (Fea. 2) Mortared Schist Wall
Context 9 - Very dark brown (10YR 2/2) loam, wood
Context 10 - Structure, wood beam running E/W
Context 11 - Structure, wood beam running N/S
Context 12 - (Fea. 5) Plank fragment N
Context 13 - (Fea. 5) Plank fragment S
Context 17 - (Fea. 5) Large Hand Hewn Beam
Context 18 - Blank (10YR 2/1) silty loam, decaying plank E/W
Context 20 - Dark deposit, likely beam (Fill)
Context 21 - (Fea. 8) Very dark brown (10YR 2/2) silty loam, mostly wood pulp
Context 22 - Dark grayish brown (2.5Y 4/2) silt sand with clay inclusions and brick
Context 23 - Very dark brown (10YR 2/2) silt loam, pulpy wood
Context 51 - Brown (10YR 4/3) sandy silt mottled with black (10YR 2/1) decaying organics (Fill)
Context 70 - Very dark gray (10YR 3/1) silt sand
Context 71 - Dark gray (10YR 4/1) sandy silt with 60% gravels
Context 73 - Dark gray (10YR 4/1) sandy loam with brick and coal (Fill)
Context 74 - Dark grayish brown (10YR 4/2) sand with 70% rounded pebbles and cobbles (C Horizon)
Context 88 - (Fea. 18) Wooden Beam
Context 89 - Very dark grayish brown (10YR 3/2) silty sand with brick inclusions (Fill)
Context 90 - Gray (10YR 5/1) silt (Fill)
Context 91 - Very dark grayish brown (10YR 3/2) sandy silt (Fill)
Context 92 - Strong brown (7.5YR 4/6) coarse sand, Trenton gravels with small rounded pebbles (C Horizon)
Context 93 - Strong brown (7.5YR 5/8) Trenton gravels with small rounded pebbles (C Horizon)

Base of Excavation

Mortar
Stone
Brick
Wood

Trench 1, East Profile



Trench 1, Plan View

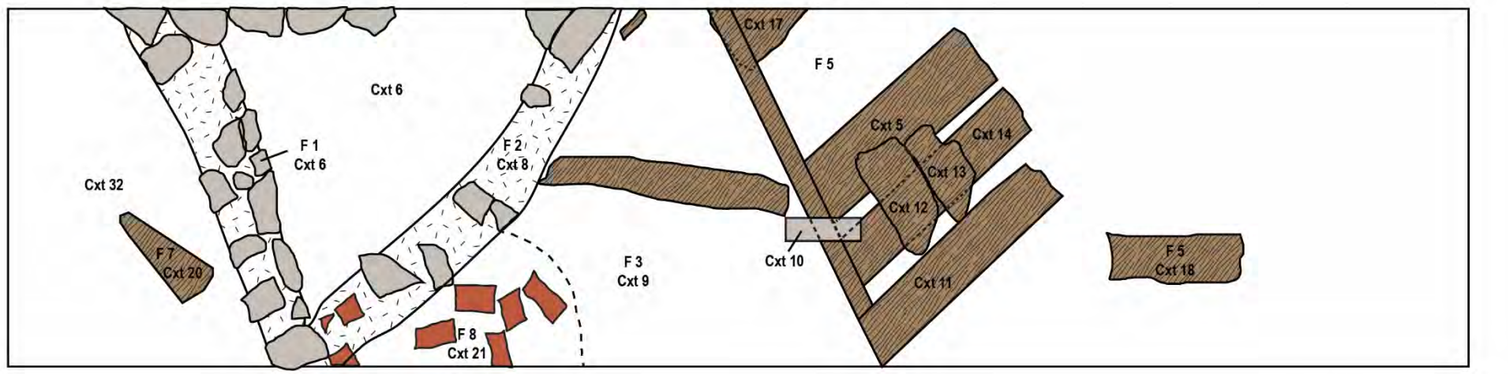


Figure 5.1. Trench 1, plan view and east wall profile.

Test Unit 1

Test Unit 1 was a 5-x-5-foot excavation unit in the northern portion of Trench 1. It was placed to examine the relationship between the Feature 1/2 foundation and its interior and exterior fills: Context 6 (interior) and Context 21 (exterior). Measurements for the unit were captured via a local datum located in the northwest corner of the unit. Each context within the interior of Feature 1 was removed in stratigraphic fill layers rather than arbitrary levels. Context 21, on the exterior of Feature 1, was not excavated beyond exposing the wood and brick debris (Photo 5.2).

Photo 5.1. Test Unit 1 In-Progress Planview. Context 7, 21, and 6

Context 6, the uppermost interior fill, was a dark gray (2.5Y4/1) silty sand fill that was largely sterile and was likely dredge spoil. While it contained few artifacts, Context 6 did contain a substantial deposit of disarticulated schist stones clustered along the north wall of the interior of Feature 1/2 (Photo 5.1). These stones continued across the northern half of the unit throughout Context 6, terminating at the interface with the underlying Context 51. Context 51 was a brown (10YR4/3) silty sand mixed with a black (10YR2/1) organic silty sandy loam, which was predominately found under and around an overlying deposit of disarticulated stones. Twenty-seven artifacts were recovered from Context 51, including unidentified refined earthenware (*n=2*), creamware (*n=3*), white salt-glazed stoneware (*n=1*), porcelain (*n=1*), slip glazed redware (*n=2*), redware (*n=2*), mouth-blown container glass (*n=3*), nails (*n=2*), a pipe stem (*n=1*), shell (*n=1*), window glass (*n=4*), and faunal bone (*n=5*). The presence of creamware establishes the TPQ of Context 51 as 1762. While the TPQ suggests that this deposit postdates 1762, the percent-contribution chart for the assemblage indicates a peak date between 1770 and 1780, making that decade the most likely time period for the creation of Context 51 (Appendix C.).

Directly underlying Context 51 was Context 73, a dark gray (10YR4/1) fill deposit of sandy loam with brick fragments and coal. Context 73 was similar in color and make-up to Context 21 on the exterior of Feature 1, but it lacked the pervasive inclusions of wood planks and was found about 1.95 feet deeper than Context 21. Context 73 also had no cultural material apart from the general inclusion of brick and coal. By contrast, when Context 21 was excavated on the exterior of the foundation, it produced 17 artifacts, including burned pearlware (*n=2*), pearlware (*n=4*), whiteware (*n=1*), colorless container glass (*n=4*), window glass (*n=4*), and wood fragments (*n=2*). The percent contribution for Context 21 suggests a peak around 1820–1830, and the TPQ for the deposit is 1815 based on the presence of a sherd of whiteware. If Context 21 and Context 73 represent a singular deposit, the interior of the Feature 1 structure must have been open in order for the same material as Context 21 to have ended up at a deeper depth. This would also suggest that Context 51 and Context 6 were used as infill for grading, explaining why there was no builder's trench for Feature 1 evident in either Context 6 or Context 51.

Photo 5.2. Feature 1 profile. Context 7 and Context 8 overlying Context 51 (left); Test Unit 1 closing plan view. Feature 1 and 2 including Context 7, 8, 21, and 51 (right).

Context 73 overlaid Context 74, the natural parent material composed of heavily scoured beach-like sands, with small to medium rounded pebbles and cobbles. Small remnants of wood joists, Context 85, were found underlying Feature 1 and directly on top of Context 74. This Context 85 deposit was used to provide a level surface for building Feature 1/2. The relationship between Context 85 and Context 74 suggested Feature 1 was built directly on the once exposed riverfront.

Feature 1 (Context 7)

Feature 1 was first identified in the north end of Trench 1, at approximately 3.7 feet BGS. Initially, Feature 1 only consisted of Context 7. Feature 2 was later combined with Feature 1. The feature consisted of two mortared schist walls, Context 7 and Context 8, abutting at a 90° angle. Context 7 ran perpendicular to Water Street, while Context 8 ran roughly parallel to Water Street.

Feature 1 was likely associated with a mid-eighteenth- to late-eighteenth-century wharf structure. The feature sat directly adjacent and parallel to a large hand-hewn beam that was likely an interior support. Feature 1 seems to turn at a 90° angle at the end of Context 8, forming another corner. Feature 1 then continues into the east profile of the trench. It can be assumed that Feature 1 was part of a large squared feature continuing eastward. The combined interior of Features 1 and 2 was excavated in Test Unit 1. There were two sizeable packages of homogenous silty sand fills. Both fills could have been dredged from the river after this stone structure was in use as a way of grading. Test Unit 1 encompassed nearly all of Feature 1.

Feature 2 (Context 8)

Initially thought to be its own feature, Feature 2 was later combined with Feature 1. It was another mortared schist wall running approximately parallel to modern-day Water Street. The walls met at a 90° angle, forming a corner. As mentioned previously, Feature 1 and 2 were comprised of three coarse levels of stone and mortar. During excavation, small fragments of wood were found just beneath the wall. These pieces of wood could have been the remnants of wooden joists or footers used to support the stone wall as it sat on top of natural C-horizon beach sands from the Delaware River. Test Unit 1 encompasses Feature 2.

Feature 3 (Context 9)

Feature 3 was a deposit of decaying wood chips and chunks that were the byproduct of hand hewing and squaring timbers. The feature was found 3.7 feet BGS. Most of the deposit comprised of 1- to 3-inch-thick cuts of wood, measuring less than a foot in length. The ends of wood chips showed a distinct level cut associated with ax work. They were suspended in a black (10YR2/1) loam matrix. This matrix also contained many of the eighteenth-century artifacts recovered. Feature 3 occupied much of the south half of the trench. It directly abutted Feature 1. Samples of polychrome pearlware suggest the feature was possibly late-eighteenth century to early nineteenth century.

Photo 5.3. Plan view photo of the Feature 3 matrix, showing the dark soil and wood chunks (bottom) and the semi-articulated planking of Feature 4 (top).

Feature 4 (Context 17)

Feature 4 was a collection of hand-hewn wooden planks, seemingly a planked walkway related to a pier. The beams of Feature 4 ran east to west. Context 17 was initially thought to be a part of Feature 4, but after a closer look and more excavation, Context 17 was determined to be a separate feature. Feature 4 sat above a deposit of organic wood debris that likely represented the former bank of the Delaware River. It was hypothesized that Feature 4 was an ephemeral pathway alongside a riverbank. Some planks existed as fragmentary bits of wood, but were still likely associated with more complete planks that make up the walkway.

Photo 5.4. A view of the Feature 5 timber in profile, showing its thickness and position relative to the Feature 1/2 foundation.

Feature 5 (Context 17)

Feature 5 was originally part of Feature 4, but upon further analysis, it was determined to be its own feature. It was a large hand-hewn wooden beam along the eastern wall of Trench 1. This beam was parallel with Feature 18 and was approximately the same size. Feature 5 could have been one of two large beams making up the sides of a slipway. Feature 5 had the same general orientation as Features 1 and 2. The 0.7-foot-thick beam started at 3.55 feet BGS and extended to a depth of 3.62 feet BGS. The uppermost section of the beam was surrounded by wood chips and pulp, possibly a byproduct from forming this beam. Previous excavations performed by Carmen Weber (1987) identified a timber bulkhead wall (Feature 6) in Trench TT# 7 (Weber and Yamin 1988/2006). This timber bulkhead wall, ascribed to the early nineteenth century, occurs in the same orientation as the observed portion of Feature 5, and was constructed of similar timber. Given the orientation of Feature 5, it is likely that it represents another section of the Feature 6 wharf bulkhead identified in 1987.

Photo 5.5. Profile of the west wall of the north end of Trench 1, showing the Feature 6 post in profile.

Feature 6 (Context 87)

Feature 6 was a vertical square post about 4.6 feet BGS. It sat along the west profile of Trench 1, about 3 feet north of the southern end. The post extended into natural parent soils and Trenton Gravels.

Feature 17 (Context 82)

Feature 17 was a builder's trench alongside two wooden beams/planks that ran parallel to Feature 1, the stone wall at the northern end of Trench 1. The builder's trench was associated with the plank directly to its east. The trench was shallow and terminated at the base of the adjacent hand-hewn timber to the east. The trench stopped in line with the southwest corner of Feature 1 and 2 stone walls. Two mostly intact bricks were in the trench, possibly to help hold the beam in place or as fill.

Photo 5.6. Feature 17 bisected.

Feature 18 (Context 88)

Feature 18 was a large wooden beam present in the eastern wall of Trench 1 (Context 88). It was approximately 5.8 feet BGS. The beam sat on top of the first layer of natural soils, a strong brown (7.5YR5/6) sandy soil rich in pebbles and gravels. Above and alongside the beam were bands of fine sand and silt, indicative of rapid water flow from the river.

This beam was roughly perpendicular to Feature 5. It was the same material, similar in size and ran at the same angle, and roughly had the same silty material above and alongside. Feature 18 was likely a secondary support beam to the Feature 5 wharf structure.

Photo 5.7. Feature 18 along the east profile. Feature 5 sat slightly higher than Feature 18

Trench 2

Trench 2, a 5-x-50-foot test area, was excavated to a terminal depth of 8 feet below the existing parking lot surface. This trench contained eight cultural features and multiple levels of historic fill layers. The bulk of the cultural deposits investigated were found within the upper 5 feet of excavation. For practical reasons, both logistic and stratigraphic, the excavation of Trench 2 was divided into north and south halves relative to a foundation wall (Feature 10) encountered in the early part of the excavation.

The northern half of Trench 2 contained scant cultural features and consisted primarily of approximately a dozen historic fill layers (Figure 5.2). The upper two deposits, Contexts 1 and 2, constituted a site-wide context related to the grading and establishment of the Hertz lot parking area in the mid-twentieth century. Beneath these site-wide deposits were a series of interleaved and localized fill deposits (Contexts 35, 38, 40, 39, 24, 37, 29, 34, and 36). Some of these deposits contained inclusions of largely whole bricks and mortar. The interleaving of these fill sediment deposits was suggestive of a temporally contemporaneous filling episode; i.e., a single period of filling comprised of multiple dumping episodes of material from different locations. These interleaved fills continued down to a depth of about 3.5 feet BGS, wherein a deposit of black sandy loam with inclusions of wood and organic material was encountered. This deposit, Context 21, which was subsequently determined to be the same as the Context 66 on the south side of the wall, seems to have been a continuous surface across the whole trench, likely representing an occupation surface. This Context 21/66 surface had a TPQ of 1815 as indicated by whiteware, and a percent contribution peak between 1815 and 1825, suggesting an early nineteenth-century origin for this deposit. Underlying the continuous Context 21/66 surface was a layer representative of the natural riverbank (Context 27), which overlaid the parent material of Trenton gravels (Context 31). The excavation in the northern half of the trench continued into these natural deposits down to a terminal depth of approximately 8 feet BGS before the unconsolidated nature of the fill, combined with groundwater intrusion, forced the abandonment of excavation and prompted the partial backfilling of the trench to prevent subsidence. The only feature located in the north half of the trench, Feature 9, was a posthole and mold (Contexts 42 and 43). Feature 9 was encountered at the same depth as the Context 21/66 surface and cut down into the underlying riverbank (Context 27) and Trenton Gravel (Context 31) layers.

Photo 5.8. Plan view of the south end of Trench 5, showing the remnant joists beneath the Context 47 floor.

Feature 10, the dividing point between the north and south part of Trench 2, was a 4-foot-wide wall made of roughly dressed schist held together with lime mortar. While the upper portion of the Feature 10 wall was 4 feet wide, its step footer base extended an additional 1 foot farther on the south side only. The wall lines up with the southern end of the former alley extending from the Wood Street steps, which sit just to the west between Water and Front Streets. Examination of historic maps indicates a structure in this location, showing that it was in line with the northern wall of a four-story masonry building (326–328 Delaware Ave), circa 1858, as depicted on the Hexamer map series Sheet 43, or the even earlier north wall of the William Brown bakery, as shown on Abraham Ritter's depiction of the waterfront at the dawn of the nineteenth century (Ritter 1860, 34, Hexamer & Locher 1859). The base of the wall was cut through the Context 21/66 deposit down into the beach sands (Contexts 27 and 28). While this wall appears to cut through several surfaces, no discernable builder's trench was evident in this aforementioned layer or any of the overlying deposits. The disparity between the fill sequences on either side of the Feature 10 wall and the absence of any builder's trench cut suggest that this wall was extant by the time the overlying fills were laid down.

The south side of Feature 10, the southern half of the trench, was determined to be the interior of a structure, as it possessed a largely intact floor made of roughly shaped pine floorboards. This floor surface

(Feature 11/Context 47) was encountered at a depth of 2.7 feet BGS. After mapping and photographing the floor surface, the floorboards were removed, revealing the substructure of Feature 11. Beneath Context 47 was a series of four cut timbers that functioned as floor joists (Contexts 52, 53, 54, and 75), which were set into a hard-packed floor base made of compacted coarse sand and gravel (Context 50/67) into which these joists were laid (Photo 5.8). Within the Feature 11 floor, approximately 13 feet south of the Feature 10 wall, was a granite pillar base (Feature 12/Contexts 48, 64, 60, and 59). Context 48 of Feature 12 was a 1.9-foot square stone, 0.8 feet thick, made of granite and nicely finished on all sides. This stone was set to protrude about 0.3 feet above the level of the Feature 11 floor. The rest of Feature 12 consisted of the support for the Context 48 pillar base. Context 59 was a large slab of Wissahickon schist that served as a spread footer for the column. Atop this was a layer of brick (Context 60) used to create a level platform. The Context 48 stone was held in place by a thick deposit of lime mortar (Context 61).

The Feature 12 structure, as well as the Feature 10 wall, were both cut through a deposit of a very dark gray to brown sandy loam (Context 21/66) that included gravels and artifacts and has been interpreted as an earlier surface extant before the construction of the building. Within this level, a large hand-hewn timber was encountered in the east wall of the excavation. This timber proved to be nearly 10 feet long and over 0.8 feet wide, with two mortise holes in one end, a bevel cut for receiving a stacked timber, and a large wrought iron spike. The timber was squared on all sides, except for the top half of the portion beneath the bevel cut, which exhibited an obtuse triangular pitch, indicative of the stacking of logs. Upon cleaning, the mortise joints at the opposite end of the log indicated one perpendicular tenon and another which would have formed a 45° angle to the main timber. The relationship of these mortise and tenon joints is suggestive of a corner brace. The shape of the timber is curious, and its function cannot at this time be readily ascribed, save to say it was part of a hand-hewn timber framework for a structure or a wharf.

Photo 5.9. Hand-hewn timber with mortises, beveling, and an iron spike.

Apart from the features associated with the structure, the south part of the trench contained Feature 16, a circular brick-lined well shaft. This well shaft seemingly predates the construction of the structure, as it was capped by a 4.5-foot-long Wissahickon schist stone that was laid at the same level as the spread footer (Context 59) associated with the Feature 12 pillar and was capped by the Context 47 pine plank floor. This brick-lined well was almost 4 feet in depth and was supported by wooden shoring (Context 83) along the sides, as well as the base of the bricks. The well sat in the sandy gravels of the former riverbank (Context 27) natural Trenton Gravels (Context 31) and therefore seemingly needed the support of this wooden shoring to keep it in from collapsing during construction. The bricks were laid with a tight ring of headers and had an interior shaft diameter of 3 feet. It was clean of fill when uncovered, likely a result of having been capped instead of infilled.

The remaining southernmost 5 feet of Trench 2 were disturbed due to modern construction related to the Hertz facility. This portion of the trench featured a large concrete slab (Feature 13) that had two 6-inch-diameter metal posts embedded within it. The builder's trench associated with this disturbed about 4.5 feet of fill and displaced some floorboards associated with Feature 11. Examination of historic photographs taken during the 1987 excavation suggests that Feature 13 was a concrete slab foundation for a covered filling station behind the main Hertz maintenance facility and that the two metal posts in the slab are the remnants of bollards that protected the northern end of this covered filling station (Photo 5.10).

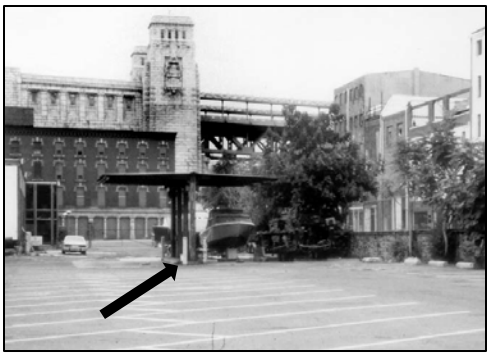
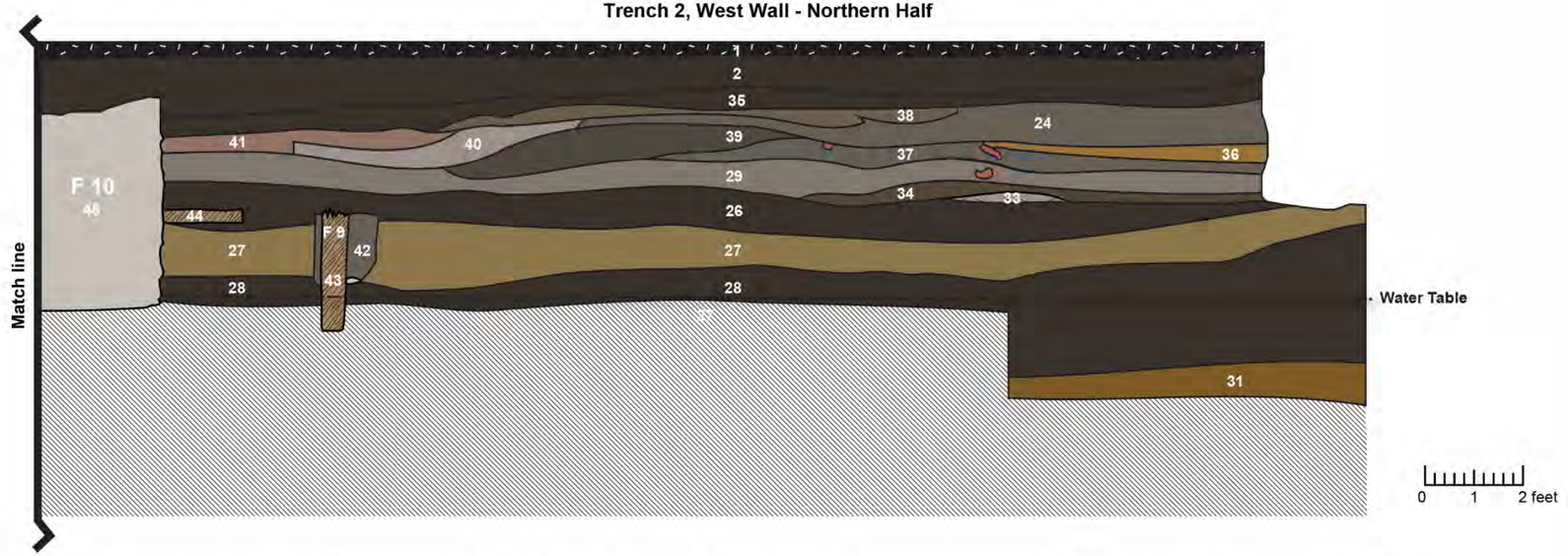


Photo 5.10. A view looking south toward Vine Street during the 1987 excavation, showing covered structure with bollards (Weber and Yamin 1988/2006, 13).

Trench 2, West Wall - Northern Half



Context 1 - Black (10YR2/1) Modern Asphalt Tarmac

Context 2 - Black (10YR 2/1) silty loam, railroad ballast stone 6" angular gravel 5%

Context 24 - Dark gray (10YR 4/1) silty sand, minor brick inclusions

Context 26 - Black (10YR 2/1) silty loam

Context 27 - Light olive brown (2.5Y 5/4) sand medium coarse 40-50% medium-large gravel

Context 28 - Black (10YR 2/1) sand, medium coarse

Context 29 - Gray (10YR 5/1) silty sand, minor brick inclusions

Context 31 - Dark yellowish brown (10YR 4/6) sand medium coarse, small pebbles

Context 33 - Gray (10YR 6/1) sand, mortar fill

Context 34 - Dark yellowish brown (10YR 3/2) silty sand, 30% rounded pebbles

Context 35 - Black (10YR 2/1) silty sand, 40% rounded pebbles

Context 36 - Yellowish brown (10YR 5/6) silt

Context 37 - Dark gray (10YR 4/1) silty sand, brick and mortar pebbles

Context 38 - Dark grayish brown (2.5Y 4/2) sand medium

Context 39 - Very dark gray (2.5Y 3/1) silt

Context 40 - Gray (5YR 6/1) sand fine

Context 41 - Reddish brown (2.5YR 5/3) silt

Context 42 - Dark grayish brown (10YR 4/1) silty sand mixed 10% medium cobbles

Context 43 - Wooden post

Context 44 - Wooden beam

Context 45 - Stone Wall

Mortar

Wood

Base of Excavation

Stone

Brick

Trench 2, Plan View - Northern Half

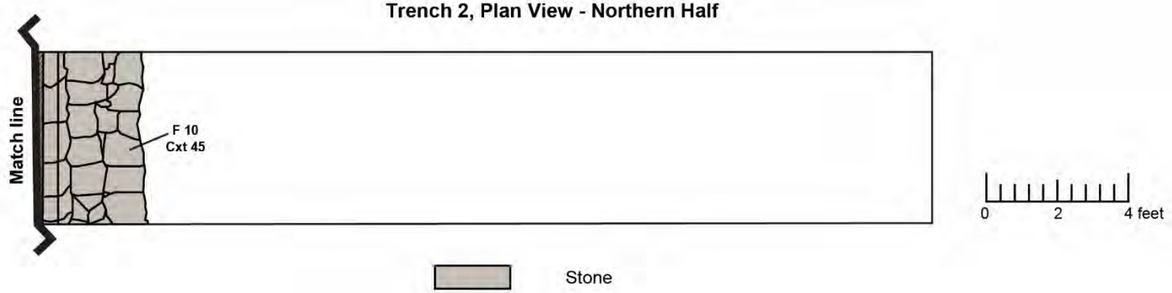
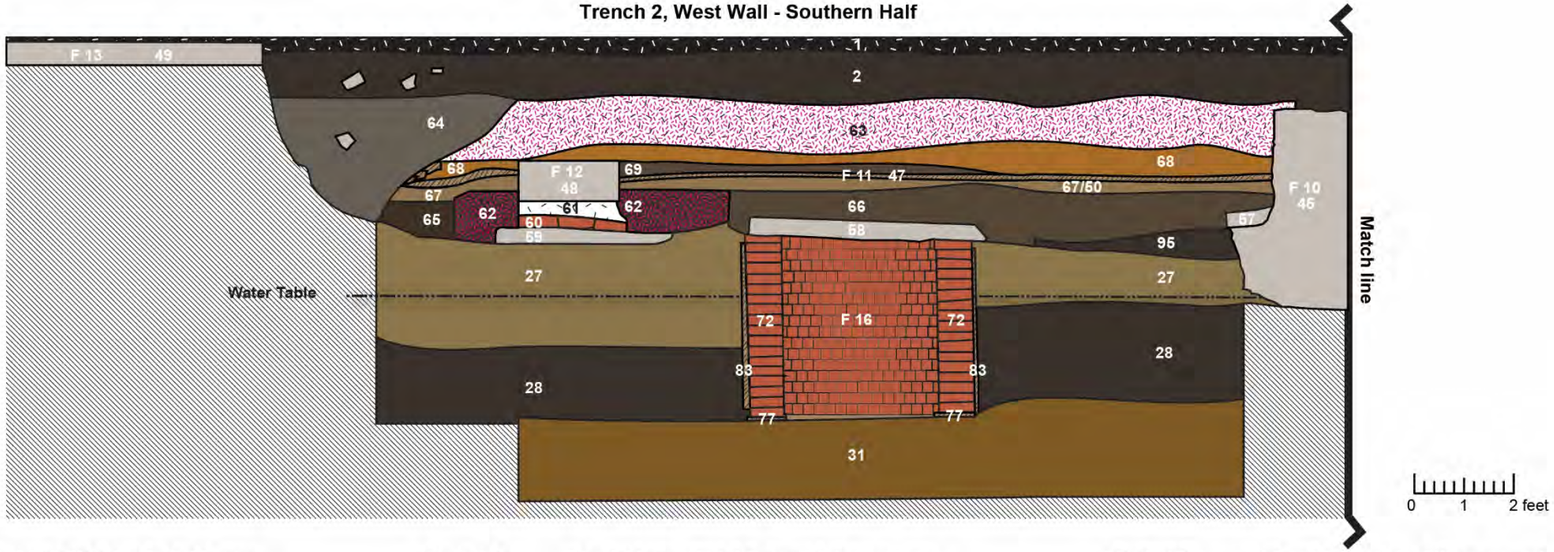


Figure 5.2. Trench 2 northern half, plan view and west wall profile.

Trench 2, West Wall - Southern Half



Context 1 - Black (10YR2/1) Modern Asphalt Tarmac

Context 2 - Black (10YR 2/1) silty loam, railroad ballast stone 6" angular gravel 5%

Context 27 - Light olive brown (2.5Y 5/4) sand medium coarse 40-50% medium-large gravel

Context 28 - Black (10YR 2/1) sand, medium coarse

Context 31 - Dark yellowish brown (10YR 4/6) sand medium coarse, small pebbles

Context 45 - (Fea. 10) Stone Wall

Context 47 - (Fea. 11) Wooden plank floor

Context 48 - (Fea. 12) Granit pillar base

Context 49 - (Fea. 13) Concrete slab

Context 57 - Stone footing

Context 58 - (Fea. 16) Large schist slab, dressed stone, well cap

Context 59 - (Fea. 12) Large schist slab, dressed stone, footer for pillar

Context 60 - (Fea. 12) Single course of brick supporting pillar

Context 61 - (Fea. 12) Layer of mortar sitting atop of brick supporting pillar

Context 62 - Very bark brown (10YR 2/2) sity loam, pocket of semi-articulated brick and mortar

Context 63 - Layer of brick chunks suspended in a mortar matrix

Context 64 - Dark gray with yellowish brown and dark brown (10YR 4/1 with 10YR 5/4 and 7.5YR 3/2) siltly sand, mixed fill

Context 65 - Very dark brown (10YR 2/2) silt with large chunks of brick

Context 66 - Very dark grayish brown and dark brown (10YR 3/2 and 10YR 3/3) sandy loam with increased gravel

Context 67 - Yellowish brown (10YR 5/4) coarse sand, compacted

Context 68 - Strong brown (7.5YR 5/8) silty sand, compacted

Context 69 - Dark brown (7.5YR 3/2) silty sand with wood

Context 72 - (Fea. 16) Brick shaft wall

Context 77 - (Fea. 16) Wooden planks used as "footers" for base of well

Context 83 - (Fea. 16) Wooden structural supports

Context 95 - Very dark brown (10YR 2/1) silty sand, medium coarse sands with gravels

Mortar
Stone
Base of Excavation
Wood
Brick
Brick chuncks

Trench 2, Plan View - Southern Half

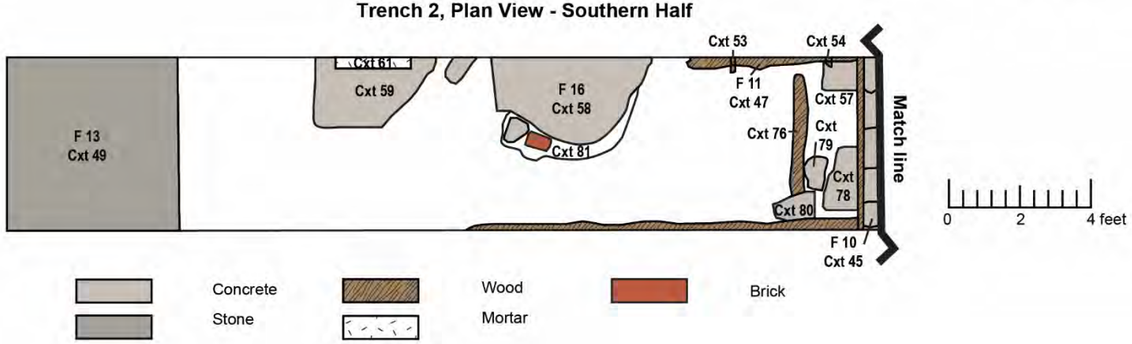


Figure 5.3. **Trench 2 southern half, plan view and west wall profile.**

Feature 9 (Contexts 42 and 43)

This feature was a 0.5-x-0.5-foot timber post that was first encountered within Context 26 and continued down through Contexts 27 and 28 of Trench 2 (Photo 5.11). Context 42 was the posthole in which the Context 43 post was inserted. The circular posthole has a diameter of 1.3 feet. Some large cobbles were found throughout the base of Feature 9, Context 43, fill sediment likely serving a supporting function. The location of this post was unusual, as it was situated in the middle of the former route of Wood Street. It may be related to another similarly shaped post, Feature 6, found at a similar depth in Trench 1. It is possible that this helped hold a bulwark/wharf in line at one point. Ultimately, its purpose is unknown.

Photo 5.11. West wall profile of Trench 2, showing the Feature 9 post adjacent to the Feature 10 wall.

Feature 10 (Context 45)

Feature 10 was a large masonry stone wall with mortar. It was aligned with the southern edge of former Wood Street in Trench 2. The foundation was deeply buried in fill layers. The base of the wall was made of a large lintel nearly 4 feet long on the northern face of the wall. A 1-foot-long plank was mortared into the face of Feature 10 (Context 46). Context 44, a wooden plank, protrudes horizontally from the north face of the wall along the western edge of the trench. The stone wall starts 1.4 feet BGS and dives down to 5.2 feet, making the wall 3.8 feet tall (Photo 5.12). The northern face of the wall was more finely crafted than the southern face. Based on its spatial position, this wall feature likely relates to the four-story masonry building seen in this location on the 1859 Hexamer maps.

Feature 11 (Contexts 47 and 50/67)

Feature 11 was a series of wooden planks running north-south along Trench 2. Planks abut Feature 10 (Context 45), a large schist wall running east-west to the south. Feature 11 has four 3.5-x-1.0-foot planks touching three approximately 9.5-x-1.0-foot planks. While stripping, a few planks were removed, revealing a couple of joists, indicating that while Feature 11 was made of separate pieces of planks at different lengths, the floor itself was one building episode. Contexts 50 and 67 both represent the same context, the prepared floor beneath a wooden floor. The prepared surface/fill layer was used to put planks on to make a level working surface. The prepared floor was compact and has a high concentration of gravel. At the southern end of the trench, the prepared floor was “cut” by modern disturbances. Feature 11, along with Feature 12, can be seen in Photo 5.13.

Feature 12 (Context 48)

Feature 12 in Trench 2 at the southern end was a square granite pillar that was not fully exposed. Nothing was collected from this feature, but it was documented with photographs and shown in trench plan view and profile drawings. Context 48 was the base of the pillar related to Feature 10. Context 59 was a large schist slab that was dressed and used as a footer for the granite pillar. A single course of brick supported each side of the granite pillar base, along with a layer of mortar holding everything in place. Feature 12, along with Feature 11, can be seen in Photo 5.13.

Photo 5.12. South profile of the Feature 10 stone wall.

Photo 5.13. A view of the Feature 11 plank floor in Trench 2, showing how it meets up with the Feature 12 stone pillar base, facing north.

Feature 13 (Context 49)

Feature 13 was a modern concrete block with circular staining. It most likely postdates the wooden floor, granite pillar, and schist wall to the northern section of Trench 2. Two metal posts were sunken into the concrete pillar. This was likely a footing for a mid-twentieth-century bollard associated with a covered filling station or work area associated with the Hertz occupation.

Photo 5.14. A view of Feature 13, the concrete footer for to metal post (right).

Feature 14 (Context 67/50)

Feature 14 was a prepared foundation for a floor of wooden planks above it (Context 47, Feature 11; Photo 5.15). Cutting through part of Feature 14 was a marble pillar base (Feature 12/Context 48), which sat atop a course of brick in a bed of mortar. It is likely that this prepared floor was laid down in order to create a new surface after a well was capped, which exists about half a foot below Feature 14.

Photo 5.15. Plan view of the Feature 14 subfloor of compacted coarse sand supporting the wood floor joists of Feature 15.

Feature 15 (Contexts 52–54 and 75)

Feature 15 was a collection of wooden joist supports beneath a wooden floor that covers a large portion of Trench 2 (Feature 11/Context 47). These supports sit atop Feature 14, a prepared floor surface (Context 50/67), and hold the boards above in place. Farther below was a well with a cap, so this floor was likely reinforced with these wooden supports to prevent shifting and possible collapse of the floor below. Feature 15 can be seen in Photo 5.15.

Feature 16 (Contexts 58, 72, 83, and 77)

Feature 16 was a 3-foot-wide stone and brick well capped by a Wissahickon schist slab (Context 58; Photo 5.14). Context 83 was a pair of wooden planks placed upright against the vertical axis of the well walls, and Context 77 was a pair of pieces of wood beneath the bottommost bricks of the well. It is likely that Contexts 77 and 83 were used to support the initial construction of the well and maintain its stability in the unconsolidated fills during construction, acting as shoring for the well builders (Photo 5.16). The interior of the well shaft did not appear to have been infilled prior to its abandonment, as the bulk of the shaft was a void when it was encountered. The desire to prevent eventual subsidence of the infill was likely the reason that the well was capped instead of just being filled in prior to the establishment of the overlying floor, Feature 14. No datable material was recovered from the interior of the well, so all that can be said about its age is that it was abandoned prior to the establishment of Feature 14.

Photo 5.16. West wall profile of Trench 2, showing the Feature 16 well in profile. The well shaft was empty beneath its cap.

Trench 3

Trench 3 was 50 x 5 feet, running northeast to southwest, and was excavated to a terminal depth of approximately 7 feet before groundwater inundation forced the abandonment of excavation (groundwater first encountered at 6.5 feet BGS). This trench was situated in the western portion of the lot, south of the Wood Street steps, and was placed in part to investigate the nature and extent of disturbance associated with the installation and subsequent removal of a large underground storage tank.

The upper two deposits of Trench 3, Contexts 1 and 2, constitute a site-wide context related to the grading and establishment of the Hertz lot parking area in the mid-twentieth century. Beneath these site-wide deposits, a stone foundation wall, Feature 19, was encountered in the northern end of the trench. Feature 19 (Context 96) was made of mortared schist and was approximately 1.5 feet wide and ran east to west, perpendicular to Water Street. To the north of Feature 19, beneath two layers of brick and mortar demolition rubble (Context 98 and 99), an intact wooden pine plank floor (Feature 20/Context 97) was encountered. This suggested that the Feature 19 structure's interior lay to the north, with the southern face of the wall being the exterior of the structure. Underlying the floor (Feature 20) were the accompanying floor joists (Contexts 125–129), which were laid into a matrix of dark yellowish-brown (10YR4/4) sand with rounded gravels that had been compacted in around the joist as a prepared surface to hold the overlying Feature 20 floor. Underlying the floor and its prepared surface were additional silty sandy fill deposits (Contexts 147, 150, and 151).

At a depth of about 3–4 feet BGS, two additional stone wall contexts (138 and 139) were encountered, as well as the footer for the Feature 19/Context 96 stone wall (Figure 5.4). Context 138 was approximately 2 feet wide and ran north from where it abutted Context 137, the wide slab stone spread footer for the Feature 19 foundation wall. About 4 feet to the east, the remains of another north-south running wall (Context 139) were also encountered. This wall or wall footer ran parallel to Context 138 and perpendicular to Context 137. Given the layers of fill between these two contexts and the overlying Context 20 floor, Contexts 138 and 139 do not appear to be structurally related to the floor surface and are likely related to an earlier structure. The narrow spacing between the structures, however, might suggest that they functioned as part of the landfill stabilization for the building, essentially as stone cribbing for fill. Excavation on the south side of Feature 19 revealed that its footer, Context 137, was made of large stone slabs that were nearly 6 feet wide and 1 foot thick. These slabs were crudely mortared together and appear at the same depth as the adjacent Contexts 138 and 139 wall footers to the north.

On the south side of the Feature 19 foundation wall, the trench profile was characterized by a series of distinct and largely continuous historic fill deposits (Figure 5.4). This fill sequence began with two demolition layers, Contexts 109 and 110, which overlaid more uniform deposits of historic fill. At a depth of 1.9–2.3 feet BGS, a deposit of dark yellowish-brown (10YR4/6) silty loam with brick inclusions (Context 105) was encountered. The Context 105 fill capped Context 106, a brown (10YR4/3) silty loam with brick inclusions that extended to a depth of 2.8 feet BGS. The only diagnostic material recovered from the Context 106 deposit was a fragment of a 5/64 diameter white ball clay pipe stem. From 2.8–3.1 feet BGS, the fill became a dark gray (7.5YR4/1) silty loam with inclusions of brick and gravel. Based on the ceramics recovered from Context 107, the deposit has a percent contribution peak range of between 1790 and 1830, with a TPQ of 1815 (based on whiteware). This deposit contained material from as early as the late seventeenth century, but nothing that had an initial manufacturing date later than 1815. This deposit likely represented an occupation surface. Underlying the Context 107 deposit was a thin band of burned material that only presented in the western portion of the trench. Underlying this lens, Context 112, a pale brown (10YR6/3) compact silty sand silty loam deposit, was encountered. This historic fill deposit contained a limited number of artifacts, but those that were found included a sherd of Bristol slip stoneware (*n=1*), Nottingham stoneware (*n=1*), burnt wood (*n=2*), redware (*n=1*), and bone (*n=6*). This fill was largely homogenous and compacted, terminating at a depth of about 3.6 feet BGS. The next layer of historic fill, Context 113, was comprised of black (10YR2/1) silty loam. This deposit, which extended to a depth of 4.6 feet BGS, contained artifacts like slipped redwares, green glazed Iberian coarse earthenware, and Nottingham stoneware. Underlying Context 113 was Context 117, a light olive-brown (2.5Y5/3) silty sand that extended to a depth of about 5 feet BGS. This deposit produced a variety of slipped redware (*n=6*), redware (*n=9*), British buff-bodied slipware (*n=2*), white salt-glazed stoneware (*n=2*), Iberian earthenware (*n=1*), cut mammal bone

(*n=26*), oyster shell (*n=7*), and several pipe fragments (*n=3*)(diameter 5/64 and 6/64). This deposit has a TPQ of 1790 and a percent contribution peak range of 1720–1780, indicating an eighteenth-century origin for this deposit. The final deposit to be sampled was a dark yellowish-brown (10YR4/4) silty sand (Context 133), which extended to a depth of 5.3 feet BGS. This deposit was largely sterile, apart from a single rim sherd of a British buff-bodied slipware dish (produced from 1670 to 1795).

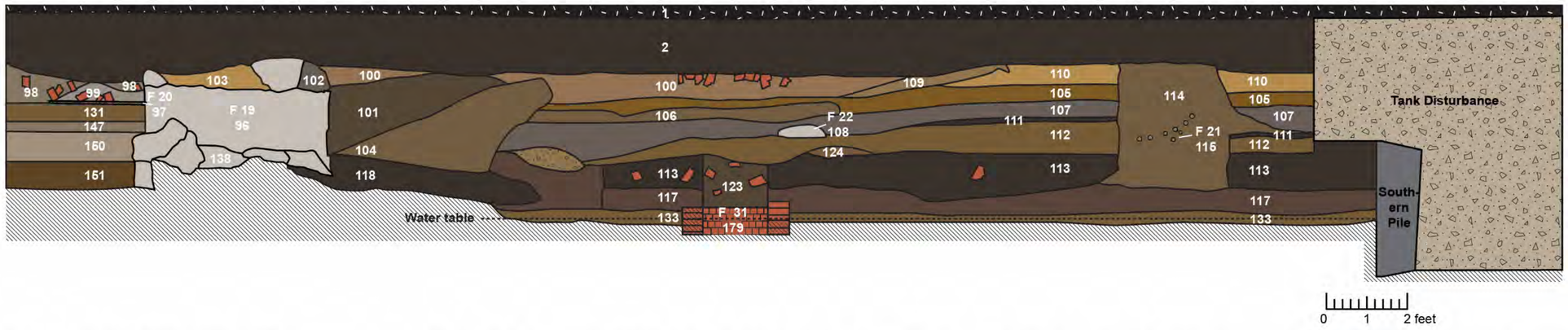
Excavation in the middle section of the trench provided evidence of several features and contexts that allow for additional interpretation of the recovered materials. Along the southwestern side of Feature 19, a wide builder's trench was visible, cutting through nearly all the fill horizons. This builder's trench was comprised of fill Contexts 101, 104, and 108. The uppermost of these builder's trench fill sediments, Context 104, contained redwares, whitewares, creamware, and Chinese export porcelain, giving the layer a TPQ of 1815 and a percent contribution peak range of 1815–1820. As this builder's trench cut through every historic fill deposit from 100 to 117, it suggests that those layers were extant by the time that the Feature 19 wall was constructed.

In the middle of the trench, at a depth of about 3.8 feet BGS, Context 123 was encountered. This deposit was a localized pocket of brick and mortar debris and burned wood suspended in a very dark gray brown (10YR3/2) silty sand matrix. This deposit extended down to a depth of 4.5 feet BGS, at which point the Context 179 brick well shaft (Feature 31) was encountered. It was subsequently determined that Context 123 was a caved-in portion of the upper part of the well that had been infilled with demolition debris. As Context 123 began at the same depth as Context 113, with no evidence of the shaft having been cut through the overlying fills, it appears that the well was installed when Context 113 was a utilized ground surface at some point in the mid to late eighteenth century.

At the same depth as the well, several remnant pilings were encountered within the trench south of the Feature 19 foundation. These included Contexts 116, 173, 174, and 176—all of which were found within the Context 117 deposit. The most well preserved of these pilings, Context 116 (Feature 23), was found to have an ax-cut point and to be principally a debarked log. While only a few such piles were located, they appear to be temporally related and are the remains of an early pier prior to more substantial land-reclamation efforts. Context 173, one of the pilings, was found beneath Context 139, the spread footer stone for the Feature 19 wall. The presence of the Context 139 footer capping one of these pilings suggests that the pilings (and by association, the indicated pier) had been abandoned prior to the construction of the Feature 19 foundation wall. This suggests that the pilings are likely associated with a structure from an early incarnation of waterfront prior to the nineteenth-century land-reclamation and building episodes.

The southwesternmost 20 feet of the trench were determined to have been disturbed as a result of the removal of a twentieth-century fuel tank that had been part of the Hertz filling station. This disturbance was demarked by soldier piles and lagging and the beginning of a largely homogenous infill comprised of a loosely compacted white sand. Just to the east of this was another historic disturbance, Context 114 (Feature 21), a trench cut related to a cluster of electrical conduits also related to the Hertz occupation (Figure 5.4). While Feature 21 did truncate the bulk of the historic fill deposits, it stopped above Context 117, which remained largely intact beneath.

Trench 3, South Wall



Context 1 - Black (10YR 2/1) Modern Asphalt Tarmac

Context 2 - Black (10YR 2/1) silty loam, railroad ballast stone 6" angular gravel 5%

Context 96 - (Fea. 19) Stone and mortar foundation of 19th c. structure

Context 97 - (Fea. 20) Floor boards on interior of structure

Context 98 - Grayish brown (10YR 5/2) silty sand with large brick fragment inclusions

Context 99 - Gray (10YR 6/1) sandy with decaying mortar with chunks of brick

Context 100 - Brown (7.5YR 5/4) silo with inclusions of large brick

Context 101 - Very dark grayish brown (10YR 3/2) silty clay and silty loam

Context 102 - Dark gray (10YR 4/1) silty sand

Context 103 - Brownish yellow (10YR 6/6) silty loam

Context 104 - Brown (10YR 4/3) silty loam

Context 105 - Dark yellowish brown (10YR 4/6) silty loam with small brick inclusions

Context 106 - Brown (10YR 4/3) silty loam with brick inclusions

Context 107 - Gray (7.5YR 4/1) silty loam with brick and gravel inclusions

Context 108 - (Fea. 22) Schist stone footer

Context 109 - Yellowish brown (10YR 5/4) silty loam

Context 110 - Brownish yellow (10YR 6/6) silt

Context 111 - Black (10YR 2/1) silty sand

Context 112 - Dark yellowish brown (10YR 4/4) silty loam

Context 113 - Black (10YR 2/1) silty loam

Context 114 - Brown (10YR 4/3) silty loam

Context 115 - (Fea. 21) Modern pipes

Context 116 - (Fea. 23) Wooden post/pillars

Context 117 - Dusky red and reddish brown (2.5Y 3/2 with 2.5Y 4/4) silty sand

Context 118 - Black (10YR 2/1) silty sand

Context 123 - Very dark grayish brown (10YR 3/2) silty sand with brick, mortar, and burned wood

Context 124 - Brown (7.5YR 4/4) silty sand with brick inclusions

Context 125 - (Fea. 20) Wood floor joists

Context 129 - (Fea. 20) Wood floor joists

Context 131 - Dark yellowish brown (10YR 4/4) sand with rounded gravel

Context 133 - Dark yellowish brown (10YR 4/4) silty sand

Context 138 - Stone wall mortared with stone and granite

Context 147 - Grayish brown (10YR 5/2) silty sand

Context 160 - Light brownish gray (10YR 6/2) silty sand

Context 161 - Dark yellowish brown (10YR 3/4) silty sand with 2% subangular gravel

Context 179 - Well shaft

Light gray (10YR 7/2) sand medium coarse Distured/back filled soils unstable from ruin/underminig

Yellowish brown (10YR 5/4) Pocket of clay

Stone

Brick

Wood

Modern I-Beam

Base of Excavation

Trench 3, Plan View

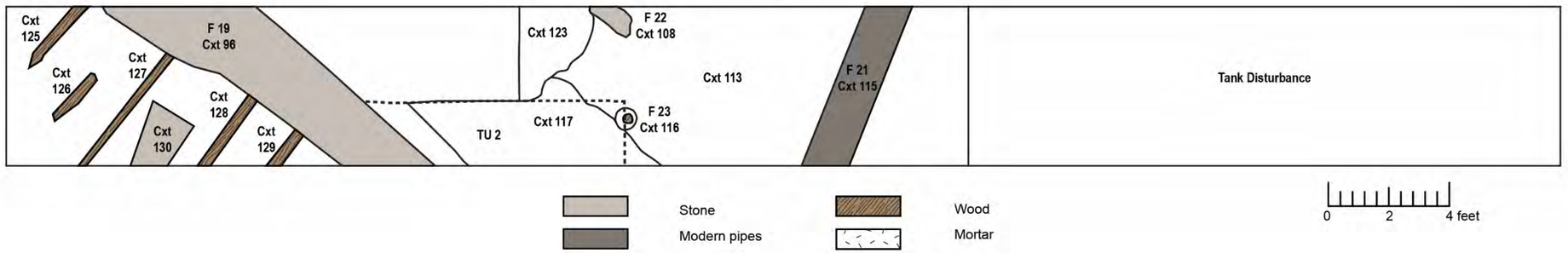


Figure 5.4. Trench 3, plan view and south wall profile.

Test Unit 2 and Test Unit 2 Southwest Extension

Test Unit 2 was a 2-x-9-foot unit running along the north wall of the trench and extending to the edge of Context 96 (Feature 19)—a nineteenth-century stone wall-oriented east to west. This unit was excavated to examine Context 104—a nineteenth-century builder's trench directly associated with Context 96, to further expose the north profile, and to explore Context 96 (Feature 19) in profile. Test Unit 2 was initially excavated using an arbitrary datum set 0.23 feet above the trench floor surface where the unit was laid (approximately 2.65 feet BGS). Subsequent flooding compromised this local datum, so depths were from then on taken from the ground surface. The unit was opened on top of Context 104 and Context 107, at about 3 feet BGS. Context 104 was a historic builder's trench for Feature 19. It was a muddled brick-laden fill extending about 6 feet from Context 96. This builder's trench was completely excavated, and its fill screened. The artifacts collected encompass a variety of early-nineteenth-century material, including whiteware (*n=4*), creamware (*n=1*), Chinese export porcelain (*n=1*), redware (*n=3*), olive container glass (*n=1*), window glass (*n=3*), a nail (*n=1*), a hand-wrought nail (n-1), bone (*n=6*), shell (*n=3*), and coal (*n=1*). Context 104 was about 0.6 feet deep and continued to recede in size closer to Context 96. The builder's trench cut a series of historic fills predating the construction of Context 96. Beneath Context 104 was Context 118, which was a highly contaminated fill associated with the large granite footer underlying Context 96. This fill was not screened.

Test 2 Southwest Expansion

A 2.5-x-3-foot extension was added to Test Unit 2 (Photo 5.17). The southwest expansion of Test Unit 2 was placed to gather more information about Feature 23 (Context 116), which was a round wooden post with a circular postmold, and to see an extended window of the southern profile. Feature 23 and Feature 22 were both excavated. Feature 22 was ultimately determined to not be a feature, but rather just a rounded smaller piece of granite that likely migrated from Feature 19. This unit encountered two new fill contexts that were not impacted by the nineteenth-century builder's trench. Context 123 was a late-eighteenth-century fill with large brick inclusions capping a potential mid- to early-eighteenth-century well—Feature 31. Context 123 could have been debris from the destruction of the upper portion of the well. Context 112 was merely a small historic fill pocket.

Photo 5.17. Test Unit 2 Southwest Expansion, Context 113, Context 117, and Context 123 in plan view.

Feature 19 (Context 104)

Feature 19 was mid- to late-nineteenth-century stone wall (Photo 5.18). It was three courses thick and sat atop Feature 45, a spread footer made of wide slabs of granite. Feature 19 is seen on the 1858 Hexamer map, and again on the 1875 Hopkins map, aligning with the south wall of a four-story masonry building (Hexamer & Locher 1859, Hopkins 1875). The city of Philadelphia directory commissioned by McElroy in 1858 links Feature 19 as the south wall of 322–324 North Delaware Avenue and 325 North Water Street. At that time, the property was the location of Potts WM. B. & CO. In that same directory, William B. Potts and Edward D. Potts were listed as flour and grain merchants. As this area was principally the site of mercantile warehouses, it is likely that this building was being used to store four and grain for distribution or sale.

Photo 5.18. Feature 19 and Feature 20.

Feature 20 (Context 97)

Feature 20 was a series of floorboards in the eastern end of Trench 3 abutting Feature 19 (Photo 5.18). The wood was made of pine and, subsequently, Trench 3 had an overwhelming smell of damp decaying pine. The planks ran parallel to the Feature 19 foundation wall. The planks were roughly 0.9 feet in width and had a varying length from 2 feet to about 5 feet. The floor was covered by brick and mortar fills. The surface of the floor was roughly 0.5 feet below the edge of Feature 19. These floor planks sat atop Contexts 125–129, which were historic floor joists running perpendicular to Feature 19 and suspended in a matrix of compacted coarse sand.

Feature 21 (Context 115)

Feature 21 was made up of a trench cut for the installation of a series of eight electrical conduit pipes (Photo 5.19). The south profile showed the drastic impact that the installation of electrical conduit pipes had on the historic fills. The soils in which the pipes sat was very loose and unstable. The conduit pipes were no longer in use. Based on the depth and position of the cut containing these conduits, they appear to be associated with the rear maintenance building for the Hertz Rent-a-Car facility, suggesting a mid-twentieth-century date for the feature.

Photo 5.19. Feature 21 cutting through Context 110, 105, 107, 111, 112, and 113.

Feature 22 (Context 108)

Excavation to the west of Feature 22 revealed that the granite stone was just an isolated stone within Context 107. The paperwork from the field reflects this change. The stone was likely robbed from Feature 19 during a demolition episode.

Feature 23 (Context 116)

Feature 23 was excavated within Test Unit 2 Southwest Extension at roughly the center of Trench 3 (Photo 5.20). The remnant post was rounded, likely just a debarked log pile that upon excavation was shown to have had an ax-cut point at its base. The posthole containing the post cuts Context 107 and subsequently Context 117, which directly underlies Context 107. The post appeared to have a builder's trench, but it is possible that the discoloration around the extant wood was the result of organic staining and not a deliberate hole dug to set the post. Its overall function is inconclusive, although other similar posts were found in Trench 1 and 2 to the north, and other possible posts were found to the east within Trench 3. This might suggest that Feature 23 was part of a system of piles used to support an early wharf.

Photo 5.20. Post and posthole of Feature 23 in the southwest corner of Test Unit 2.

Feature 31 (Contexts 123 and179)

Feature 31 was a well shaft comprised of two main contexts: Context 123 and Context 178. Context 123 was a column of disarticulated brick rubble, likely the upper structure of the well that was destroyed and

collapsed. Context 123 cut both Contexts 113 and 117, which appear to be early-nineteenth-century deposits. The Context 179 portion of the feature contains an intact structure with double courses of brick in a running bond alternating with stringer courses (Photo 5.21). The nature of the infill was speculative due to flooding at 6.4 feet BGS. This portion of the feature cut Contexts 133 and 178, which both appear to be early eighteenth century in nature. Based on the presence of the Context 123 cut higher up, the well was assumed to be nineteenth century. Prior to the fire in 1850, this area was the site of several incarnations of bakeries, including those run by William B. Brown and Sons (circa 1800–1809), C. Collins (circa 1810), and William T. Bladen (circa 1820–1849) (Ritter 1860, Robinson 1810, Robinson 1805, Whitely 1820, Desilver 1830, McElroy 1849). These early-nineteenth-century bakeries represent an industry that would have benefited from ready access to water and may explain the presence of such a feature in this location. It is important to note that the Context 123 matrix contained inclusions of burnt wood, which would track with its abandonment after the fire, having been infilled during the subsequent reconstruction.

Photo 5.21. Brick shaft of Feature 31.

Feature 34 (Context 174)

Feature 34 was a wooden pier footer post used in the construction of an eighteenth-century pier on the wharf edge. Context 174 cut into Context 178 and, likely, the natural beach-like sandy soil beneath. Feature 34 was one of several pier footers in the area, like Contexts 173 and 176.

Feature 35 (Context 175)

Feature 35 was a 1-foot-wide wooden beam running north to south across Trench 3, parallel to Water Street. The timber was impacted by the backhoe, but appeared to have been hewn. The beam cut into Context 178, a seventeenth- to eighteenth-century deposit, and was likely related to some early wharfing

effort. Everything beyond Feature 35 has been disturbed by tank removal. The removal effort drove soldier piles and lagging into the area to hold in tank removal fill. This beam may be related to several nearby piles driven into the same Context 178 deposit. A full excavation of the feature was not possible due to the flooding of the trench.

Feature 36 (Context 176)

Feature 36 was a wooden pier footer from the eighteenth-century occupation, found at approximately 6.4 feet BGS. The pier ran north-south along with Context 173. Feature 36 cut Context 178 and most likely the underlying natural beach soils. The pier was associated with the eighteenth-century wharf edge. Context 176 was next to 179 to its west and in line with Context 173. It was likely part of a long line of posts running north-south along the edge of the eighteenth-century wharf, which was used to form a planked pier. As noted above, Feature 36 cut into Context 178, which yielded an ample sample of eighteenth-century materials, and Context 133 had a low artifact density, suggesting natural silty river soils.

Feature 45 (Context 137)

Feature 45 was a granite stone wall footer supporting Feature 19, a nineteenth-century wall. There was a similar structure in Trench 5 with Features 27 and 28, both stone walls. Ultimately, Feature 45 was removed via machine excavation.

Trench 4

Trench 4 was initially a 5-x-50-foot trench running north-south through the middle of the south end of the Vine Street lot. Trench 4 was extended an additional 6 feet north and 9 feet south in order to properly delineate encountered structural features. At the southern end of the resultant 65-foot trench, a 4-x-4-foot test unit was excavated to investigate the fills in relation to an encountered foundation wall (Feature 42). Trench 4 was situated to examine the impact of the Hertz maintenance facility, the concrete foundation for which occupied the southern two-thirds of the trench. The reinforced concrete was saw cut and then hydraulic hammered to remove it and expose the underlying soils. Total excavation depth of Trench 4 was approximately 6 feet, a depth at which dredge spoil sands (Contexts 198 and 199) full of corals were encountered and water began to inundate, terminating excavation.

Underlying Context 1, Context 2 (asphalt and gravel base) and Context 183 (Hertz building concrete floor) were a series of historic fills. Across the length of the trench, there were three locations where the remains of the Hertz maintenance building cut into the underlying fill stratigraphy. The northernmost was Feature 24/Context 225, a 2.3-foot-wide concrete foundation wall that extended nearly 4 feet down. Approximately 18 feet to the south of Feature 24 was Feature 37 (Context 179), a 1.5-foot-wide concrete footer for a cinderblock wall that was once part of the Hertz maintenance building. Feature 37 extended down about 3 feet BGS and came through the Context 183 concrete slab that was the floor to the Hertz building. The final modern feature, in the southeasternmost corner of the trench, was a concrete pillar footing, Feature 40/Context 210. Its ultimate dimension is unknown, as it was not fully exposed, but it did continue down to a depth of 3.5 feet BGS. Apart from these modern disturbances and their associated builder's trenches, the stratigraphy of the trench was largely uniform.

While deeper strata were largely continuous, upper strata did differ to either side of the Feature 24 foundation. On the north side, much of the upper layer of historic fill, Context 20, had been graded away and replaced with the same Context 100 fill used to backfill the builder's trench of Feature 24. Context 120, a black (10YR2/1) silty loam deposit, was the first trench-wide context encountered, with the only abbreviations to its matrix occurring where Features 24 and 31 and their builder's trenches cut through them. Context 120 contained a variety of material, including cut bone (*n=4*), coral (*n=1*), shell (*n=1*), British buff-bodied slipware (*n=1*), creamware (*n=1*), porcelain, Chinese export (*n=1*), redware (*n=1*), whiteware (*n=1*), and yellowware (*n=1*). This context has a TPQ of 1828 based on yellowware and a percent contribution peak range of 1760–1820. In the northern portion of the trench, two additional contexts (Context 164 and 165) were identified, though subsequent reexamination suggests they are likely pockets of the large Context 120 matrix. Underlying the Context 120 matrix was a thin fill deposit of Context 160 (in the

south) and Context 166 (in the north). These two fill deposits likely represent a single continuous fill episode, which tapers and terminates in the southern portion of the trench. The only material to come from the Context 166 deposit was the neck of a mouth-blown olive glass bottle, which was found between 3.1 and 3.4 feet BGS. The next continuous fill deposit was Context 167, a dark yellowish-brown (10YR3/4) silty sand that contained bone (*n=2*), mouth-blown olive container glass (*n=2*), shell (*n=2*), aqua window glass (*n=2*), Chinese export porcelain (*n=2*), and redware (*n=2*). Underlying Context 167 was a thin band of yellowish-brown (10YR5/8) sand that capped another dark yellowish-brown (10YR3/6) silty loam deposit like Context 167, only with inclusions of small gravels within its matrix. Context 169 contained bone (*n=1*), nails (*n=3*), redware (*n=7*), white salt-glazed stoneware (*n=1*), and whiteware (*n=5*). The TPQ for this deposit is 1815, owing to the presence of whiteware.

The next continuous context identified within the trench was Context 197, a deposit of black (10YR2/1) silty loam that was likely a historic ground surface on a late-eighteenth-century wharf. This deposit, which was encountered between 4.6 and 5.2 feet BGS, contained a myriad of late-eighteenth- to early-nineteenth-century ceramics and it was within this matrix that Features 42, a stone foundation, and Feature 43, an associated brick porch, were first encountered. This context contained nails (*n=10*), iron spikes (*n=5*), common glass vessel glass (*n=25*), window glass (*n=12*), non-lead glass container (*n=3*), non-lead glass tumbler (*n=4*), strike a light (*n=1*), shell (*n=14*), coral (*n=1*), creamware (*n=69*), pearlware (*n=41*), Chinese export porcelain (*n=7*), hard-paste porcelain (*n=23*), Prattware (*n=4*), red-bodied earthenware (*n=4*), redware (*n=174*), brown/gray bodied salt-glazed stoneware (*n=7*), gray/buff-bodied salt-glazed stoneware (*n=6*), tin-glazed earthenware (*n=7*), unidentified refined earthenware (*n=1*), pipe stems and bowl fragments (*n=12*), and white salt-glazed stoneware (*n=18*). This material has a TPQ of 1803 and a percent contribution peak date of 1760–1815. Underlying Context 198 was a deposit of dark gray (10YR4/1) silty sand that contained substantial inclusions of coral, suggesting an oceanic origin for this fill material. While a limited number of artifacts were retrieved from this context, most of them from within Test Unit 4, several diagnostic artifacts were recovered. The artifact assemblage for Context 198 included pearlware (*n=1*), creamware (*n=2*), agateware (*n=1*), white salt-glazed stoneware (*n=1*), Chinese export porcelain (*n=6*), redware (*n=2*), brick (*n=1*), coral (*n=21*), wood (*n=2*), bone (*n=1*), and a pipe stem (*n=1*) with a bore diameter of 5/64. The TPQ for this deposit is 1775 based on pearlware, and the peak of the percent contribution occurred between 1775 and 1785. The underlying deposit Context 199 contained no diagnostic artifacts, but was a similar dredge spoil fill comprised of a light gray (2.5Y7/1) silty sand with coral inclusions, suggesting that for this early wharfing-out episode, material was sourced from a distance and imported in bulk by ship specifically for the land-reclamation effort. The silty sand dredge spoil fill with inclusions of coral continued to the base of excavation at a depth of 9 feet BGS. While no cribbing was found in association with these fills, these dredge fill contexts (Contexts 198 and 199) are indicative of land-reclaiming processes and the establishment of new ground along the waterfront during the late eighteenth century. Given that these deposits are capped by a late-eighteenth-century layer (Context 197), the construction of the wharf in this area likely took place before the dawn of the nineteenth century, but after 1762, as historic maps show this area as water during that time (Scull, Clarkson and Biddle 1762).

In the northern portion of the trench, an additional segment of the Feature 19/Context 96 wall found in Trench 3 was located. The stone wall itself was capped by two thin deposits of silty and sandy loam (Contexts 103 and 121). On either side of the Feature 19 wall was a distinct builder's trench cut (Context 122), which extended to a depth of 4.8 feet BGS. This Context 122 builder's trench cut through several fills, suggesting that the wall was built after those fills had been established. Only a body sherd of unidentified stoneware and a sherd of a slip-decorated redware dish were recovered from Context 122, so dating of this deposit by means other than relative dating is not currently possible. Interestingly, while the Feature 19 wall continues into Trench 4, there was no evidence of the pine floor or remnant joists found to the north of the wall in Trench 3.

In the southern end of the trench, a stone foundation (Feature 42) and associated brick porch (Feature 43) were located. These features were encountered at the same general depth as Context 197, suggesting that Context 197 was indeed an occupation surface. Given that these features are cut into Context 197, it appears that this structure is also likely associated with the late-eighteenth- to early nineteenth-century use of the wharf, when it was functioning as a mercantile center.

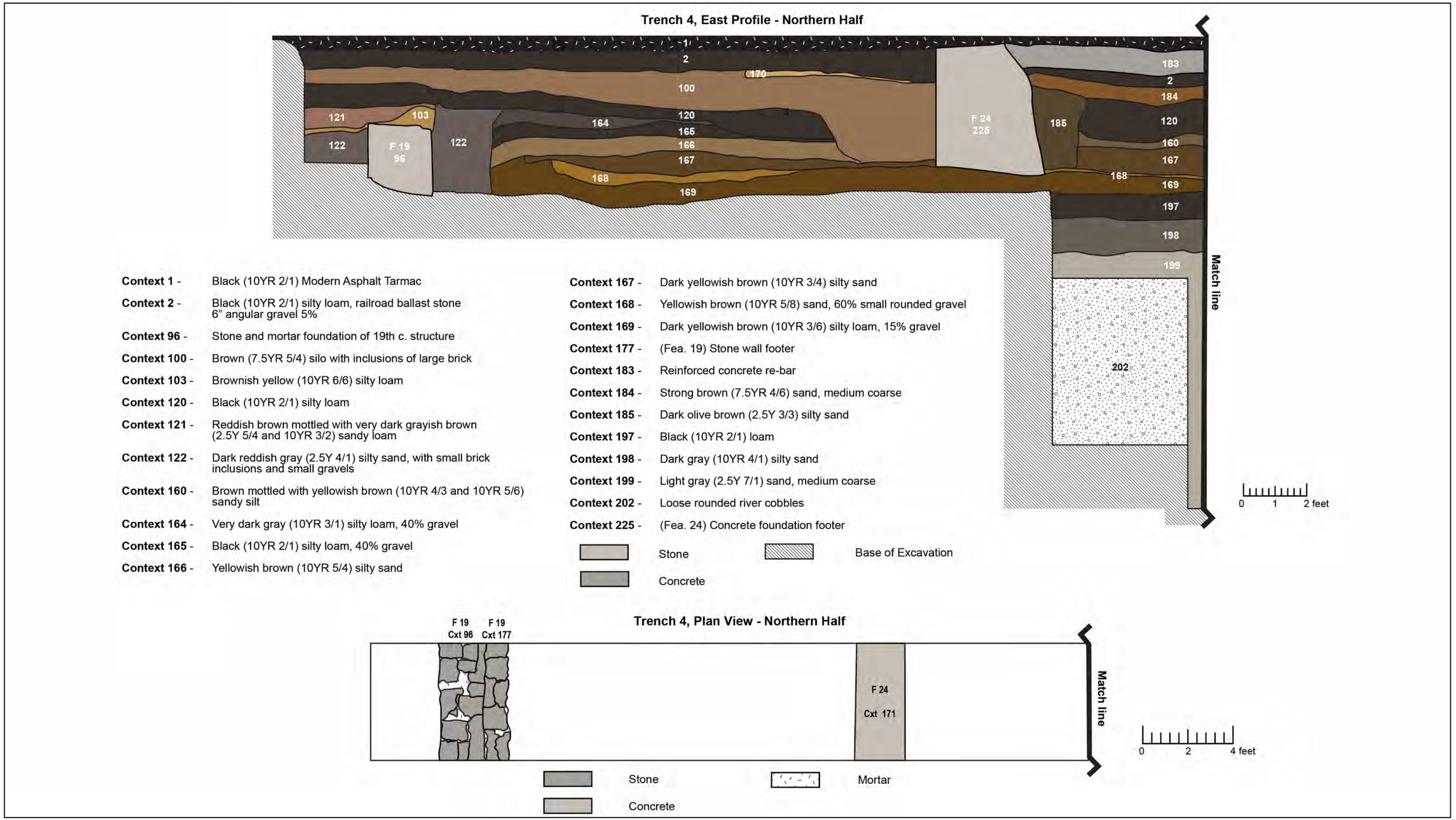


Figure 5.5. Trench 4, northern half, plan view and east wall profile.

Context 1 - Black (10YR 2/1) Modern Asphalt Tarmac

Context 2 - Black (10YR 2/1) silty loam, railroad ballast stone 6" angular gravel 5%

Context 120 - Black (10YR 2/1) silty loam

Context 160 - Brown mottled with yellowish brown (10YR 4/3 and 10YR 5/6) sandy silt

Context 167 - Dark yellowish brown (10YR 3/4) silty sand

Context 168 - Yellowish brown (10YR 5/8) sand, 60% small rounded gravel

Context 169 - Dark yellowish brown (10YR 3/6) silty loam, 15% gravel

Context 170 - Yellow (10YR 7/6) sand

Context 183 - Reinforced concrete re-bar

Context 184 - Strong brown (7.5YR 4/6) sand, medium coarse

Context 186 - (Fea. 37) Concrete foundation footer

Context 187 - Dark yellowish brown mottled with dark brown (10YR 4/6 and 10YR 3/3) silty loam

Context 197 - Black (10YR 2/1) loam, Surface

Context 198 - Dark gray (10YR 4/1) silty sand

Context 199 - Light gray (2.5Y 7/1) sand, medium coarse

Context 208 - Dark brown (7.5YR 3/4) silty sand, compact brick and small cobbles

Context 209 - Very Dark Grayish Brown (10YR 3/2) silty loam, brick, large cobbles, sub-angular gravel

Context 210 - (Fea. 40) Concrete pillar foundations

Context 212 - (Fea. 42) Stone foundation wall

Context 214 - (Fea. 44) Brick walkway/porch

Context 220 - Brick and decaying mortar

Black (10YR 2/1) Dark fill pocket

Brick

Base of Excavation

Concrete

Brick

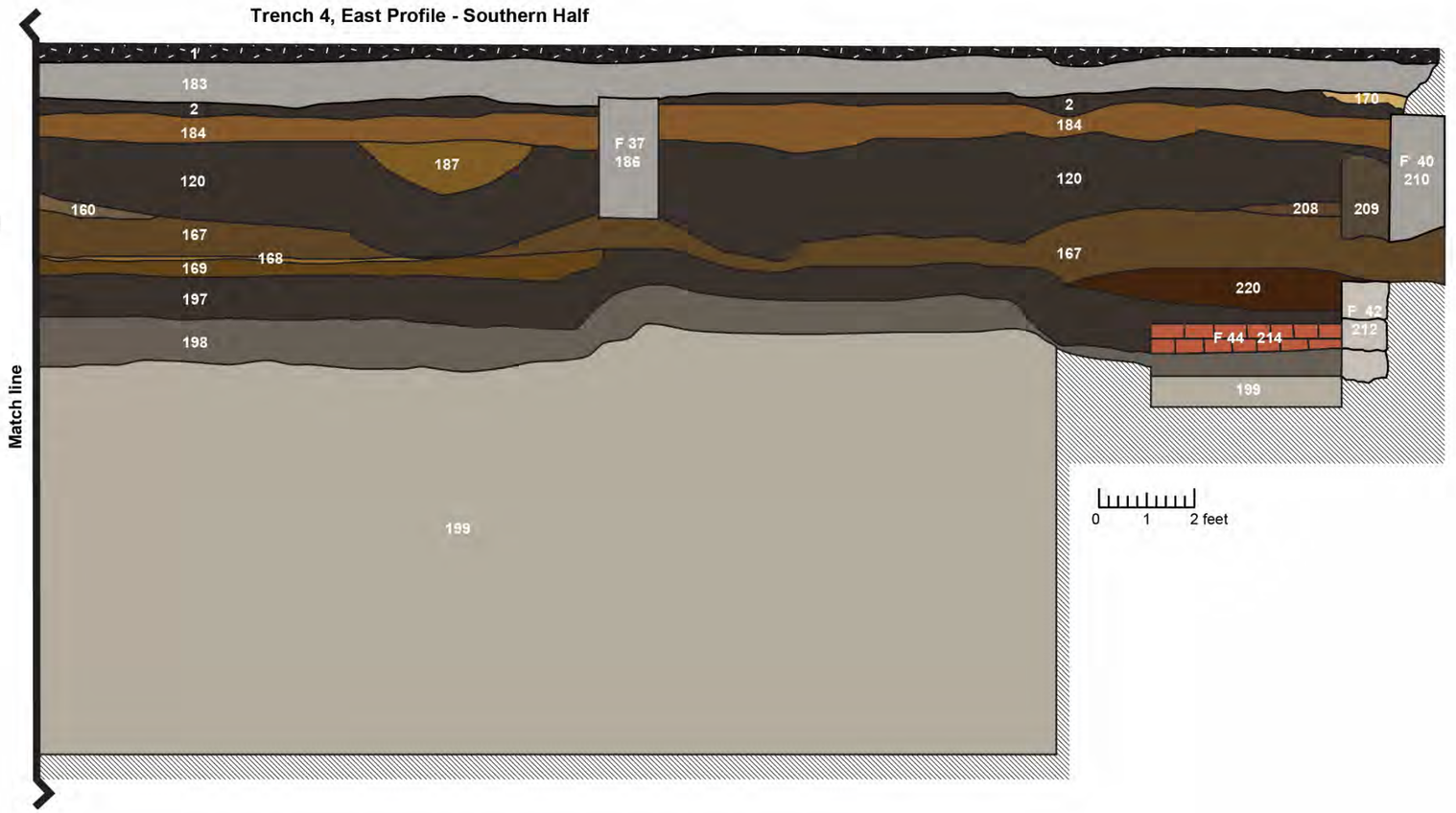
Stone

Mortar

Asphalt overhang

Concrete

Brick



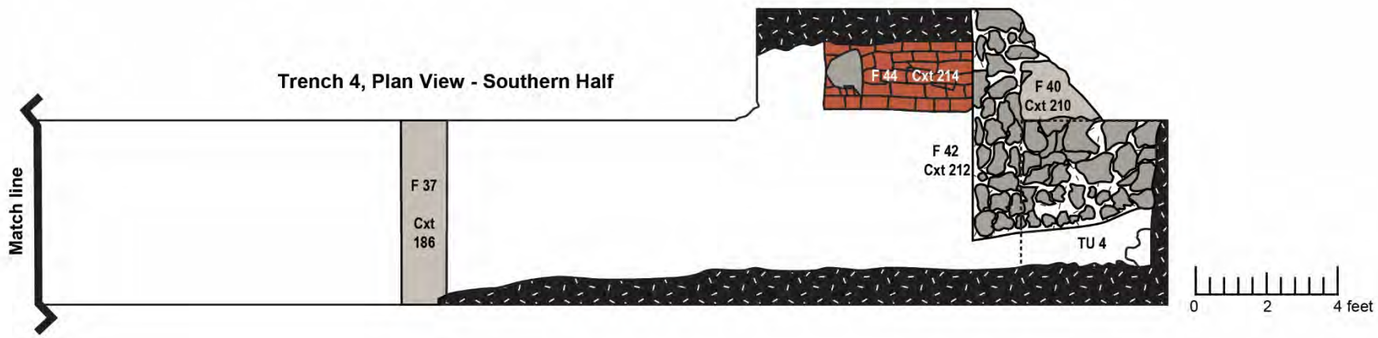


Figure 5.6. Trench 4, southern half, plan view and east wall profile.

Test Unit 4

Test Unit 4 was 4 x 4 feet and placed at the southernmost end of Trench 4 to examine a loamy deposit with a large amount of mid-eighteenth-century artifacts and Feature 42. All measurements were taken from the current ground surface. Test Unit 4 opened on Context 197, an eighteenth-century fill deposit with wood pulp and a large amount of mendable ceramics. It was described as a black (10YR2/1) loam and opened at 5.05 feet BGS, ending on top of Context 198 at 5.70 feet BGS (Photo 5.22). This context abutted Feature 42 and overlaid Context 198, which was the first layer of the river sands. In Context 197, several mendable samples of hand-painted tin-glazed vessels, overglazed and underglazed gilded porcelain, thin-bodied hand-painted redware, and kaolin pipes were collected. Context 197 had the most robust artifact collection of any of the areas excavated. This context seemed unaffected by modern construction. Context 202, which sat just above Context 197 in profile, was a layer of demolition fill that was a result of mid-nineteenth-century impaction.

Photo 5.22. Trench 4 west profile and Unit 4 west profile.

Photo 5.23. Unit 4 closing plan view after removing Context 197 and Context 198. Feature 42 (stone foundation) is sitting on Context 199.

Feature 42 was a three-course stone wall built directly on top of Context 199. It was clear during excavation that Context 198 was purposefully placed around Feature 42. The soil was likely placed as a yard surface or a simple exterior surface over the loosely structured sandy river soils as a means of stabilizing the ground surface. Water began to inundate once Context 198 was reached (Photo 5.23). Context 198 had a sparse amount of artifacts, but predominantly had marine coral. Underlying Context 198 was Context 199. This was a loose structured beach-like sand with coral. At this depth, groundwater began to inundate.

Feature 24 (Context 225)

Feature 24 was the first of three large modern concrete foundation footers found within Trench 4. These foundation walls once supported the Hertz Rent-a-Car building. Feature 24 was the largest of the three, at 2.2 feet wide, and extended 4 feet BGS. A layer of reinforced concrete, Context 183, began just south of this feature and spanned the southern extent of Trench 4, indicating the interior of the Hertz Rent-a-Car structure. Though this feature extends 4 feet into the ground, it does not appear to have had any impact on any deposits from Context 169 down. This lack of disturbance is evident by the fact that Context 197, which runs beneath this foundation feature, was one of the more intact and productive archaeological deposits on the site, producing a large about of mid-eighteenth-century artifacts from the southern half of Trench 4.

Feature 37 (Context 186)

Feature 37 was the second concrete foundation related to the Hertz Rent-a-Car building. This footer was narrower than Feature 21, being only 1.25 feet wide. The Feature 37/Context 186 foundation wall cut through the Context 183 reinforced concrete slab, which was the floor surface of the Hertz building. It is likely that Feature 37 was established first and the Context 183 floor was established on either side after the fact. Given the friability of the Feature 37 matrix that cuts through Context 183, it appears that this feature was the footer for a cinder block wall, remnants of the cinder block being trapped in the mortar and concrete of underlying and adjacent Contexts 186 and 183.

Feature 40 (Context 210)

Feature 40 was a twentieth-century concrete pier that served as part of the support structure of the Hertz Rent-a-Car building. While the Feature 40 concrete pier overlaid the Feature 42 foundation, it does not seem to have disturbed its structure nor did it impact the adjacent Feature 43 brick pad.

Feature 42 (Context 212)

Feature 42 was a roughly articulated stone wall with decaying mortar (Photo 5.24). The wall was 2 feet thick and contained three courses of mortared stone. Feature 42 was initially found within Test Unit 4, and excavation was subsequently expanded to further delineate the structure. This foundation was set atop a deposit of dredge spoil that contained corals, indicating that both it and the adjacent brick pad, Feature 43, were constructed on the wharf after a period of land reclamation. Based on historic mapping, this structure was built at some point after 1762, as the map of that year shows the site of this feature as part of the Delaware River at that time (Scull, Clarkson and Biddle 1762). Given the high concentration of late-eighteenth- and early-nineteenth-century ceramics found in the adjacent fill sediment, it is likely that this feature is associated with the early mercantile period on the site.

Photo 5.24. Southern end of Trench 4 plan view. Shown: Context 197, Feature 42, and Feature 44.

Feature 44 (Context 214)

Feature 44 was a brick walkway or porch related to an eighteenth-century building (Photo 5.24). Feature 44 was two courses deep, averaging 0.6 feet in total depth. Feature 44 abuts Feature 42 and underlies Context 197. The Feature 44 brick pad extends 3.6 feet north of the Feature 42 foundation. While only a 1.5-foot-wide section of the pad was excavated within the trench, it appears to continue to the east. The northwest corner of this brick pad had a stone flag instead of brick, suggesting it was used to support weight like a post or pillar, lending credence to the interpretation of the brick pad as a porch structure on the outside of the Feature 42 building.

Trench 5

Trench 5 was initially a 5-x-50-foot trench, which was later extended to approximately 55 feet in length. Trench 5 was initially dug to a depth of approximately 3.4 feet BGS, at which point several foundation walls and floor surfaces were revealed. Once these features were photographed, mapped, and profiled, these walls and features were removed, and excavation continued beneath. From its initial excavation depth, Trench 5 was machine excavated an additional 4.2 feet to a terminal depth of 7.6 feet below ground, at which point water inundation curtailed further excavation.

The uppermost stratum in Trench 5 was the asphalt surface of the parking lot (Context 1), which in this location sat directly above the reinforced concrete slab that was the floor of the Hertz maintenance building (Context 134). Context 134 was likely part of the same slab as Context 183 in Trench 3, but as they were spatially separated by some distance, they were assigned unique context numbers. Underlying the maintenance building slab floor was a continuous deposit of brown (7.5YR4/4) silty sand (Context 104) that functioned as a leveling fill.

Underlying the Context 104 leveling fill, several features were encountered. In the southeast corner of the trench, a modern concrete pillar associated with the maintenance facility (Feature 25) was partially exposed. This concrete pillar footer sat partially atop of Feature 26, a 3-foot section of log initially identified as a potential wooden water pipe, as it appeared hollow. Upon fully exposing Feature 26, it was determined to be a segment of a partially decayed telephone pole, tossed into the cut for the Feature 25 concrete pillar footer when it was installed in the mid-twentieth century.

The Feature 25 pillar also truncated a portion of another feature. The impacted feature was Feature 27/Context 162, which was a 1.5-foot-wide mortared schist stone wall running east-west perpendicular to Water Street. The eastern foot of this wall had been cut away during the installation of the Feature 25 concrete footer, but the western portion remained intact. Feature 27 ran parallel to another stone wall of similar construction, situated just 1.5 feet to the north. This other wall (Feature 28/Context 163) had similarly been impacted by the installation of Feature 25 along its western edge, though this impact only seems to have removed a few stones of the overall structure. The Feature 27 and 28 stone walls appear to be an eastern continuation of Features 2 and 3 from Trench 2 of the 2012 excavations, located about 60 feet to the west (John Milner Associates, Inc. 2013). To the north of Features 27 and 28, there was a large gap of about 16–17 feet to the next mortared schist stone wall, Feature 29/Contest 172. This stone wall was 2.5 feet wide and was not accompanied by another stone wall, though it too ran east-west perpendicular to Water Street and is in alignment with Feature 4 from Trench 2 of the 2012 excavations (John Milner Associates, Inc. 2013). In the very northern extreme of the trench, the final wall feature, Feature 38/Context 200, was encountered. This wall feature was a combination of a truncated stonewall in the east and a modern concrete footing in the west. The actual width of the original stone wall was not ascertained, as it extended beyond the length of the trench, but it appears to have been at least 2 feet wide. The spacing between these wall features effectively divided the length of the trench into three areas, in which different fill sequences were observed.

In the northern portion of the trench, the first deposit beneath the Context 140 grading fill was a thin band of Context 153, a very dark grayish-brown (10YR3/2) silty sand. This deposit was continued about 6 feet north of the Feature 29 wall before being cut by Context 192. Underlying Context 153 was an intact wood floor (Context 182), which sat atop a series of decayed joists that were set into Context 188, a prepared surface made of brown (10YR5/3) silty loam. This deposit overlaid Context 189, a dark grayish-brown silty

loam, which was also cut by Context 192. Context 189 overlaid Context 190, a yellowish-brown (10YR5/4) silty sand that capped a grayish-brown silty sand deposit, Context 191. The northernmost section of the trench, especially the western side, was disturbed by a builder's trench for the concrete portion of the Feature 38 wall/footer. This cut had been made to install the footer and had cut through portions of the pine board floor, its subbase, and several of the underlying strata. It was subsequently infilled with Contexts 193, 194, and 223, which contained a mix of historic and modern materials. One of these backfill contexts, Context 194, contained some late-seventeenth- to early-eighteenth-century ceramics, like tin-glazed earthenware, manganese mottled earthenware, and British buff-bodied earthenware, as well as Chinese export porcelain, pipe stems, and redware. However, this context also produced modern materials like plastic coffee cup lids likely thrown into the hole by workmen installing the footer in the mid-twentieth century. Despite the lack of integrity, the presence of such material in this area of localized disturbance suggests that intact deposits of a similar age exist nearby, as the backfill was a mix of local fill soils, not imported material from off-site. Further evidence of the modern origin of the cut in the northern end of the trench is a remnant piece of plywood used as a form (Context 196) for pouring the concrete portion of Feature 38.

The deepest deposit excavated in the northern portion of the trench was Context 195, which was characterized by the appearance of a gray (10YR5/1) sand with inclusions of wood debris. This matrix was cut by Feature 39/Context 201, a 1.3-foot-wide hand-hewn timber that ran roughly east-west relative to Water Street. This timber was encountered at a depth of 3.8 feet BGS and continued to a depth of 4.8 feet BGS. This timber was largely intact, though it had sustained some damage to its western end as a result of the twentieth-century builder's trench. Underlying this timber within the Context 195 matrix were additional timbers, Contexts 244, 222, and 221, running perpendicular to the Feature 39 timber. These deeper timbers were far less intact and not as nicely hewn as Feature 39. Unfortunately, groundwater inundation prevented the full investigation of the wharf timbers below this depth; however, given their orientation and relative to the overlying Feature 39 timber, these deeper timbers appear to be part of a raft structure used to build a grillage wharf, which was infilled by the sands of Context 195. The sandy matrix of Context 195 did produce cultural material, including British buff-bodied slipware (*n=1*), Chinese export porcelain (*n=1*), redware (slip decorated) (*n=7*), white salt-glazed stoneware (*n=3*), aqua-colored common glass (*n=1*), shell (*n=3*), bone (*n=3*), unidentified iron bar (*n=1*), and leather shoe fragments (*n=4*). This deposit did include one intrusive piece of white granite, introduced by the overlying builder's trench disturbance. Compensating for the intrusive sherd of white granite, the deposit has a TPQ of 1720, with a peak percent contribution range of 1720–1780, suggesting that this fill and its associated timbers are likely part of the early-eighteenth-century wharfing efforts, potentially providing a surface for shipbuilding activities.

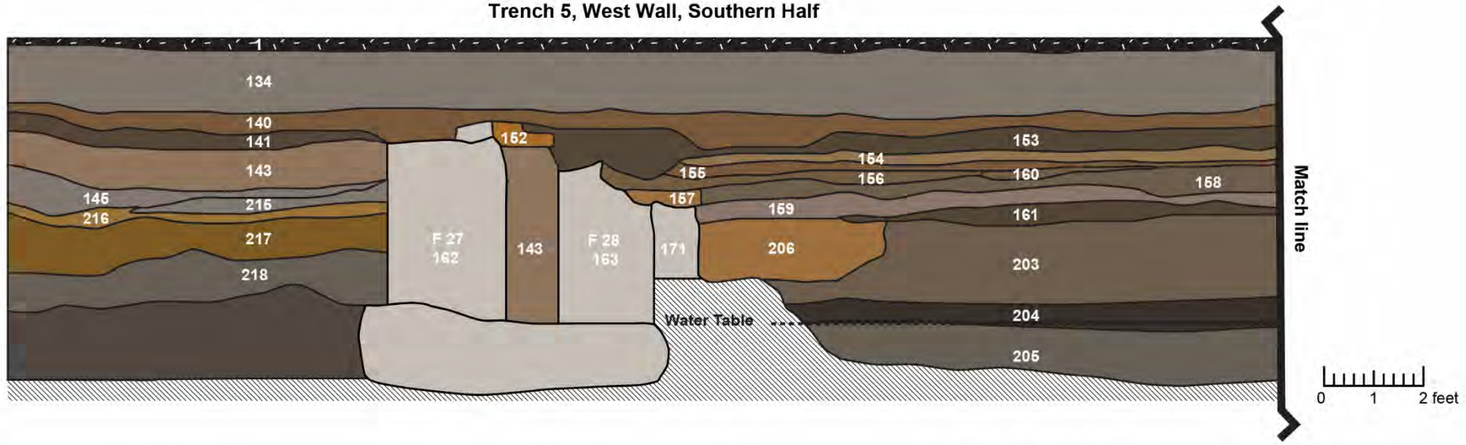
The central portion of the trench, between Feature 28 and Feature 29, contained a series of banded fills beneath the Context 104 grading deposit. These fills included Contexts 153, 154, 155, 156, 160, 157, 158, 159, and 161, all of which appear as thin bands likely deposited as a series of contemporaneous fill episodes. These fill sediments directly abutted the walls of Features 28 and 29, suggesting that those walls were extant by the time the fills were laid down and were not cut into them after they were established. Both Contexts 158 and 161 contained inclusion of burnt wood, possibly indicating these fills were laid down after the Great Conflagration. Such inclusions would make sense if these fill deposits are leveling deposits related to the redevelopment of the area after the fire. Underlying these banded fills are more substantial fill deposits. Context 203, a compacted dark grayish-brown (10YR4/2) silty loam, was encountered at a depth of 3.8–4.6 feet BGS beneath Context 161. This deposit contained a substantial quantity of butchered mammal bone (*n=34*), shell (*n=2*), brick (*n=1*), colorless lead glass stemware baluster (*n=1*), white salt-glazed stoneware (*n=1*), redware (*n=3*), slip-decorated redware (*n=4*), and two fragments of wood, one of which might be a tool handle or treenail. Context 203 was cut by what appears to be a builder's trench on the north side of the Feature 28 wall. The fact that Context 203 was cut to build part of the Feature 28 wall suggests that it was an established surface at the time the building was built. Underlying Context 203 was a black (10YR2/1) silty loam with substantial inclusions of decaying organic matter deposit. This deposit, Context 204, extended to a depth of about 5 feet BGS, around the depth that the water table was reached in this area. While the Context 204 deposit was likely the result of decaying wood, given its high organic content, the material was too decayed to make out its parent material. The final deposit excavated in the central portion of the trench was Context 205, a dark gray (10YR4/1) silty sand with inclusions of rounded gravels. This deposit was encountered at a depth of just over 5 feet and continued to the base of excavation

around 7.2 feet BGS. This deposit produced a substantial quantity of red clay roofing tile fragments. The red clay roofing tile fragments appear to have been used as a component of the fill for a wharfing-out episode. Over 220 fragments were recovered for study, but almost half of the matrix of Context 205 was comprised of this material. Only three other artifacts were recovered from this deposit, all redwares with no diagnostic features. Context 205 may be temporally contemporaneous with Context 195 on the north side of the Feature 29 wall.

The stratigraphy in Trench 5 south of Feature 27 contained a series of banded fills beneath the Context 104 grading deposit. These fills included Contexts 141, 143, 145, 215, and 216, which appear as thin bands likely deposited as a series of contemporaneous fill episodes. One of these fill deposits, Context 145, was sampled and produced a number of artifacts, including nails (*n=3*), bone (*n=2*), shell (*n=2*), window glass (*n=4*), a pipe stem (*n=1*), yellowware (*n=1*), white granite (*n=10*), Victorian Majolica (*n=1*), and hard-paste porcelain (*n=1*), as well as terra-cotta sewer pipe. This material all points to a fill deposit dating to the second half of the nineteenth century or later, as the layer has a TPQ of 1850 and a percent contribution peak range of 1850–1900. As this is one of the deeper deposits of the banded fills, it would follow that the overlying fills must be contemporaneous or not more recent than Context 145.

Underlying Context 145, the depositional sequence becomes more robust and regular, beginning with a dark yellowish-brown (10YR4/6) silty sand (Context 217, which caps a dark gray (10YR4/1) and finally a very dark gray (10YR3/1) sand. All these deposits were mechanically excavated, and the profile was established visually from the top of the trench, as the depth and inundation of the trench made closer examination unsafe. It was determined via this mechanical excavation that Feature 27 and 28 sat atop large flagstone spread footers like those encountered in Trench 3. These boulders were encountered at a depth of about 5.5 feet BGS. It appears that Features 27 and 28 sat directly atop of these boulders, so they likely functioned as a spread footer. The boulders appeared to be set into the Context 219 and possibly overlying 218 matrices, deposits of dark gray and very dark gray sands that may be a context related to the Context 205 deposit observed in the central portion of the trench. Context 219 did not contain any inclusions of red clay roof tile, which was indicative of Context 205, so while they might represent a contemporaneous land-reclamation episode, they are not inherently the same context. No wharf timbers were encountered in this southern portion of the trench, which was somewhat surprising, given that the grillage timbers found by John Milner Associates in 2012 would have been in alignment with this section of Trench 5.

Trench 5, West Wall, Southern Half



Context 1 - Black (10YR 2/1) Modern Asphalt Tarmac

Context 134 - Gray (10YR 6/1) Reinforced concrete with rebar and crushed gravel

Context 140 - Brown (7.5YR 4/4) silty sand

Context 141 - Dark Brown (7.5YR 3/2) sandy loam

Context 143 - Brown (7.5YR 5/3) silty sand

Context 145 - Gray (7.5YR 5/1) coal ash

Context 152 - Strong brown mottled with light brown (7.5YR 5/8 and 7.5YR 6/4) silty loam

Context 153 - Very dark grayish brown (10YR 3/2) silty sand

Context 154 - Yellowish brown (10YR 5/4) crumbling mortar

Context 155 - Brown (7.5YR 4/4) sand

Context 156 - Brown (10YR 4/3) silty sand

Context 157 - Strong brown (7.5YR 5/6) silty loam

Context 158 - Dark grayish brown (10YR 4/2) silty sand, fine grained

Context 159 - Reddish Gray (5YR 5/2) sand, coarse

Context 160 - Brown mottled with yellowish brown (10YR 4/3 and 10YR 5/6) sandy silt

Context 161 - Brown mottled with dark yellowish brown (10YR 3/2, 10YR 5/3 and 10YR 4/6) silty loam

Context 162 - (Fea. 27) Stone, mortar and schist wall

Context 163 - (Fea. 28) Wall

Context 171 - Stone footer

Context 203 - Dark grayish brown (10YR 4/2) silty loam, very firm

Context 204 - Black (10YR 2/1) silty loam

Context 205 - Dark gray (10YR 4/1 and 10YR 3/1) silty sand, 30% small gravels

Context 203 - Dark grayish brown (10YR 4/2) silty loam, very firm

Context 204 - Black (10YR 2/1) silty loam

Context 205 - Dark gray (10YR 4/1 and 10YR 3/1) silty sand, 30% small gravels

Context 206 - Strong brown mottled with brown (7.5YR 5/6, 7.5YR 5/8 and 7.5YR 5/3) silty sand with brick inclusions

Context 211 - (Fea. 41) Wooding piling

Context 215 - Gray (10YR 5/1) silty sand

Context 216 - Yellowish brown (10YR 5/6) silty sand

Context 217 - Dark yellowish brown (10YR 4/6) silty sand

Context 218 - Dark gray (10YR 4/1) sand

Context 219 - Very dark gray (10YR 3/1 sand) sand

Stone

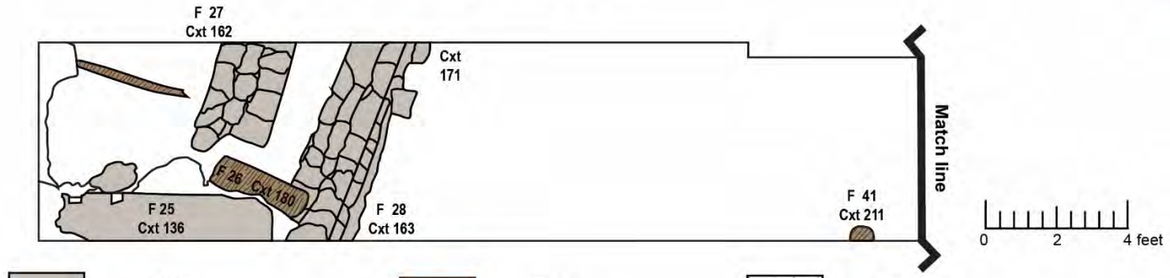
Base of Excavation

Concrete

Brick

Wood

Trench 5, Plan View, Southern Half



Stone

Concrete

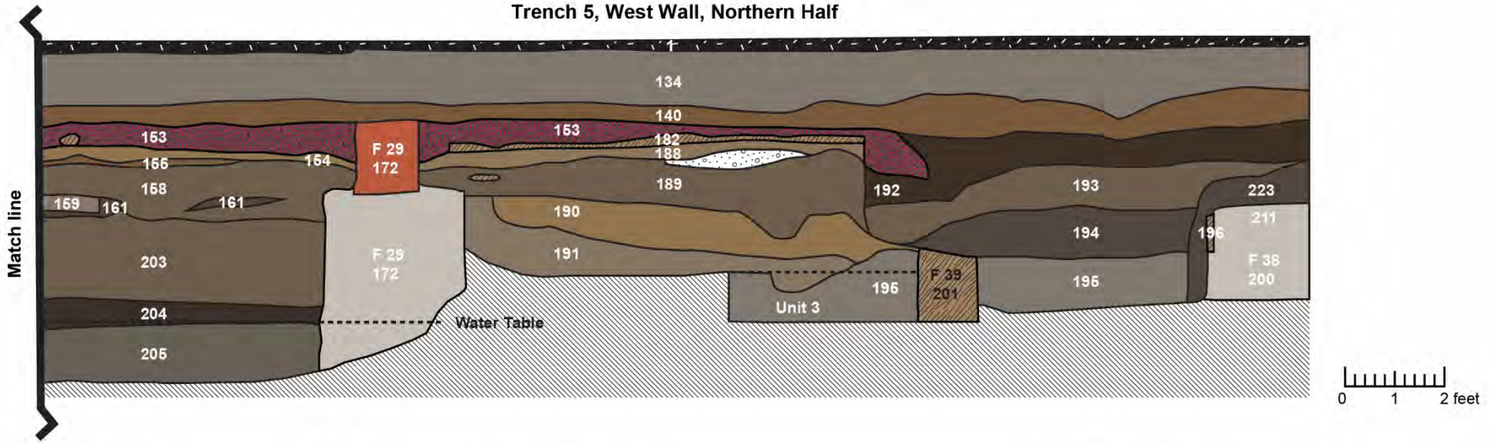
Brick

Wood

Mortar

Asphalt overhang

Figure 5.7. Trench 5, southern half, plan view and west wall profile.



Context 1 - Black (10YR 2/1) Modern Asphalt Tarmac

Context 134 - Gray (10YR 6/1) Reinforced concrete with rebar and crushed gravel

Context 140 - Brown (7.5YR 4/4) silty sand

Context 153 - Very dark grayish brown (10YR 3/2) silty sand, mortar and brick debris

Context 154 - Yellowish brown (10YR 5/4) crumbling mortar

Context 155 - Brown (7.5YR 4/4) sand

Context 158 - Dark grayish brown (10YR 4/2) silty sand, fine grained

Context 159 - Reddish Gray (5YR 5/2) sand, coarse

Context 160 - Brown mottled with yellowish brown (10YR 4/3 and 10YR 5/6) sandy silt

Context 161 - Brown mottled with dark yellowish brown (10YR 3/2, 10YR 5/3 and 10YR 4/6) silty loam

Context 172 - (Fea. 29) Mortared stone foundations and remnant brick wall

Context 181 - (Fea. 30) Wooden piling/post

Context 182 - (Fea. 32) Wooden pine board floor

Context 188 - Brown (10YR 5/3) silty loam

Context 189 - Dark grayish brown (10YR 4/2) silty loam, compact with 20% sub-angular gravel

Context 190 - Yellowish brown (10YR 5/4) silty sand, 5% sub-angular gravel

Context 191 - Grayish brown (10YR 5/2) silty loam with coal inclusions

Context 192 - Very dark brown mottled with brown (10YR 2/2 and 7.5YR 4/4) silty sand

Context 193 - Very dark grayish brown mottled with dark grayish brown (10YR 3/2 and 10YR 3/4) coal ash

Context 194 - Very dark gray (10YR 3/1) silty sand, 30% sub-angular gravels

Context 195 - Gray (10YR 5/1) sand

Context 196 - Plywood

Context 200 - Stone wall

Context 201 - Wooden timber

Context 203 - Dark grayish brown (10YR 4/2) silty loam, very firm

Context 204 - Black (10YR 2/1) silty loam

Context 205 - Dark gray (10YR 4/1 and 10YR 3/1) silty sand, 30% small gravels

Context 211 - Black (10YR 2/1) silty sandy loam

Context 223 - Very dark gray mottled with dark grayish brown and light yellowish brown(10YR 3/1,10YR 4/2 and 10YR6/4) silty lom and silty sand

Thick pine tar

Stone

Base of Excavation

Brick chuncks

Concrete

Brick

Wood

Mortar

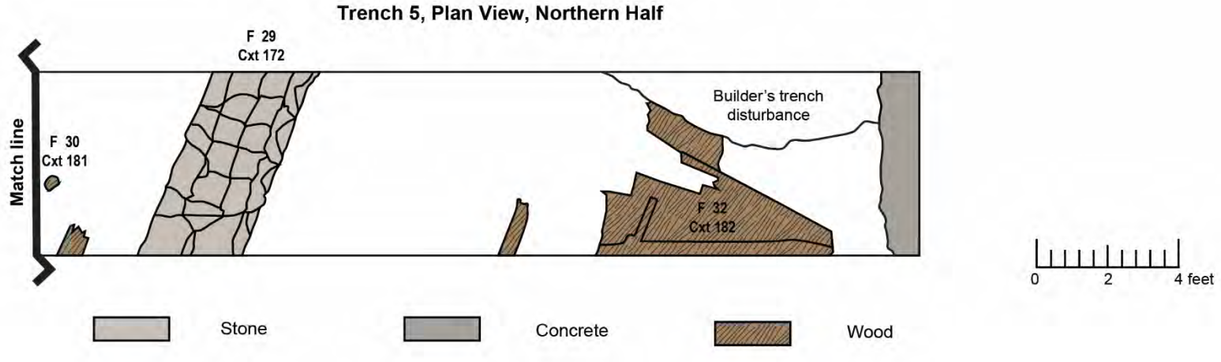


Figure 5.8. Trench 5, northern half, plan view and west wall profile.

Feature 25 (Context 136)

Feature 25/Context 136 was a modern concrete pillar that was only partially exposed in the southeast quarter of Trench 5. It was documented in plan view and profile drawings and has been photographed. The construction of this concrete pad capped a 3-foot-long segment of hollow-looking wood, Feature 26/Context 180, and cut into a stone wall, Feature 27/Context 162.

Feature 26 (Context 180)

Feature 26 was originally thought to be a 3-foot section of a wooden pipe, as upon discovery, the end of the wood exhibited an apparent hole. This feature was impacted and partially capped by the footer for a concrete pillar (Feature 25/Context 136) associated with the Hertz occupation. Upon further inspection, this feature proved to be only a segment of a truncated telephone pole that was thrown in as backfill when a concrete slab footing, Feature 25, was poured.

Feature 27 (Context 162)

Feature 27/Context 162 was a stone and mortar foundation located at the southern end of Trench 5. Spatially, this feature lines up with the Feature 2 wall found by John Milner Associates in the middle of their Trench 2 excavation (John Milner Associates, Inc. 2013, 24, 26). Both the Feature 2 wall from 2012 and Feature 27 from the current effort appear to be part of the same foundation, as they were encountered at approximately the same depth, were constructed in the same manner, and are in alignment with one another. Feature 27 runs parallel to Feature 28, which seems to be a continuation of the Feature 3 wall found in 2012. The distance between Feature 27 and Feature 28 to the north is about 1.5 feet. After it had been mapped, measured, and photographed, the exposed section of the Feature 27 wall was mechanically removed in order to see if wharf structure might be encountered underneath. Upon its removal, it was found that the Feature 28 wall and the adjacent Feature 27 wall sat atop large flagstone spread footers, a form of construction similar to the one employed for Feature 19 in Trench 3. The 2012 excavations noted a wider stone wall beneath their Feature 2 wall in their Trench 2 and attributed it to an earlier construction (John Milner Associates, Inc. 2013, 28). The results of the current excavations indicate that this deeper “wall” made of larger stones does not represent an earlier construction but is part of a spread footer supporting the upper wall that was built at the same time. About 1.7 feet of the upper section of wall was exposed during excavation prior to encountering the spread footer.

Feature 28 (Context 163)

Feature 28/Context 163 was a stone and mortar foundation with the footer (Context 171) exposed on the north side, the exterior side of the wall. Spatially, this feature lines up with the Feature 3 wall found by John Milner Associates in the middle of their Trench 2 excavation (John Milner Associates, Inc. 2013, 24, 26). Both features were encountered at a similar depth and exhibit a similar construction, so they likely represent a continuation of the same feature. The southern portion of this wall ran parallel to Feature 27, which was less than 1.5 feet to the south. During excavation, a section of this wall was mechanically removed to see what might lie beneath. Upon its removal, it was found that the Feature 28 wall and the adjacent Feature 27 wall sat atop large flagstone spread footers, a form of construction similar to the one employed for Feature 19 in Trench 3. The 2012 excavations noted a wider stone wall beneath their Feature 3 wall in their Trench 2 and attributed it to an earlier construction. The current excavations have found that this deeper “wall” made of larger stones represents a spread footer supporting the upper wall and therefore both sections of the wall are of contemporaneous construction.

Feature 29 (Context 172)

Feature 29/Context 172 was a wall made of brick, stone, and mortar (Photo 5.25). On the west profile, Context 172 was smeared to the north and the mortar extends farther in the profile than it likely did while the wall was intact. It is likely that the wall was associated with Feature 32/Context 182—a layer of wooden boards utilized as a living surface. Spatially, this feature lines up with the Feature 4 wall found by John Milner Associates in the northern end of their Trench 2 excavation (John Milner Associates, Inc. 2013, 24, 26). Both features were encountered at a similar depth and exhibit a similar construction, so they likely represent a continuation of the same feature.

Photo 5.25. Feature 30 post (left); Feature 29 wall (right).

Feature 30 (Context 181)

Feature 30/Context 181 was a wooden post that appears to be “driven” into the underlying matrix, as it has no associated posthole (Photo 5.25). It was 3 feet south of wall Feature 29 and probably associated with that structure—possibly a post for a “lean-to” off the exterior of a building. Future machine excavations may reveal other associated posts that allow its function to be confirmed.

Feature 32 (Context 182)

Feature 32/Context 182 was a collection of yellow pine floor boards running across part of the northern section of Trench 5 (Photo 5.26). It is likely Feature 32 was utilized as a living or working surface on the interior of a building. While the southern end of this floor surface was partially truncated by mechanical excavation during the current effort, it was determined from the profile that the Feature 32 floor had extended all the way south to the Feature 29 wall. It therefore appears that Feature 32 was the interior floor of the structure that had Feature 29 as its south wall. The northwestern portion of the Feature 32 floor had been previously disturbed by the excavation of a builder’s trench for a mid-twentieth-century concrete footer recorded as part of Feature 38. Examination of the east wall of the trench suggests that prior to this modern disturbance, this floor surface continued at least as far north as Feature 38, if not farther.

Photo 5.26. A view of the north end of Trench 5 showing the Feature 32 floor surface in situ.

Feature 38 (Context 200)

Feature 38 was a possible remnant of a mortared stone wall at the northern end of Trench 5, a location that had been substantially impacted by the installation of a twentieth-century concrete footer. This collection of mortared stone is potentially the northern edge of the foundation to a one-story masonry building depicted on the 1858–1859 Hexamer map. This structure has no address, but sat to the north of 307 Water Street and was replaced by the Delaware Avenue Market Company of Philadelphia building after 1873 (Hexamer

& Locher 1859, Deeds, Deed between Edward Browning and the Delaware Ave. Market Company of Philadelphia 1873). The south side and west side of the feature is made of concrete, which still has its vertical sheet of plywood, a remnant wooden form, used when the modern pier footing was installed during the building of the Hertz maintenance facility. This modern concrete pier footer essentially replaces the stone portion of the original wall, leaving on a small bit of articulated stone and mortar structure along the east wall of the trench. Feature 38 is located within the twentieth-century builder's trench cut, which was subsequently infilled by Contexts 194 and 195. At one point, a wooden floor associated with this structure sat to the south, suggesting that to the south of this wall may have been the building's interior.

Feature 39 (Context 201)

Feature 39 was a hand-hewn wooden beam running east-west across Trench 5 (Photo 5.27). This hewn timber had been partially truncated along its western edge by a cut created to install the concrete portion of Feature 38 during the construction of the Hertz maintenance facility. Test Unit 3 was dug along the south side of Feature 39 and revealed that Feature 39 was a single timber set into the Context 195 fill and was not directly stacked or attached to another timber. The matrix of fill sediment containing the Feature 39 timber was Context 195, a gray (10YR51/) sand that included numerous pieces of woodworking debris (ax-chip cuts) and decayed wood pulp. Underlying this timber were two additional timbers running more or less perpendicular to the orientation of Feature 39. These deeper pieces of structural wood, Contexts 221 and 224, were suspended in the same Context 195 fill matrix, suggesting they were installed at the same time as Feature 39 (Figure 5.9). This lattice of overlapping runs of timbers are potentially representative of a grillage wharf structure similar to the one identified by John Milner Associates in their Trench 2, located just to the west. Water inundation prevented a deeper investigation of the timbers, but given the dredge spoil material of the surrounding Context 195 fill and the overlapping alignment of the timbers observed in the trench, it is likely that Feature 39 is part of a grillage wharf system designed to reclaim land from the Delaware River.

Photo 5.27. Feature 39 timber in Trench 5.

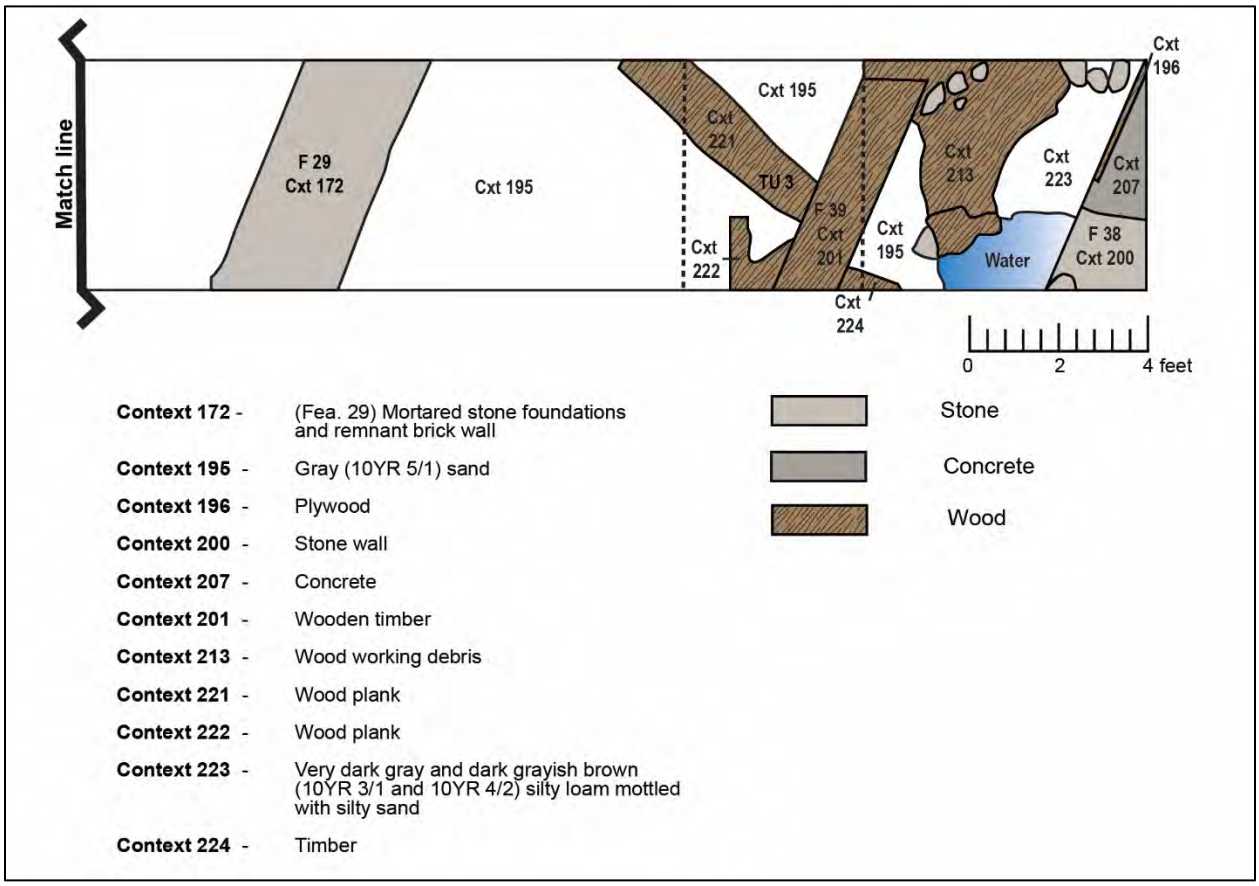


Figure 5.9. Plan view of the closing extent of the north end of Trench 5.

Feature 41 (Context 211)

Feature 41 was noted during mechanical trench excavation. This fill layer was associated with the infilling of a historic post once it was removed. The post may have been associated with structural wall Feature 29. This stain was noted in the east profile wall of Trench 5 during machine excavation. A profile drawing of this wall was not created, but it was photo-documented. This feature was added to the plan view drawing.

Feature 43 (Context 213)

Feature 43 describes one of the decaying hewing chip cuts found in the Context 195 fill matrix in the northern end of Trench 5, between Features 39 (timber) and Feature 38 (a stone and mortar wall). Feature 43/Context 213 was not really a feature, but rather a larger than average piece of woodworking debris resulting from the hewing of logs. It was initially thought to be part of another timber similar to Feature 39, but upon investigation was determined to be only about a foot in length, round on the back, and ax cut at each end of the grain. It was determined that this was representative of a chip cut or squaring cut, in which sections of a log are notched with an ax at intervals along the length of a potential beam, and then a hewing ax is used to cut off those areas in small sections, creating a flat face on the edge of a timber. Examination of the wood retrieved from this context revealed that the wood in question was white oak, not the yellow pine found in the overlying floor levels. The inclusion of this context within the Context 195 matrix, a fill laid down during the creation of a wharf, suggests that this hewing off-cut was deposited at the same time as the wharf's creation, and may be related to the shaping of timbers for a wharf structure, such as the adjacent Feature 39.

6. Site Interpretation

The interpretation of the archaeological deposits encountered during this excavation relied on data from previous investigations, as well as historical research. Interpreting the past and present archaeological deposits within the Vine Street lot required thinking about those archaeological deposits as the physical traces of the historical events that shaped the development of the waterfront. As more historic research was undertaken and more of the site has been archaeologically investigated, our ability to interpret the past and present archaeological findings improves. Establishing a correlation between historical events and archaeological deposits is key to establishing a chronology for the site. Determining how historic events manifest archaeologically (site formations processes) means accounting for how historic and modern grading, demolition, building, cutting, and infilling affect the survival of historic landscapes. By unpicking these site formation processes, we can establish what we have found and increase our understanding of the development of this site.

Previous reporting efforts focusing on the archaeology of the Hertz lot and West Shipyard lot have demonstrated that twentieth-century grading related to the creation of the railyard, and then its subsequent removal to create the Hertz parking lot, severely truncated the deposition in the area (Weber and Yamin 1988/2006, John Milner Associates, Inc. 2013). All excavations conducted on the site to date have found no real trace of any railroad-related deposits on the site. The absence of such deposits confirms the interpretation that when the Hertz lot parking lot was established, a substantial bulk of fill sediment was removed. The height disparity between the extant portion of Water Street and the grade of the parking lot surface, about 5 feet, was a testament to this truncation. This truncation has been previously suggested to have extended down to a level associated with the late-nineteenth-century occupation of the project area, as the stone walls encountered during previous excavations were interpreted as relating to this later period (John Milner Associates, Inc. 2013). The current excavations seem to suggest that much of the built environment observed archaeologically may, in fact, be representative of the period predating 1850, including the foundations observed in previous excavations. If this interpretation remains valid, then the later nineteenth-century landscape was also graded away during the railyard and Hertz lot occupations of the late nineteenth and early twentieth centuries, leaving only earlier material behind. Support for this interpretation comes in many forms, but chief among them was the lack of artifacts dating to the late nineteenth century or early twentieth century across the site. During the 2012 excavations, the artifacts found in the deposits associated with foundations were all late eighteenth to early nineteenth century in date, with yellowware ceramic being the latest dated material with a manufacturing date of 1828–1930. Based on the artifacts alone, such deposits appear to be at the latest mid-nineteenth century in origin, not late nineteenth. This absence of late-nineteenth-century material was difficult to explain, if indeed the built environment observed in both the past and present excavations were correlative to the late-nineteenth-century occupations of the site. However, if such structural remains were interpreted as relating to an earlier period, and the late-nineteenth-century occupations were interpreted as having been graded away, then this observation largely resolves.

Past interpretations of the site and its structural remains have relied heavily on historic mapping to provide indications of association for encountered structures. Unfortunately, most historic mapping for the project area does not become sufficiently detailed until 1858, when the Hexamer map series was drafted. While some of the observed walls do spatially correlate with the anticipated locations of structures from the late nineteenth century, this correlation was more an artifact of the persistence of property boundaries through the ages rather than a one-to-one correlation between buildings and walls and these later structures. Many walls found in the southwest of the lot during the 2012 excavations were interpreted as being internal subdivisions related to the consolidation of the late-nineteenth-century apartment block (John Milner Associates, Inc. 2013). Additionally, those walls were thought to sit atop more deeply buried walls related to an earlier period. This interpretation seemingly overlooks the importance of the floor surfaces encountered during excavation and those areas wherein floor was absent (unlikely if it was part of one whole building). If the late-nineteenth-century interpretation model is set aside and the findings are reinterpreted considering an earlier landscape, such as the early-nineteenth-century plan drawn by Abraham Ritter in his book *Philadelphia and Her Merchants*, then these gaps begin to make sense. The

gaps between Features 3 and 4 in Trench 2 of the 2012 excavations were mirrored by walls in Trench 5 of the current excavation. The floor was found to the north and south of these walls, but the space between has no evidence for flooring. While this spacing was uncharacteristic of a late-nineteenth-century apartment building, it corresponds admirably with a wall shown on the Ritter map depicting the early nineteenth century (Ritter 1860, 34). The mapping of historic deed boundaries on the West lot during the second half of the eighteenth century shows that James West Sr. established an alley between the pieces of land granted in his will to his two sons James and Charles (J. West 1761). This alley seems to have remained a fixture of the landscape for most of the late eighteenth and early nineteenth century, as it is reflected in several early-nineteenth-century maps (Hills 1796, Ritter 1860, Tanner 1837). Based on the measurements given in these documents, the correlating 16-foot-wide alley corresponds closely with the gap between Features 3 and 4 in Trench 2 of the 2012 excavation and Features 28 and 29 of the current excavations in Trench 5. Given this correlation, the absence of flooring, and the presence of walls, it is likely that the structural remains encountered in Trench 5 and Trench 2 of the previous excavation are representative of the late-eighteenth- to early-nineteenth-century mercantile landscape of the West family (Figure 6.1).

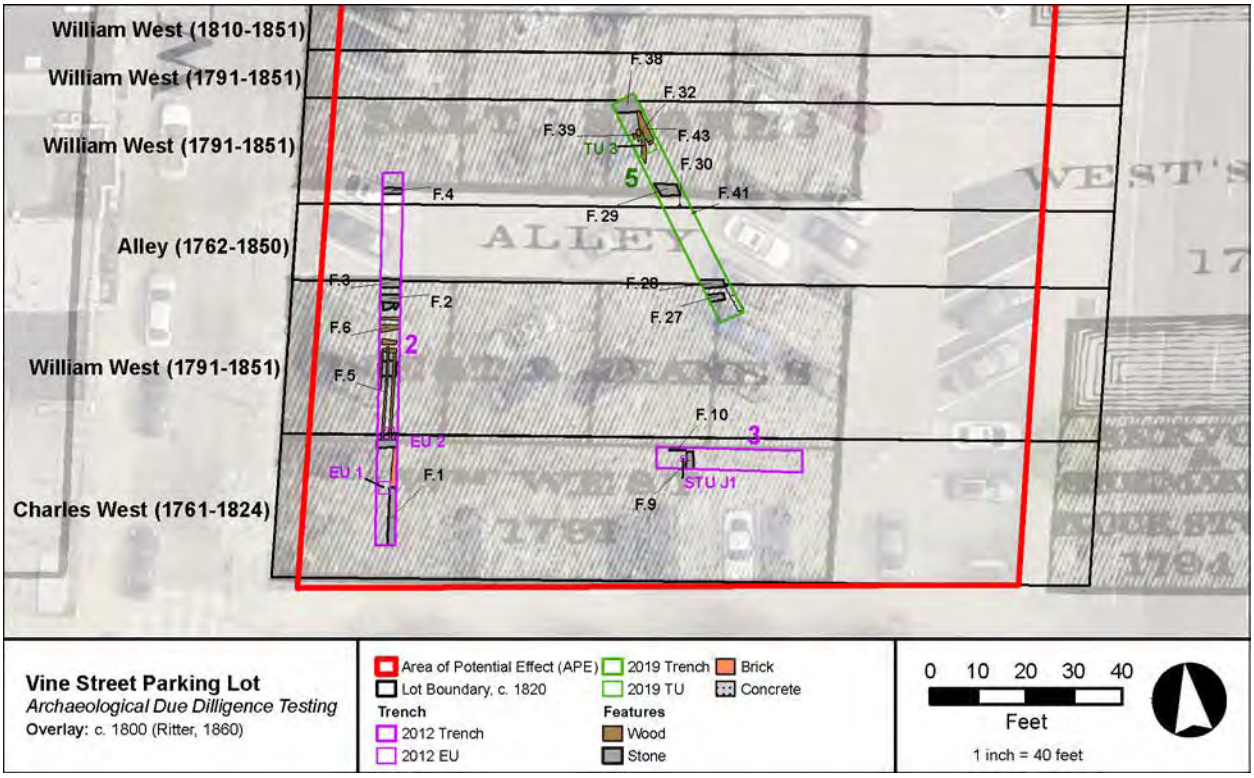


Figure 6.1. Overlay of circa- 1800 map of waterfront showing the correspondence of walls with the edge of alley on the West lot (left).

The interpretation that the observed walls were sitting atop earlier and wider early-nineteenth-century walls can similarly be refined. While evidence from the 2012 investigation and the current undertaking does indeed show stone walls sitting atop larger walls and flagstone structures, this does not inherently indicate multiple rebuilding episodes (John Milner Associates, Inc. 2013). The fact that these observed lower “walls” were substantially wider than the upper portions suggests that they were not walls, but rather step or spread footers for walls. Such footers were used to support the weight of structures built in unconsolidated material, by more evenly distributing the weight of the wall over a greater surface area and thus reducing subsidence. The use of this building practice within the project area, a landscape made entirely of unconsolidated fill, was therefore wholly appropriate. Under this interpretation, both the upper wall and footer were all part of the same temporally contemporaneous building system. Since these footers were dated by builder’s trenches to the early nineteenth century, the upper portions of those walls can also be temporally associated with that general date range (John Milner Associates, Inc. 2013).

If this interpretation of current and past archaeological data holds true, then one question remains: Why does there appear to be a stratigraphic division between the early- to mid-nineteenth-century deposits and the largely absent late-nineteenth-century deposit, such that the latter could be wholly graded away while the former remain intact and undisturbed? The answer to this question may lie in the defining events of July 9, 1850, the day of the Great Conflagration, which saw the project area and much of the surrounding neighborhood reduced to cinder.

Taking the fire into account has profound effects on the archaeological interpretation of the current project area and its subsequent development in the later nineteenth century. The contention posited here is that what principally survives beneath the current ground surface are remnants of a landscape that was deposited around 1850, having been destroyed in the fire, and subsequently covered over with debris and fill before late-nineteenth century structures were built. In the later development of the waterfront, the marketplace and apartment blocks were therefore built on and into fill sediments that postdate the 1850 fire. The filling and grading of the waterfront after the fire thereby established a stratigraphic break in the deposition that put vertical distance between these two temporal periods, such that subsequent grading could carry away the later deposits and leave no impact on the earlier landscape. Support for this contention was found in a pervasive deposit of brick and mortar demolition rubble capping most of the encountered foundation walls and floors. Almost every structure with a floor encountered had a cap of disarticulated brick and mortar in an approximately 1-foot lens over the entire structure. These deposits were further capped by additional deposits of demolition rubble mixed with sands, wood, and other material. While this was not atypical of urban fill, it was also possible that this represents a cap created by the demolition and preparation of the waterfront for rebuilding in the wake of the 1850 fire. If this was indeed the case, then it suggests that such a demolition level may be a reasonable indicator of time period within the stratigraphic profile. There were several instances stratigraphically where deposits of what appear to be burn lenses or burnt wood inclusions occur beneath these demolition fills (2012 - Trench 2, Context 15, Context 123, Context 158, and Context 161).

Other deposits of fill beneath the brick fill deposit may provide further insight into the activities of the surrounding neighborhood in the period prior to the fire. A prime example was Context 197 in Trench 4 of the current excavation, a deposit of heavily organic material riddled with larger concentrations of domestic ceramic from the late eighteenth to the early nineteenth century. This deposit both capped and abutted a remnant foundation of a stone structure with a brick porch, and there was no evidence of a builder's trench, suggesting that the structure was covered over by this material. The Context 197 deposit was highly curious, as it contained so many large sherds of domestic ceramic that was difficult to account for in an environment that was principally commercial. However, if we consider this deposit as imported fill associated with locally demolished buildings deposited as leveling fill for the rebuilding of the waterfront, then the origin of such domestic material can be seen as having been derived from the debris of the burned domestic properties of Water and Front Street to the west.

This interpretation also accounts for the presence of logs and timberwork, as well as riverbank deposits associated with the earliest wharfing episodes in the first half of the eighteenth century. In Trenches 1, 3, and 5 of the current effort and Trench 2 of the 2012 effort, large hand-hewn timbers were located and were interpreted as belonging to early wharfing episodes. In the northern end of Trench 5 timbers akin to the Feature 6 grillage wharf structure found by John Milner Associates in 2012 were located. These additional timbers—like Feature 39, Context 221, and Context 224—suggest the survival of a large and intact grillage wharf structure in the southern half of the Vine Street lot. The presence of a deposit of woodworking debris similar to the 2012 Feature 7 deposit was similarly found in Trench 1 of the current effort (Feature 3/Context 9). All this material was more or less directly overlain by deposits related to stone foundations. If 150 years or more of waterfront development occurred between the deposition of these early shipbuilding and wharf construction deposits, more substantial fill deposition and builder's trench cuts related to the construction of the late-nineteenth-century walls would be expected. Instead, we see only shallow cuts, if any. In some locations, like the footer for a wall in Trench 3, the larger footer stones for the building sat atop wooden piles driven into this early matrix and the stones sat directly atop this early riverbank deposit. The physical relationship between these deposits was suggestive of a more direct temporal relationship.

The nature of the evidence for shipbuilding on the site was largely predicated on historical documentation and the pervasive presence of woodworking debris. In Trenches 1 and 3 of the current effort and Trench 2

of the 2012 excavations, this woodworking debris layer was found at an average depth of 6 feet BGS and typically capped a natural Trenton gravels deposit. As far as evidence of shipbuilding in the early period is concerned, such woodworking debris may be as robust as the evidence for that activity ever gets. Shipbuilding in the late seventeenth and early eighteenth century, especially mercantile shipping, was generally more focused on smaller craft of fewer than 100 tons. The requirements for building a vessel of that size were remarkably simple, requiring in general a stable bank of less than 15° slope at a point in the river where the water slows and becomes less fast flowing. The actual structure required to build a ship was remarkably ephemeral, needing only a clear space to layout a keel and several posts to hold it in place as the vessel takes shape. The material remains of this action then were apt to be little more than a few postholes or support timbers sunk into the mud of the riverbank. While the aforementioned posts and supports do likely survive, their full meaning will require a much larger window to identify the patterning of the post and supports sufficient to understanding how shipbuilding was undertaken in this area. Examination of a 1754 view of the Delaware River waterfront shows a great number of vessels under construction along the bank of the river, many of them within the northern portion of the current Vine Street lot. However, apart from one vessel (a small vessel that appears to be related to the Britton yard south of Vine), all the other ships under construction were shown on the bare riverbank in cleared areas amongst the reeds (Heap, Scull and Jefferys 1754) (see Figure 3.2 in Chapter 3 above). This lack of established infrastructure suggests that perhaps the layer of woodworking debris encountered in the westernmost test areas during the current and 2012 excavations might be the most tangible evidence of the shipbuilding activity that can reasonably be expected, given the scale of current testing. Historical documents and deed research indicate that the shipbuilding industry had all but faded from the project area by the third quarter of the eighteenth century, with the waterfront being developed for more mercantile endeavors. Shipbuilding, an activity better suited to the fringes of the city, moved northward in Northern Liberties.

This interpretation of the ephemeral nature of colonial shipbuilding does raise questions about the remarkably well-preserved slipway uncovered during the 1987 excavations of Carmen Weber. Based on artifact dates, Weber has ascribed the creation of the slipway to a merchant named Thomas Leiper, who took ownership of the property in 1810, a period well after the heyday of shipbuilding within the project area (Weber and Yamin 1988/2006, Deeds, Deed between the Bank of Pennsylvania and Thomas Leiper 1810). The datable material related to the construction of the slipway feature spans the late eighteenth to early nineteenth century, with the ceramic assemblage being principally comprised of of pearlwares. Apart from the pearlwares and creamwares, which have manufacturing dates into the early nineteenth century, the remaining material is comprised of white salt-glazed stoneware, tin-glazed earthenware, and Chinese export porcelain, which were most common in the second half of the eighteenth century. Weber suggests that the wooden tracks found in the slipway are sufficiently similar to a terrestrial railway established by Mr. Leiper to lend credence to him being the originator of the feature. The only problem is that by the time Leiper took over the property in 1810, the shipbuilding trades had abandoned this area of the city, and it was firmly a mercantile area, with Mr. Leiper himself being a merchant. The last shipwright to occupy the Langston lot, where the slipway was found, was Christopher Smith, who had stopped building ships there by 1784. There is little indication that after this time the ground was used for anything other than mercantile trade, so the creation of a slipway for ship construction or repair would have been an unnecessary and expensive investment for any of the subsequent owners like Isaac Hazlehurst or Thomas Leiper, who were merchants and had no vested interest in shipbuilding. Furthermore, there is no documentary evidence to suggest that either a shipwright or a shipyard were in operation in this area during the early nineteenth century. A more plausible explanation is that the slipway was built by Christopher Smith or the Lynn family in mid-to-late eighteenth century and was subsequently abandoned and infilled in the early nineteenth century during the tenure of Isaac Hazlehurst and Thomas Leiper.

Given the significance and integrity of the slipway structure encountered in 1987, all of the slipway timbers were left in place and no excavation was undertaken beneath its structure. The material used to establish the date for the construction of the slipway came from deposits within Excavation Register (ER) 13 and ER 14 in Test Trench 1 of the 1987 excavation, principally from Level C. According to profiles in ER 14, the Level C deposit sat atop of the Feature 24 and Feature 23 wooden rails for the slipway (Weber and Yamin 1988/2006, 23). No cultural material is reported for levels E–G, which were the fills located between the aforementioned wooden rail features. All of the fills between and above these wooden tracks, including Level C, necessarily postdates its construction as it could not have been established while it was still in

use. While levels E-G might predate the construction of the slipway no datable material was recovered from those deposits and since there are no evident builder's trenches in cut into those deposits it is more likely that the Feature 23-24 rails were installed and then the area between infilled. As the material used to date the slipway's construction came from deposits excavated from the bottom and interior of the slipway it therefore must post-date its construction. Such deposits do not date the construction of the slipway, but rather its abandonment. The only thing that is therefore certain about the construction of the slipway is that it predates the early nineteenth century, as the fills on its interior related to the abandonment infilling date to that time. This new interpretation of the data related to the slipway pushes it construction back into the eighteenth century during the time of the shipwrights of the Lynn family and later Christopher Smith, helping to resolve the difficulty trying to associate the slipway with the merchant Thomas Leiper in the early nineteenth century who had no real connection to shipbuilding. The archaeological evidence for a late-eighteenth-century to early-nineteenth-century abandonment and infilling of the slipway seems to hold with the known property history for the Langston lot, with shipbuilding on the site ending in the mid-1780s and the area being subsequently taken over for mercantile activities.

7. Summary and Recommendations

Summary

All the available evidence from excavations performed within the Vine Street lot seems to suggest that beneath the surface of the parking lot, the historic waterfront from the late seventeenth century to 1850 remains intact and well preserved. Investigations of possible modern disturbance associated with the Hertz occupation revealed that more recent activities have likely only disturbed archaeological deposits in a few discrete locations, the most notable being the site of a former fuel tank encountered in Trench 3. Based on the results of the current excavation, it appears that disturbance is the exception, not the rule. Even in areas like the footprint of the Hertz maintenance facility, which was tested via Trenches 4 and 5, potentially significant and intact archaeological deposits were encountered. Some of this high degree of preservation may be the result of the destruction of this section of the waterfront in 1850, the subsequent redevelopment effort essentially burying the earlier landscape under fill and preserving it from the impact of later disturbance. The fact that evidence of earlier waterfront usage for shipbuilding and wharf expansion has been found beneath and between these late-eighteenth- and early-nineteenth-century structures is a good indicator that deposits related to the earlier seventeenth- and early-eighteenth-century periods will continue to be found intact, as well.

While the current archaeological findings suggest the potential for continued discovery of intact archaeological deposits, the interpretation of such material in relation to the historical record has the potential to be more complicated. The impact of the Great Conflagration on the project area means that we cannot assume that landmarks and structures depicted in late-nineteenth-century maps were reflective of the vestiges of the earlier landscape, as that earlier landscape was destroyed and rebuilt before more detailed maps were created. Because such available maps cannot be relied upon, archaeological data becomes ever more important to comprehending the spatial layout of the waterfront around the project area.

While the site is already listed on the NRHP, the recent reinterpretation of the available data suggests that the periods of significance for this area may extend up until the mid-nineteenth century, not just being confined to the earliest years of occupation in the late seventeenth and early eighteenth centuries.

The Durst Organization's proposed development of the southern end of the Vine Street lot has the potential to impact the surviving cultural deposits. In light of this, the archaeological data recovery has been planned as a mitigation to any adverse effects caused by their proposed construction. The presence and preservation of known significant cultural deposits and features, like the slipway revealed by Weber in 1987, are being considered as factors in the planning of the development within the Vine Street Lot. While project designs remain in the early stages of development, the desire to preserve significant archaeological features like the slipway in situ, have helped direct development plans concentrating them more to the southern half of the lot. While such avoidance is ideal and will serve to protect a great wealth of archaeological remains in the northern half of the lot, development in the southern half of the lot has the potential to adversely impact archaeological deposits in which the current effort has demonstrated are apt to be equally significant. If future development activities will be localized in the southern half of the lot, and resources in that area cannot be avoided, an archaeological data recovery will be undertaken to capture the information contained within the portion of the site that will be adversely affected during construction.

Recommendations

Previous archaeological efforts interpreting the Hertz Lot/West Shipyard Site have broken down recommendations for further work based on the temporal association of the features and deposits encountered. John Milner Associates has previously suggested four such temporal periods: post apartment block, apartment block, mid-eighteenth-century to mid-nineteenth-century post-wharf construction and occupation, and the James and Charles West period (late-seventeenth- to early-eighteenth-century)

occupations. In general, AECOM concurs with these temporal classifications, but as the scope for the due diligence testing area extends beyond the West lot and covers the bulk of a city block, the aforementioned temporal classifications require some adjustment. AECOM proposes not four by five such temporal periods: Early Waterfront Development and Shipbuilding (1680 to 1780), Mercantile Period (1780–1850), Post-fire Redevelopment Period (1850–1870), Late-nineteenth-century Commercial Period (1870–1895), and the Modern Period (twentieth century Railroad and Hertz occupations).

Modern Period

As stated in the John Milner Associates report, the archaeological deposits related to the turn of the century railroad occupation and subsequent late-twentieth-century Hertz Rent-a-Car occupation do not have archaeological significance. While remains of the Hertz facility were found in Trenches, 2, 4, and 5, such remains were purely structural, comprised of reinforced concrete slab and footers for the main Hertz building and its support structures. The northern end of Trench 3 was highly disturbed as a result of a buried tank installed as part of this occupation. As all this material is relatively modern, and well documented via photography and aerial imagery, further documentation of this period of the site's use is not warranted. Documentation of the railroad-related usage of the site is also not significant, given the limited archaeological potential for understanding the site and, more importantly, the site-wide lack of any deposits related to this occupation. No cultural deposits were encountered that could be clearly related to this late-nineteenth- to early-twentieth-century usage of the site; it seems to have been graded away in preparation for the construction of the Hertz lot.

Late-Nineteenth-Century Commercial Period

As per the recommendation of John Milner Associates, deposits related to the late-nineteenth-century occupation of the site are also deemed not significant (John Milner Associates, Inc. 2013, 39-40). The late-nineteenth-century development of the Vine Street lot saw a substantial increase in the quantity of domestic and small commercial dwellings occupying the northern portion of the project area, a location that had for much of the first three quarters of the nineteenth century been occupied by lumber and coal yards. The southern portion of the lot saw the creation of a large market building in formerly largely open areas, as well. Documentary research has shown that the bulk of the structures dubbed late-nineteenth-century apartment blocks were in fact built as part of the post-fire reestablishment of mercantile warehouses and counting houses along the newly built Delaware Avenue. Archaeological remains of this later commercial and domestic occupation period have thus far shown to be largely elusive. In the northern portion of the parking lot, in Trench 1 and 2, no evidence of the late-nineteenth-century occupations or dwellings was encountered in the current excavations, nor were such structures encountered during the 1987 excavations (Weber and Yamin 1988/2006). Here, too, it seems like most of the cultural deposits related to this period were graded away, either as part of the preparation for the railroad or as part of the grading that removed the railroad deposits in order to create the Hertz facility. While such deposits are thus largely absent and therefore not significant, should features related to this period manifest, they could be given a cursory examination and documentation and then be removed, as they do not contribute substantially to the understanding of the site, and numerous examples of archaeological sites from this time have been examined in the surrounding area (AECOM Burlington 2014).

Post-Great Conflagration Waterfront Redevelopment Period

Archaeological deposits related to the period after the Great Conflagration in 1850 were potentially encountered in several trenches during the current excavation effort. Foundation walls found in Trenches, 2, 3, and 4 might well relate to structures depicted on 1858–1859 Hexamer maps of Ward 11 (Hexamer & Locher 1859). Such structural features are related to a period wherein the landscape of the block, and much of the eastern part of Northern Liberties, was remade—and when Delaware Avenue was first established in this area. Examination of these structural features is important to understanding whether portions of the pre-fire landscape were incorporated into the new layout, or whether, as it seems to appear, the landscape of the area was wholly transformed from a landscape dotted by smaller warehouses and shops crisscrossed by alleys, all leading to an informal track along the water, to a formalized block with Delaware Avenue as its eastern boundary—formally establishing the waterfront as separate from the water lots along Water

Street. AECOM recommends that foundations and deposits related to this period be fully documented and mapped prior to their removal, as they are representative of the birth of the modern landscape and layout of the waterfront. Detailed insurance records and documentary evidence about the reconstruction of these structures in 1850/1851 shows that they continued to serve a mercantile function even after the fire, and thus can provide valuable insight into the change and or continuity of activities of the mid-nineteenth-century riverfront economy.

Potential Research Questions

- *What, if any, deposits can be conclusively related to the aftermath of the Great Conflagration and how do they manifest archaeologically? Is such evidence seen across the site or only in discrete locations?*
- *How did the changes to the Vine Street lot after the Great Conflagration, such as the creation of Delaware Avenue, impact the redevelopment of the Vine Street lot in the mid-nineteenth century?*
- *Without direct access to the waterfront, how did the use and layout of the mercantile landscape evolve? As the wharf-related activities moved east toward the river on the other side of Delaware Avenue, did tradesmen and craftsmen migrate or did they maintain a presence within the newly rebuilt landscape?*

Early Mercantile Period

The early mercantile period corresponds broadly with the mid-eighteenth- to mid-nineteenth-century post-wharf construction and occupation category put forth by John Milner Associates (John Milner Associates, Inc. 2013, 40). John Milner Associates recommended that features and deposits relating to this period could have archaeological significance. AECOM identified numerous structural features related to this time period, including Features 42 and 44 in Trench 4 and Features 28 and 29 in Trench 5. In light of the evidence of the Great Conflagration, which marks the end of this temporal period, AECOM has also suggested that several of the features identified in Trench 2 by John Milner Associates in 2012, and corresponding features found by AECOM during the current excavation effort, are in fact related to this earlier pre–Great Conflagration landscape and are not indicative of a later apartment block landscape, as previously proposed. The high degree of preservation of deposits from this period and the demolition layer from the fire providing a distinct temporal marker in the site stratigraphy suggest that a little-documented and poorly understood archaeological landscape related to the development and growth of the waterfront during the late colonial period, the American Revolution, and Federalist period survive here. As many of these structures and deposits, like Features 42 and 44 in Trench 4, are built upon wharves that were not built until the mid-eighteenth to late eighteenth century, such deposits have a definitive TPQ and TAQ. As this entire landscape was destroyed by fire and then apparently filled and rebuilt in a drastically different configuration, archaeology is the only means by which to examine the state of the waterfront in the early days of the nation. Deposits relating to this period are therefore highly significant and should be recorded in detail so that a robust picture of this early waterfront landscape can be reconstructed. Given the depositional integrity of such deposits, and their potential to provide great insight into the growth, development, and operation of the colonial and early American waterfront, these deposits are eligible for inclusion on the NRHP under Criterion D.

Potential Research Questions

- *How did the transition to mercantilism in the late eighteenth century change the physical landscape of the Vine Street lot? What was the physical layout of the mercantile waterfront? How did merchants use the landscape of the waterfront, and what was the role of warehouses and other structures related to the wharves and waterfront?*
- *What role did the wharves play in mercantile commerce along the Delaware River? Were wharves used only as a place to load and offload cargo, or were they also places of commerce and trade? Were structures built upon the wharves and, if so, what were their functions? Does the physical construction of observed wharf structures provide any indication of how they were used by merchants?*

- *Are there any physical remains indicative of the trading activities that were carried out by merchants who occupied the Vine Street lot, or did they deal principally in perishable materials that are not well represented in the archaeological record? How did the Philadelphia merchants who occupied the Vine Street lot fit within the greater framework of Atlantic World trade?*
- *Does any evidence of the tradesmen and waterfront industries that supported the merchants survive in association with the mercantile landscape? If so, what industries are represented and how do they manifest archaeologically? What was the role of these trades in supporting the mercantile economy of late-eighteenth- and early-nineteenth-century Philadelphia?*

Early Waterfront Development and Shipbuilding

As stated by John Milner Associates, any deposits related to the early shipbuilding industry or early construction of wharves along the Delaware River waterfront have a high archaeological significance (John Milner Associates, Inc. 2013, 40-41). During the current excavations in Trench 5, a series of rough timbers were found beneath historic foundations that appear to be related to the proposed early grillage wharf observed by John Milner Associates in their Trench 2. Trenches 1 and 5 both produced layers of woodworking debris associated with the hand-hewing of timbers, likely related to waterfront carpentry activities like shipbuilding and cooperage. The presence of this intact evidence of the earliest usage of the Delaware River waterfront and the origin of the wharfed-out shoreline, in combination with the previously encountered evidence of a similar nature from the preceding two excavations, suggests that deposits associated with this period not only survive but possess depositional integrity. The informational potential of these archaeological deposits makes them highly significant and eligible for inclusion on the NRHP under Criterion D. Study of such deposits can shed new light on the vernacular shipbuilding traditions of the late seventeenth and early eighteenth centuries in the Delaware Valley, as well as the development of the colonial waterfront.

Potential Research Questions

- *What are the tangible archaeological remains of the shipbuilding industry that occurred within the Vine Street lot? Is the evidence of this industry particularly ephemeral, or do more robust indicators of this activity, such as slipways, survive? If substantive evidence of shipbuilding survives, can the archaeology be used to determine the scale of the shipbuilding effort, the techniques employed, or the scale and type of the vessels constructed there? Can historic documents provide the names and dimensions of historic vessels constructed by shipwrights and, if so, how would vessels of such dimensions have been built or arranged in the landscape of the shipyard, given the archaeological evidence? What might such an effort tell us about how shipbuilding in Philadelphia was undertaken?*
- *How does the evidence of shipbuilding found at the Vine Street lot relate to other contemporary shipyards in the greater Atlantic World? Were the shipbuilding techniques and shipyard layouts used in Philadelphia unique or did they follow a layout to other yards seen throughout the Atlantic World?*
- *How were the seventeenth-, eighteenth- and early-nineteenth-century wharves within the Vine Street lot constructed? Did construction techniques show consistency based on the temporal period of construction, suggesting a predictable chronology for wharf building techniques, or was there substantial variability in construction techniques between properties owned by different landowners? Was the difference, if any, in wharf construction technique an artefact of the function of the waterfront improvement? Specifically, is there a notable difference between construction techniques for wharves used for shipbuilding versus those later wharves used for mercantile actives? How does this difference in use manifest in regard to the construction of the wharves themselves?*
- *How does the observed waterfront development chronology of this site compare to other contemporary waterfront sites in Philadelphia, like the Meadows Site? How does the waterfront development sequence for the site compare to temporally contemporaneous sites in other North American cities? How can the similarities or differences be explained, if at all?*

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Appendix A. Master Context Log

Master Context Log						
Context	**Type**	**Horizon**	**Soil Description**	**Notes**	**Trench/Unit(s)**	**Feature**
1	Modern Fill		Modern Asphalt Tarmac black (10YR2/1)	Modern parking lot surface 1970-present	Site-Wide	
2	Modern Fill		very dark grayish brown (10YR3/2) SiLo with 80% 6" angular gravels	Modern fill related to parking lot construction	Site-Wide	
3	Fill		black (10YR2/1) SiSaLo fine sand small angular gravels	A thin band of black	TR1	
4	Fill		dark yellowish-brown (10YR4/6) Sand small rounded gravels	minor brick inclusions	TR1	
5	Fill		Dark olive-brown (2.5Y3/3) SiSa 20% sub-angular gravels	minor brick inclusions, coal, slag	TR1	
6	Fill		Dark gray (2.5Y4/1) SiSa	Fine sand component, homogenous dredge soils	TR1/Unit 1	1
7	Structure		Mortared Schist wall	Perpendicular to Water Street abuts Context 8	TR1/Unit 1	1
8	Structure		Mortared Schist wall	Parallel to Water Street abuts Context 7	TR1/Unit 1	1
9	Feature		very dark brown (10YR2/2) wood and loam	A dark deposit of wood chips from hewing	TR1	3
10	Structure			A wood beam running E/W	TR1	4
11	Structure			A wood beam running N/S	TR1	4
12	Feature			Plank frag North	TR1	4
13	Feature			Plank frag South	TR1	4
14	Structure			Plank/beam running E/W	TR1	4
15	Structure			Plank/beam running E/W	TR1	4
16	Structure			Plank/beam running E/W	TR1	4
17	Structure			A large hand-hewn beam E/W, sticking out of East wall of Trench 1	TR1	5
18	Decaying Plank		black (10YR2/1) SiLo	A decayed remnant of an E/W running plank	TR1	
19	CONTEXT 19 REMOVED					
20	Fill		Dark deposit west of Feature 1	Likely beam	TR1	
21	Feature		Dark soil with intact brick w/mortar	likely basement rubble infill of Feature 1, combined with Context 32	TR1	
22	Fill		Dark grayish brown (2.5Y4/2) SiSa some clay inclusions		TR1	
23	Fill		very dark brown (10YR2/2) SiLo mostly wood pulp	Likely floor	TR1	
24	Fill		dark gray (10YR4/1) SiSa, minor brick inclusions		TR2	
25	CONTEXT 25 REMOVED					
26	Fill		black (10YR2/1) LoSa	organic with minor wood fragments, likely surface	TR2	
27	Natural	C-Horizon	brown (10YR4/3) Sand, medium-coarse, 40%-60% med to large rounded gravels	natural 'beachy' sands, related to Context 74 in TR1	TR2	
28	Fill		very dark grayish brown (10YR3/2) sand, medium-coarse		TR2	
29	Fill		gray (10YR5/1) SiCl brick inclusions, gley inclusions		TR2	
30	CONTEXT 30 REMOVED					
31	Natural	C-Horizon	Strong brown (7.5YR4/6 to 7.5YR5/8) sand with slight clay inclusions, small to medium cobbles	Trenton gravels, related to Context 92 and Context 93	TR2	

Master Context Log						
Context	**Type**	**Horizon**	**Soil Description**	**Notes**	**Trench/Unit(s)**	**Feature**
32	Interior Fill		very dark brown (10YR2/2) SaLo medium-coarse, small pebbles	Combined with Context 32	TR1	
33	Fill		Gray (10YR6/1) sand with fill with mortar inclusions		TR2	
34	Fill		very dark grayish brown (10YR3/2) SiSa 90% rounded pebbles	Some inclusions of brick & wood	TR2	
35	Fill		black (10YR2/1) SiSa 40% rounded pebbles	Thin band beneath railroad ballast	TR2	
36	Fill		Yellowish-brown (10YR5/6) Silt	A thin band of fill	TR2	
37	Fill		dark gray (10YR4/1) SiSa, brick & mortar inclusions		TR2	
38	Fill		Dark grayish brown (2.5Y4/2) medium-coarse sand	small rounded pebbles	TR2	
39	Fill		Very dark gray (2.5Y3/1) Silt	Contains a minor brick inclusion	TR2	
40	Fill		Gray (5YR6/1) fine sand	Ashy mortar deposit	TR2	
41	Fill		Light olive brown (2.5Y5/3) silt	fill lens	TR2	
42	Fill		dark gray (10YR4/1) SiSa 10% medium cobbles	post hole fill	TR2	9
43	Structure			0.5 x 0.5-foot wooden post	TR2	9
44	Structure			wooden beam	TR2	
45	Feature structure		A stone wall 3.4 feet thick	large mortared stone wall in line with the south end of the wooden nineteenth-century structure	TR2	10
46	Feature		A wooden plank 1.0 ft wide	The plank is mortared into the north side of Context 45	TR2	10
47	Feature		A wooden plank floor	N-S laid planks	TR2	11
48	Feature		A granite pillar base in TR2, South of floor	South of floor	TR2	12
49	Modern concrete block		A concrete block	South of the granite pillar base	TR2	13
50	A prepared base below wooden planks		pea-sized compact gravels w/ very dark brown (10YR2/2) SiLo and pockets of yellowish-brown (10YR5/8) SaCl	Below Context 47 / fill, SAME AS CONTEXT 67	TR2	14
51	Fill		brown (10YR4/3)	Abuts Feature 1	TR1	
52	Structure		A wooden joist underlying Context 47	1 of 3 joists underlying Context 47	TR2	15
53	Structure		A wooden joist underlying Context 47	1 of 3 joists underlying Context 47	TR2	15
54	Structure		A wooden joist underlying Context 47	1 of 3 joists underlying Context 47	TR2	15
55	Structure		A wooden plank in TR1	N-S laid plank	TR1	
56	Fill		A wooden plank in TR1	E-W plank overlaying Context 11	TR1	
57	Structure		A stone footing on the south side of the Feature 10 wall	Shown in planview drawing #1	TR2	
58	Structure		A large schist slab, dressed stone, well cap	Found at the same level/grade as Context 59	TR2	16
59	Structure		A large schist slab, dressed stone, used as a footer for the Feature 12 pillar	Found at the same level/grade as Context 58	TR2	12
60	Structure		A single course of brick supporting Context 48 pillar base	capped by mortar Context 61	TR2	12
61	Structure		A layer of mortar sitting atop of Context 60 holding Context 48 in place		TR2	12
62	Fill		A pocket of semi-articulate brick and mortar, very dark brown (10YR2/2) SiLo	on either side of Context 48 stone pillar base and caps Context 59	TR2	
63	Fill		A layer of brick chunks suspended in a mortar matrix	beneath Context 2 ballast layer	TR2	
64	Fill		Mixed fill dark gray (10YR4/1) SiSa with brown (10YR5/4) and dark brown (7.5YR3/2)	The south end of trench sediment mixed together likely when concrete pad Feat. 13 added	TR2	

Master Context Log						
Context	**Type**	**Horizon**	**Soil Description**	**Notes**	**Trench/Unit(s)**	**Feature**
65	Fill		very dark brown (10YR2/2) silt w/ large chunks of brick		TR2	
66	surface?		very dark grayish brown (10YR3/2) SaLo transitioning to dark brown (10YR3/3) SaLo with increasing gravel content by depth		TR2	
67	Fill		compacted brown (10YR5/4) coarse sand	A compacted fill layer into which floor joists were laid. This was a prepared surface	TR2	
68	Fill		compacted strong brown (7.5YR5/8) SiSa	A layer of silt capping a wooden floor Context 47	TR2	
69	Fill		Dark brown (7.5YR3/2) SiSa with wood	This fill deposit runs along the top of the floor planks (Context 47). It is likely just organically stained Context 68.	TR2	
70	Natural? Fill?		very dark gray (10YR3/1) SiSa	Medium-Fine sand, no major mixing, sandwiched between two layers of woody pulp, see Context 86	TR1	
71	Natural? Fill?		dark gray (10YR4/1) SaSi, 60% gravels	large planks present with large gravels	TR1	
72	Structure		Brick shaft wall – 3-foot diameter well	Beneath Context 58 well cap was not filled on the interior, sat above Trenton gravels	TR2	16
73	Fill		dark gray (10YR4/1) with brick and coal	Construction fill similar to Context 21 and Context 32 but inside Feature 1 underlying Context 51	TR1 / Unit 1	
74	Natural C-Horizon	C-Horizon	dark grayish brown (10YR4/2) sand	natural C-horizon heavily scoured "beach" sand, possibly same as Context 27 in TR2	TR1 / Unit 1	
75	Structure-related		Joist below wooden floor planks - part of Feature 15, along with Context 52-54		TR2	15
76	Structure-related, not in-situ		Wooden beam - shown in planview drawing #7	A wooden beam / probably a 4x4, not in-situ, located in the southern half of TR2 approx. 1.5ft South of Feature 10	TR2	
77	Structure		Wooden planks used as footers for the base of well	wooden "footers" placed at the base of a brick well, shown in drawing #5	TR2	
78	Stone		A stone south of wall Feature 10, shown in profile drawing #7	A stone below prepared floor surface Context 50/67, possibly structural related, shown in East profile	TR2	
79	Stone		A stone south of wall Feature 10, shown in profile drawing #7	A stone below prepared floor surface Context 50/67, possibly structural related, shown in East profile	TR2	
80	Stone		A stone south of wall Feature 10, shown in profile drawing #8	A stone below prepared floor surface Context 50/67, possibly structural related, shown in East profile	TR2	
81	Builder's trench		Mottled strong brown (7.5YR4/6) & dark yellowish-brown (10YR4/4) SiSa with gravels	This context is related to Context 58 / slab "cap" - mottled soils from the placement of slab over well	TR2	
82	Builder's trench		Around wooden plank/beam		TR1	17
83	Wooden structural supports		Abuts Context 72, bricks of well, "shoring"	These shoring timbers appear to have been used to support the brick wall of the shaft during construction	TR2	
84	Timber / structural		A timber most likely associated with wharf	There is a metal spike in one end of context, no more timbers associated	TR2	
85	wood "footers" under Feature 1 stone wall		Wooden footers under the stone/mortar structure of Feature 1	Very fragile and heavily decayed	TR1 / Unit 1	
86	Fill		Grayish brown (2.5Y5/2) Silt	The context sits beneath the builder's trench in TR1, see Context 70	TR1	
87	Wooden post		SW corner of West wall profile	Approximately 4' left	TR1	6
88	Beam		wooden beam in East wall of TR1 at Southern end		TR1	18
89	Fill		fill with brick inclusions, very dark grayish brown (10YR3/2) SiSa	Underlies Context 70	TR1	

Master Context Log						
Context	**Type**	**Horizon**	**Soil Description**	**Notes**	**Trench/Unit(s)**	**Feature**
90	Fill		gray (10YR5/1) Silt	Underlies Context 89	TR1	
91	Fill		Dark organic fill, very dark grayish brown (10YR3/2) SaSi	Underlies Context 90	TR1	
92	Natural soil	C-Horizon	Trenton gravels with small rounded pebbles, strong brown (7.5YR4/6) coarse sand	The first layer of Trenton gravels	TR1	
93	Natural soil	C-Horizon	Trenton gravels strong brown (7.5YR5/8) with rounded gravels	The second layer of Trenton gravels	TR1	
94	Structural		A wooden beam	hand-hewn beam along Feature 1 and 2, associated with builder's trench (Context 82)	TR1	
95	Fill lens		Black (10YR2/1) SiSa, medium-coarse sands with gravels	last fill layer that we hit the natural shoreline	TR2	
96	Structural		The stone and mortar foundation of a nineteenth-century structure	Eastern of trench 3, similar to Feature 2 in trench 2	TR3 / Unit 2	19
97	Structural		Floorboards on the interior of structure Feature 19	Eastern of trench 3, similar to Feature 2 and floorboards in Trench 2	TR3	20
98	Fill		Brown (10YR5/2) SiSa with large brick fragment inclusions	Context overlain by Context 2, overlies Context 99	TR3	
99	Fill		Gray (10YR6/1), mortar with chunks of brick	A prepared surface capping a wooden plank floor in Context 97 (Feature 20)	TR3	
100	Fill		Brown (7.5YR5/4) SiLo with inclusions of a large brick	Context abuts Context 102, overlies Context 101 and 104	TR3	
101	Fill		Very dark grayish brown (10YR3/2) SiCl and SiLo - medium gray SiSa with inclusions of brick and mortar	Context abuts Context 100, overlies Context 102 and 104	TR3	
102	Fill		dark gray (10YR4/1) SiSa; wall matrix; sandy decomposing mortar	A historic fill between Context 96, Feature 19	TR3	
103	Fill		Brownish-yellow (10YR6/6), SiLo; fill between context 96 and context 2, decaying mortar	Context is related to wall construction	TR3/TR4	
104	Fill		Brown (10YR4/3) SiLo	A dark-gray infill related to the construction of Feature 19, Context 96	TR3/Unit 2	
105	Fill		Dark yellowish-brown (10YR4/6) SiLo with small brick inclusions	A historic fill predating Feature 19, Context 96	TR3	
106	Fill		brown (10YR4/3) SiLo with brick inclusions	A historic fill predating Feature 19, Context 96	TR3	
107	Fill		Dark gray (7.5YR4/1) SiLo with brick and gravel inclusions	A historic fill predating Feature 19, Context 96, possible living surface or related to	TR3 / Unit 2 & extension	
108	Structural		Schist stone, possible footer		TR3	
109	Fill		Brown (10YR5/4) SiLo	Context is overlain by Context 2 and 100, overlies Context 101 and 105	TR3	
110	Fill		Brownish-yellow (10YR6/6) Silt	Context is overlain by Context 109 and 2, overlies Context 105	TR3	
111	possibly structural related		Possible historic living surface	Context is overlain by Context 107, overlies Context 112	TR3	
112	Fill		Dark yellowish-brown (10YR4/4) SiLo	Context is overlain by Context 111, overlies Context 113	TR3 / Unit 2 extension	
113	Fill		Black (10YR2/1) SiLo "damp"	Context is overlain by Context 112, cut by Context 114	TR3 / Unit 2 extension	

Master Context Log						
Context	**Type**	**Horizon**	**Soil Description**	**Notes**	**Trench/Unit(s)**	**Feature**
114	Fill		Brown (10YR4/3) Sand – medium-coarse	Context is fill sediment from conduit construction, overlain by Context 2	TR3	
115	Structural		A series of 8 conduit pipes/modern	Modern disturbance related to the installation of conduit	TR3	21
116	Structural			A wooden post within Context 107	TR3 / Unit 2	23
117	Fill		Very dark grayish brown (2.5Y3/2) mottled with olive-brown (2.5Y4/4) SiSa	A historic fill underlying Context 107 and is cut by Context 104	TR3 / Unit 2	
118	Fill		Black (10YR2/1) SiSa	A historic fill, very greasy petroleum laden fill	TR3 / Unit 2	
119	Fill		Black (10YR2/1) Sand with coal ash and cinder	A small dark band	TR3 / Unit 2	
120	Fill		Black (10YR2/1) SiLo	A dark historic fill overlying nineteenth-century schist wall	TR4	
121	Fill		Light olive brown (2.5Y5/4) mottled with very dark grayish brown (10YR3/2) SaLo	A historic fill with large brick inclusions north of Context 96	TR4	
122	Fill		Dark gray (2.5Y4/1) SiSa with small brick inclusions and small gravels	A historic fill abutting the interior of a schist wall	TR4	
123	Fill		Dark gray (2.5Y4/1) SiSa with inclusions of Gley2 5/10 brick, mortar, and burnt wood	Context cuts Context 107 in the south half	TR3 / Unit 2 SW1/4 ext.	
124	Fill		Reddish-brown (7.5YR4/4) SiSa with small gravels	The context contained tin-glazed earthenware and a pipestem	TR3 / Unit 2 SW1/4 ext.	
125	Structure		wooden floor joist		TR3	
126	Structure		wooden floor joist		TR3	
127	Structure		wooden floor joist		TR3	
128	Structure		wooden floor joist		TR3	
129	Structure		wooden floor joist		TR3	
130	Structure		mortared stone pillar		TR3	
131	Fill		Dark yellowish-brown (10YR4/4) Sand with rounded gravels	A medium-coarse sand	TR3	
132	Fill		Dark gray (10YR4/1) SiSa	A fill beneath prepared flooring, same as Context 147	TR3	
133	Fill		Dark yellowish-brown (10YR4/4) SiSa	Context is overlain by Context 117, possibly disturbed natural soils	TR3	
134	Fill		Reinforced concrete with rebar and crushed gravel prep below it		TR5	
135	Fill		Very pale brown (10YR8/2) construction sand	Context is sand laid over a concrete structure, Context 136	TR5	
136	Structural		concrete block	A large concrete structural footer at the southern end of the trench	TR5	25
137	Structural		A stone wall footer, made of mortared stone/granite	Context located beneath Context 96 wall	TR3	45
138	Structural		A stone wall footer, made of mortared stone/granite	A stone wall, made of mortared stone/granite	TR3	32
139	Structural		A stone wall footer, made of mortared stone/granite	Perpendicular to Context 137	TR3	33
140	Fill		Brown (7.5YR4/4) SiSa	Context is a fill with brick inclusions	TR5	
141	Fill		Dark brown (7.5YR3/2) SaLo	Context is a fill possibly associated with concrete slab, Context 136	TR5	
142	Fill		Yellowish-brown (10YR5/6) SiLo	A small fill pocket	TR5	
143	Fill		Brown (7.5YR5/3) SiSa	A dense fill with a large concentration of brick and mortar	TR5	
144	Fill		Strong brown (7.5YR5/8) SiLo	A very silty fill with mica and coal inclusions	TR5	
145	Fill		Gray (7.5YR5/1) coal ash	Coal ash with shell inclusions	TR5	
146	Fill		Brown (10YR5/4) mottled with strong brown (7.5YR4/6) SiLo	An extremely mottled fill with large brick inclusions. The Context overlies Context 97	TR3	

Master Context Log						
Context	**Type**	**Horizon**	**Soil Description**	**Notes**	**Trench/Unit(s)**	**Feature**
147	Fill		Brown (10YR5/2) SiSa	A fill horizon underlying wooden floor (Context 97) and subflooring (Context 131), same as Context 132	TR3	
148	Fill		Light brownish gray (10YR6/2) SiSa	The context is similar in color and texture to Context 150. Associated with the adjacent brick rubble.	TR3	
149	Fill		Very dark grayish brown (10YR3/2) SiLo	A large package of brick rubble overlying Context 137	TR3	
150	Fill		Light brownish gray (10YR6/2) SiSa	A light gray fill in the interior of contexts 137, 138 and 139	TR3	
151	Fill		dark yellowish-brown (10YR3/4) SiSa, 20% angular gravels	Similar to Context 117	TR3	
152	Fill		Strong brown (7.5YR5/8) mottled with light brown (7.5YR6/4) SiLo	Compact fill	TR5	
153	Fill		Very dark grayish brown (10YR3/2) SiSa	Brick and mortar inclusions	TR5	
154	Fill		Brown (10YR5/4) crumbling mortar	Redeposited mortar lens	TR5	
155	Fill		Brown (7.5YR4/4) sand	Medium coarse sand	TR5	
156	Fill		Brown (10YR4/3) SiSa	Context is slightly mottled with yellowish brown (10YR5/6) silt	TR5	
157	Fill		Strong brown (7.5YR5/6) SiLo	Context is part of the wall matrix. It contains mortar and schist throughout.	TR5	
158	Fill		Dark grayish brown (10YR4/2) fine-grain SiSa	Small brick inclusions and burnt wood, many large pieces of construction debris near the north end of trench	TR5	
159	Fill		Reddish gray (5YR5/2) coarse sand	Loosely packed with brick inclusions	TR5	
160	Fill		Brown (10YR4/3) mottled with 10YR5/6 SaSi	A thin lens with brick inclusions	TR5	
161	Fill		very dark grayish brown (10YR3/2) SiLo mottled with brown (10YR5/3) and dark yellowish-brown (10YR4/6)	Small brick inclusions of brick and burnt wood	TR5	
162	Structural			Stone, mortar and schist wall at the southern end of the trench	TR5	27
163	Structural			Wall at the southern end of trench, north of Feature 27, Context 162	TR5	28
164	Fill		Very dark gray (10YR3/1) SiLo, 40% gravel	historic fill associated with the mid-nineteenth century	TR4	
165	Fill		Black (10YR2/1) SiLo, 40% gravel	newer historic living floor, overlain by Context 164, cut by Context 122	TR4	
166	Fill		Brown (10YR5/4) SiSa	A leveling deposit for living floor, cut by Context 100	TR4	
167	Fill		Dark yellowish brown (10YR3/4) SiSa	An early living floor of the mid-nineteenth century, cut by Context 122	TR4	
168	Fill		Yellowish-brown (10YR5/8) sand, 60% small rounded gravels	A historic fill, grading fill related to nineteenth-century building, cut by Context 122	TR4	
169	Fill		Dark yellowish-brown (10YR3/6) SiLo, 15% gravel	A historic fill, grading fill related to nineteenth-century building, cut by Context 122	TR4	
170	Fill		Yellow (10YR7/6) sand	A historic fill, sandy pocket related to the construction of a stone slab	TR4	
171	Structural		Stone footer	A stone footer associated with Context 163, Feature 28	TR5	
172	Structural		Brick, mortar and schist wall	A stone wall in the northern end of the trench	TR5	29
173	Structural		Wooden pier footer post	Partially under Context 137	TR3	33
174	Structural		Wooden pier footer post	Possibly representative of another line of pier post parallel to Context 175	TR3	34
175	Structural		Wooden beam	Parallel to Water Street	TR3	
176	Structural		Wooden pier footer	Context is in line with Context 173 and parallel to Context 179	TR3	36
177	Structural			Stone footer of Context 96	TR4	

Master Context Log						
Context	**Type**	**Horizon**	**Soil Description**	**Notes**	**Trench/Unit(s)**	**Feature**
178	Fill		Very dark brown (10YR2/2) SiSa with clay inclusions	A historic fill yielding eighteenth-century artifacts	TR3	
179	Structural			Well shaft	TR3	31
180	Structural		Wooden "pipe"	A wooden pipe later discovered to be a section of a degraded telephone pole.	TR5	26
181	Structural		Wooden post	Wooden post still in the ground	TR5	30
182	Structural		Wooden floor	Wooden living surface, possibly the interior of a historic building	TR5	32
183	Fill			Rebar reinforced concrete slab, same as Context 134	TR4	
184	Fill		Strong brown (7.5YR4/6) medium-coarse sand	A modern fill associated with the reinforced concrete and asphalt parking lot	TR4	
185	Fill		Dark olive-brown (2.5Y3/3) SiSa	Trench fill from the construction of concrete slab, Feature 24	TR4	
186	Structural		Concrete slab	A concrete slab	TR4	37
187	Fill		Dark yellowish brown (10YR4/6) mottled with dark brown (10YR3/3)	A historic fill associated with the mid-twentieth century Hertz parking lot	TR4	
188	Fill		Brown (10YR5/3) SiLo	A fill layer holding wooden boards in place	TR5	
189	Fill		Dark grayish brown (10YR4/2) SiLo, compact with 20% sub-angular gravel	A fill deposit with large brick inclusions	TR5	
190	Fill		Brown (10YR5/4) SiSa, 5% sub-angular gravel	A sandy fill, abuts timber, small brick fragment inclusions	TR5	
191	Fill		Brown (10YR5/2) with coal inclusions	Coal flecking and mottling, strong smell of petroleum contaminant	TR5	
192	Fill		Very dark brown (10YR2/2) mottled with 7.5YR4/4 SiSa	Mortar mixed throughout	TR5	
193	Fill		Very dark grayish brown (10YR3/2) mottled with dark yellowish-brown (10YR3/4)	Ashy mixed fill	TR5	
194	Fill		Very dark gray (10YR3/1) SiSa, 30% sub-angular gravels	Mixed fill	TR5	
195	Fill		Gray (10YR5/1) sand	Fill below timbers	TR5 / Unit 3	
196	Structural		Plywood	Plywood at the edge of the wall in northern section of trench	TR5	
197	Fill		Black (10YR2/1) loam	Organic fill with mid-eighteenth-century artifacts	TR4 / Unit 4	
198	Natural soil	C-Horizon	Dark gray (10YR4/1) SiSa	First of natural river soils with some cultural material	TR4 / Unit 4	
199	Natural soil	C-Horizon	Light gray (2.5Y7/1) medium-coarse sand	Beach sands with marine faunal	TR4 / Unit 4	
200	Structural			A stone wall in the north side of the trench	TR5	38
201	Structural		Wooden timber	A large wooden timber	TR5	39
202	Natural soil	C-Horizon	Loose rounded river cobbles	Stops about 6 feet past Feature 24 to the south at 7 feet down	TR4	
203	Fill		Dark grayish brown (10YR4/2) very firm SiLo	Artifacts recovered from sampled screening	TR5	
204	Fill		Black (10YR2/1) SiLo	A black organic lens anywhere from 0.40 to 0.60 feet in thickness of historic fill	TR5	
205	Fill		Dark gray (10YR4/1) to very dark gray (10YR3/1) SiSa, 30% small gravels	A large concentration of red roofing tiles recovered, possibly wasters or ship ballast dump	TR5	
206	Fill		Strong brown (7.5YR5/6 to 7.5YR5/8) mottled with brown (7.5YR5/3) SiSa with brick inclusions	A possible builder's trench associated with Feature 28, Context 163 plus "footer" Context 171	TR5	
207	Structural		Modern concrete	Context 196 plywood "abutted" this context which "cut" stone foundation Context 200	TR5	
208	Fill		Dark brown (7.5YR3/4) SiSa compact brick and small cobbles	A small package of fill overlaying Context 167 and cut by Context 209, overlain by Context 120	TR4	

Master Context Log						
Context	**Type**	**Horizon**	**Soil Description**	**Notes**	**Trench/Unit(s)**	**Feature**
209	Fill		Very dark grayish brown (10YR3/2) SiLo with brick, large cobbles, and sub-angular gravels	Trench fill abutting Context 210, Feature 40	TR4	
210	Structural		Concrete slab	Concrete slab from Hertz parking lot	TR4	40
211	Structural		Black (10YR2/1) SiSaLo post-mold fill	Noted during the mechanical excavation of TR5 and noted in east profile (shot in)	TR5	41
212	Structural		Stone wall	A stone wall related to mid-eighteenth century building	TR4 / Unit 4	42
213	Structural		Wooden timber	Located between timber Feature 39 and wall Feature 38 at the northern end of the trench	TR5	43
214	Structural		Brick walkway/porch	A brick walkway or porch related to eighteenth-century building	TR4	44
215	Fill		Gray (10YR5/1) SiSa	A gray loose fill	TR5	
216	Fill		Yellowish-brown (10YR5/6) SiSa	A yellowish-brown fill, a thin layer	TR5	
217	Fill		Dark yellowish-brown (10YR4/6) SiSa	A dark yellowish-brown fill, a thick layer	TR5	
218	Fill		Dark gray (10YR4/1) sand	A dark-gray sand fill	TR5	
219	Fill - natural?		Very dark gray (10YR3/1) sand	A very dark gray sand, possibly natural soil	TR5	
220	Fill		Light gray (10YR7/1) mottled with dark grayish brown (10YR4/2) brick and decaying mortar	Brick and decaying mortar	TR4	
221	Structural		Wood plank	Wooden plank extending south-west from timber, Context 201	TR5	
222	Structural		Wood planks	A thin wood planks and pulp near timber (Context 201) at the east side	TR5	
223	Fill		Very dark gray (10YR3/1) mottled with dark grayish brown (10YR4/2) and light yellowish brown (10YR6/4) SiLo and SiSa	Disturbed fill	TR5	
224	Structural		Timber	Context is below timber Feature 39, timber coming out of the eastern wall	TR5	
225	Structural		Concrete slab	A concrete slab related to Hertz parking lot	TR4	24

Appendix B. Property Chronology and Deed Research Summary

Frontage	Lot Name	Owner	Source	Notes
50’	**Callowhill Street**			
50’	**Shoemaker Lot**	Samuel Shoemaker (merchant) (1759-1787)	Book H-Vol. 11-Page 181	Was originally the route of Callowhill Street. In 1765 Samuel Shoemaker traded this property with the Proprietors for the land to the south, the Goodson Lot, shifting Callowhill Street north and creating a new Proprietors lot to the south.
		Thomas Britton (1787-1796)	Book D-Vol. 30-Page 287	
		John Harrison (1796-1806)	Book D-Vol. 58-Page 263	
Shoemaker Lot Subdivisions				
32’8”	**Shoemaker Lot (Subdivision 1 corresponds to 10-12 Callowhill c. 1916)**	John Harrison (1800-1808)	Book EF-Vol. 32-Page 185	Bought at public sale from the estate of Thomas Britton
		George Knorr (1808-1852)	Book EF-Vol. 32-Page 185	
		Thomas G. Haslam (1852-1864)	Book TH-Vol. 14-Page 208	
		Patrick Gaffney (1864-1886)	Book LRB-Vol. 35-Page 325	
		Francis J. Hamilton (1886-1920)	Book JMH-Vol. 670-Page 506	By Sherriff W Elwood Rowan Esq. on 10/8/1886
		William A. Hamilton (1920-1960)	Book JMH-Vol. 670-Page 506	
16’	**Shoemaker Lot (Subdivision 2 corresponds to 8 Callowhill c. 1858)**	John Harrison (1800-1808)	Book EF-Vol. 32-Page 185	Bought at public sale from the estate of Thomas Britton
		Charles Biddle (1809-1831)	Book IC-Vol. 5-Page 649	
		W. A. Biddle (1831-1831)	Book SHF-Vol. 20-Page 622 (recitation)	Conveyance # 505
		Joseph Mansfield (1831-1834)	Book SHF-Vol. 20-Page 622 (recitation)	
		Mary Death (1834-1834)	Book SHF-Vol. 20-Page 622	
		George Knight (1834-1848)	Book RDW-Vol. 94-Page 520	In recitation land reverts to Mansfield after Mary Death dies
		Elizabeth Mansfield (1848-1866)	Book RDW-Vol. 94-Page 520	

Frontage	Lot Name	Owner	Source	Notes
		Walter Clausen (1866-1873)	Book LRB-Vol. 175-Page 140	
		Walter Clausen (1866-1873)	Book LRB-Vol. 175-Page 140	Edwin F. Mansfield is on of Elizabeth and John Mansfield
		Daniel and Richard McCarthy (1873-1880)	Book FTW-Vol. 98-Page 029	
	Shoemaker Lot (Subdivision 3 corresponds to the lot on the corner of Callowhill and Delaware Ave. c. 1858)	John Harrison (1800-1808)	Book EF-Vol. 32-Page 185	Bought at public sale from the estate of Thomas Britton
		Adam Fister (1806-1834)	Book EF-Vol. 25-Page 449	
		Adam Minser (1834-1851)	Book AM-Vol. 52-Page 449	
		Jonathan Thomas (1851-1851)	Recitation	
		Thomas G. Haslam (1851-1864)	Book GWC-Vol. 92-Page 491	
		John Murphy (1864-1892)	Book LRB-Vol. 35-Page 332	Hetty was widow and administratrix of Thomas Haslam
		Henry M. DuBois (1892-1892)	Book TG-Vol. 242-Page 254	
		Pennsylvania Railroad Company (1892-1969)	Book TG-Vol. 219-Page 411	
50’	**Goodson Lot**	John Goodson (1694-1717)	Patent Book A-Vol. 1-Page 263	Originally bounded to the north by Callowhill Street. In 1765 Samuel Shoemaker traded this property with the Proprietors for the land that was at the time the right-of-way of Callowhill Street, shifting Callowhill Street north and creating a new Proprietors lot to the south.
		Jacob Casdorf (shipwright) (1717-1759)	Patent A or 19 Vol. 5 Page 20, Book E7-Vol. 10-Page 308	
		Samuel Shoemaker (merchant) (1759-1787)	Book H-Vol. 11-Page 181	
37’6”	**Penn Lot (North Half)**	Thomas Britton (1788-1796)	Book D-Vol. 30-Page 287	
		John Harrison and wife Rachel (1796-1806)	Book D-Vol. 58-Page 263	
37’6”	**Penn Lot (South Half)**	William Massey (1788-1796)	Book D- Vol. 57-Page 341	
		John Harrison and wife Rachel (1796-1806)	Book D-Vol. 58-Page 263	
Penn Lot Combined				
70’	**Penn Lot (combined)**	George Knorr (1806-1852)	Book EF-Vol. 26-Page 521	
		Lavinia L. Pedrick (1852-1856)	Book TH-Vol. 13-Page 400	

Frontage	Lot Name	Owner	Source	Notes
		George K. Knight (1852-1856)	Book TH-Vol. 13-Page 403	
		Lehigh Crane Iron Company (1856-1867)	Book RDW-Vol. 102-Page 410	
		Joseph B. Bloodgood (1867-1890)	Book JTO-Vol. 100-Page 45	
		Joseph B. Bloodgood Heirs (1890-1892) - William B. Bloodgood, Mary F. Bloodgood, Joseph B. Bloodgood Jr., and Annie B Parker	Book GGP-Vol. 670-Page 225	
		Henry M. DuBois (1892-1892)	Book TG-Vol. 205-Page 447	
40’	**Rawle Lot**	Francis Rawle (1694-1717)	Survey Book D-Vol. 86-Page 181	
		Joseph Lynn (1717-1742)	Book F-Vol. 01-Page 093	
		Joseph, John, & Jeremiah Lynn (1742-1775)	Will Book G-3-Page 6	
25’	**Langston Lot**	Thomas Langston (1690-1690)	Survey Book D-Vol. 70-Page 046	
		Thomas Sisom (1690-1707)	Patent Book A-Vol. 5-Page 350-Recitation	
		Daniel Howel (1707-1717)	Patent Book A-Vol. 5-Page 350-Recitation	
		Joseph Lynn (shipwright) (1717-1742)	Patent Book A-Vol. 5-Page 350	
		Joseph, John, & Jeremiah Lynn (1742-1775)	Will Book G-No. 3-Page 6	
65’	**Rawle Lot and Langston Lot**	Edward Shippen Jr. (1775-1777)	Book I-Vol. 15-Page 83	
		Edward Shippen Jr. (1775-1777)	Book I-Vol. 15-Page 83	Lynn children got this land by the will of Joseph Lynn dated October 10, 1742 (Will Book G-Vol. 3-Page 6)
		Christopher Smith (shipwright) (1777-1784)	Book D-Vol. 23-Page 306	The deed says that Water street is only 30 feet wide
		Isaac Hazelhurst (merchant) (1784-1810)	Book D-Vol. 12-Page 228	
		Bank of Pennsylvania (1810-1810)	Sherriff's Deeds F-Page 96	
		Thomas Leiper (1810-1824)	Book IC-Vol. 11-Page 126	
		George Leiper (1824-1839)	Book 8-Page 435; Thomas Leiper (Original) Will	
		Stephen Simmons (1839-1847)	Book SHF-Vol. 30-Page 446	*listed in recitation but could not be located.
		Edward S. Simmons (1847-1850)	Book AWM-Vol. 52-Page 400	
	Jennett Lot	John Jennett (1694-1699)	Book B-Vol. 2-Page 203	

Frontage	Lot Name	Owner	Source	Notes
50 to 48'10"	*(Original lot was 50' but was reduced to 48'10" c. 1737 when Wood Street established)*	Samuel Spencer (1699-1704)	Book D-Vol. 56-Page 262	By will and marriage
		John Jreson (1704-1716)	Book D-Vol. 56-Page 262	
		James Jacobs (1716-1719)	Book D-Vol. 56-Page 262	
		Robert Gerrard (1719-1722)	Book D-Vol_64-Page 001	
		John Richards (1722-1724)	Book F-Vol. 03-Page 312	
		Richard Allen (shipwright) (1724-1737)	Book D-Vol. 60-Page 187	
		James Parrock (1737-1759)	Book F-Vol. 10-Page 164	
		William Taylor (1759-1797)	Book D-Vol. 57-Page 181	
		Jacob Clements and Bankson Taylor (merchants) (1797-1818)	Book D-Volume 64-Page 200	Only the part east of Water Street
		Stephen Simmons (lumber merchant) (1818-1847)	Book MR-Vol. 18-Page 546	Only the part east of Water St. same as Book D-Vol. 64-Page 200
		Edwards S. Simmons (lumber merchant) (1847-1850)	Book MR-Vol. 18-Page 546	Only the part east of Water St. same as Book D-Vol. 64-Page 200
113'10"	**Jennett, Rawle, and Langston Lots**	John M. Mitchell (1850-1867)	Book GWC-Vol. 63-Page 490	
		Edward B. McClees (1867-1879)	Book JTO -Vol.96-Page 368	The lot now only extends east to Delaware Ave.
		Anna and Elizabeth McClees (1879-1892)	By Will	Between Water and Delaware Ave.
		Henry Dubois (1892-1892)	Book TG-Vol. 226-Page 151	Between Water and Delaware Ave.
		Pennsylvania Railroad Company (1892-1892)	Book TG-Vol. 219-Page 411	Between Water and Delaware Ave.
9'-10'	**Wood Street**	c. 1737 Wood Street established taking land from both Porteus and Jennett lots		
20' to 12'2"	**Porteus Lot** *(Original lot was 20' reduced to 12'2" c. 1737 when Wood Street established)*	James Porteus (shipwright) (1690-1743)	Patent	
		Joseph Fox (1743-1791)	Will Book F-Vol. 22-Page 24; Deed Book H-Vol. 3-Page 505	
		Joseph Fox (1760-1791)	Patent Book AA-Vol. 12-358	
		Samuel M. Fox (1791-1808)	Book D-Vol. 38-Page 159	
30'	**Colley Lot**	John Colley (1691-1693)	Patent Book A -Vol. 2-Page 363	
		James Porteus (1693-1743)	Mentioned in recitation	
		Joseph Fox (1743-1791)	Will Book F-Vol. 22-Page 24; Deed Book H-Vol. 3-Page 505	

Frontage	Lot Name	Owner	Source	Notes
		Joseph Fox (1760-1791)	Patent Book AA-Vol. 12-358	
		Samuel M. Fox (1791-1808)	Book D-Vol. 38-Page 159	
100’	**Rakestraw Lot (Original)**	William Rakestraw (1690-1710)	Patent Book A-Vol. 4-Page 50	The original lot was 100’ wide and was subsequently subdivided into a 50’, 15’, 25’ and 10’ lots.
Rakestraw Lot Subdivisions				
50’	**Rakestraw Lot (Northern half)**	William Rakestraw (1710-1710)	Book I-Vol. 15-Page 7	
		John Morton (shipwright) (1710-1710)	Book I-Vol. 15-Page 7	
		Michael Hulings (shipwright) (1729-1775)	Book I-Vol. 13 -Page 437	
15’	**Rakestraw Lot (Middle-North)**	Michael Hulings (shipwright) (1757-1775)	Book I-Vol. 13-Page 394	
65’	**Rakestraw Lot (North & Middle-North)**	William E. Hulings (1781-1791)	Will Book S-Page 20	
		Joseph Cowperthwaite (1791-1791)	Book D-Vol. 25-Page 343	
		Joseph Cowperthwaite (1791-1816)	Book D-Vol. 32-Page 203	
		William West (1810-1851)	Book IC-Vol. 25 -Page 4	
25’	**Rakestraw Lot (Middle-South)**	William Rakestraw (1710-1772)	Book D-Vol. 67-Page 202	
		Bevan Rakestraw (1772-1772)	William Rakestraw's Will	
		John Fairman (1772-1810)	Will Book P-Page 319	
		George Halberstadt (1791-1810)	Book IC-Vol. 07-Page 651	
		William West (1816-1816)	Book IH-Vol. 05-Page 722	
10’	**Rakestraw Lot (South)**	James West (1698-1702)	Book D-Vol. 14-Page 371	
		Charles West (1702-1747)	Administratrix of James West estate, Book of Administrations-Vol. A-Page 344	
		James West (1747-1761)	Book D-Vol. 16-Page 386	
		William West (1791-1851)	Book D-Vol. 67-Page 205	Re-patents land in 1791: Book D-Vol. 67-Page 202
100’	**West Lot (Original)**	James West (1689-1701)	Patent Book A-Vol. 1-Page 311	
		Prudence West (1701-1702)	Administratrix of James West estate, Book of Administrations-Vol. A-Page 344	

Frontage	Lot Name	Owner	Source	Notes
		Charles West (1702-1747)	By the will of Prudence West, Will Book B-Page 203	1735 Takes full ownership of the land from the Penns - Deed Book D-Vol. 20-Page 27
West Lot Subdivisions				
70’	**West Lot (North)**	James West (1747-1761)	Book D-Vol. 16-Page 386	
		William West (1791-1850)	Book D-Vol. 67-Page 205	Re-patenting land he occupies. Southernmost 40’ of West Lot (Middle) and northern 30’ of West Lot (North), does not include the 10’ of the Rakeshaw Lot (South) which is done separately.
West Lot North Subdivisions				
40’	**West Lot (North)**	James West Jr. (1761-1779)	Will Book M-Vol. 143-Page 254	**West Lot (North) -** *includes the 10’ Rakestraw Lot (South) and 30’ of the northern portion of the original West Lot*
		William West (1779-1851)	Book I-Vol. 17-Page 218	8’ of the south part of the lot is part of an alley
16’	**West Lot (Alley)**	Charles & James West (1761)	Will Book M-Vol. 143-Page 254	16’ Alley established in will 8’ from each adjoining parcel. Eight feet on the south side of the parcel belonging to James and 8’ on the north side of the 40’ lot belonging to Charles.
40’	**West Lot (Middle)**	Charles West (1761- pre. 1779)	Will Book M-Vol. 143-Page 254	8’ of the north part of the lot is part of an alley
		James West (around 1779)	Book I-Vol. 17-Page 218	The land originally given to James’s brother Charles, who died prior to 1779.
		William West (1779-1851)	Book I-Vol. 17-Page 218	This lot is part of the re-patenting of land by William West in 1791, Book D-Vol. 67-Page 205
30’	**West Lot (South)**	Charles West Jr. (1747-1761)	Book D-Vol. 16-Page 386	A.K.A. Charles R. West
		Joseph Bacon and Wife Sarah Bacon (1824-1829)	Book GWR-Vol. 1-Page 333	
		Charles W. Bacon (1829-1858)	By will?	

Frontage	Lot Name	Owner	Source	Notes
		Joseph Bacon (1858-1898)	Book ADB-Vol. 31-Page 430	
		Benjamin Carskaddon (1904-1904)	Book WSV-Vol. 331-Page 382	
		Pennsylvania Railroad Company (1904-1909)	Book WSV-Vol. 348-Page 321	
215’	**West Lot, Rakestraw Lot, Colley Lot, Porteus Lot**	William West Heirs (1851-1873)	Book D-Vol. 67-Page 205	By deed partition 1047, and Sherriff's Deed Y 396
		Edward Browning and James Simpson (1873-1873)	Book D-Vol. 67-Page 205	By deed partition 1047, and Sherriff's Deed Y 396
		Delaware Ave. Market Company of Philadelphia (1873-1889)	Book FTW-Vol. 37-Page 381	
		Pennsylvania Railroad Company (1889-1909)	Book GGP-Vol. 468-Page 301	

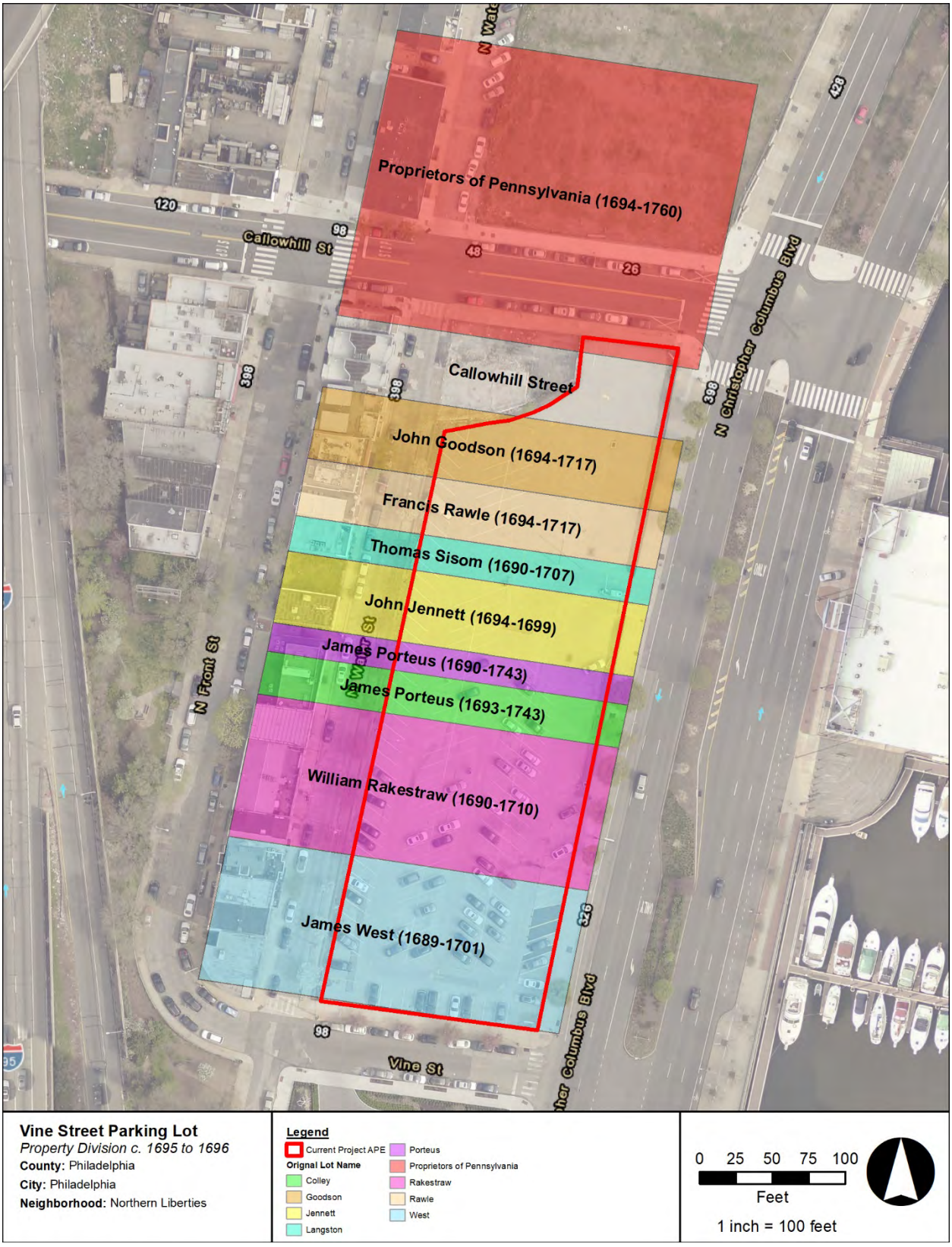

Figure 8.1. Vine Street lot properties c. 1695

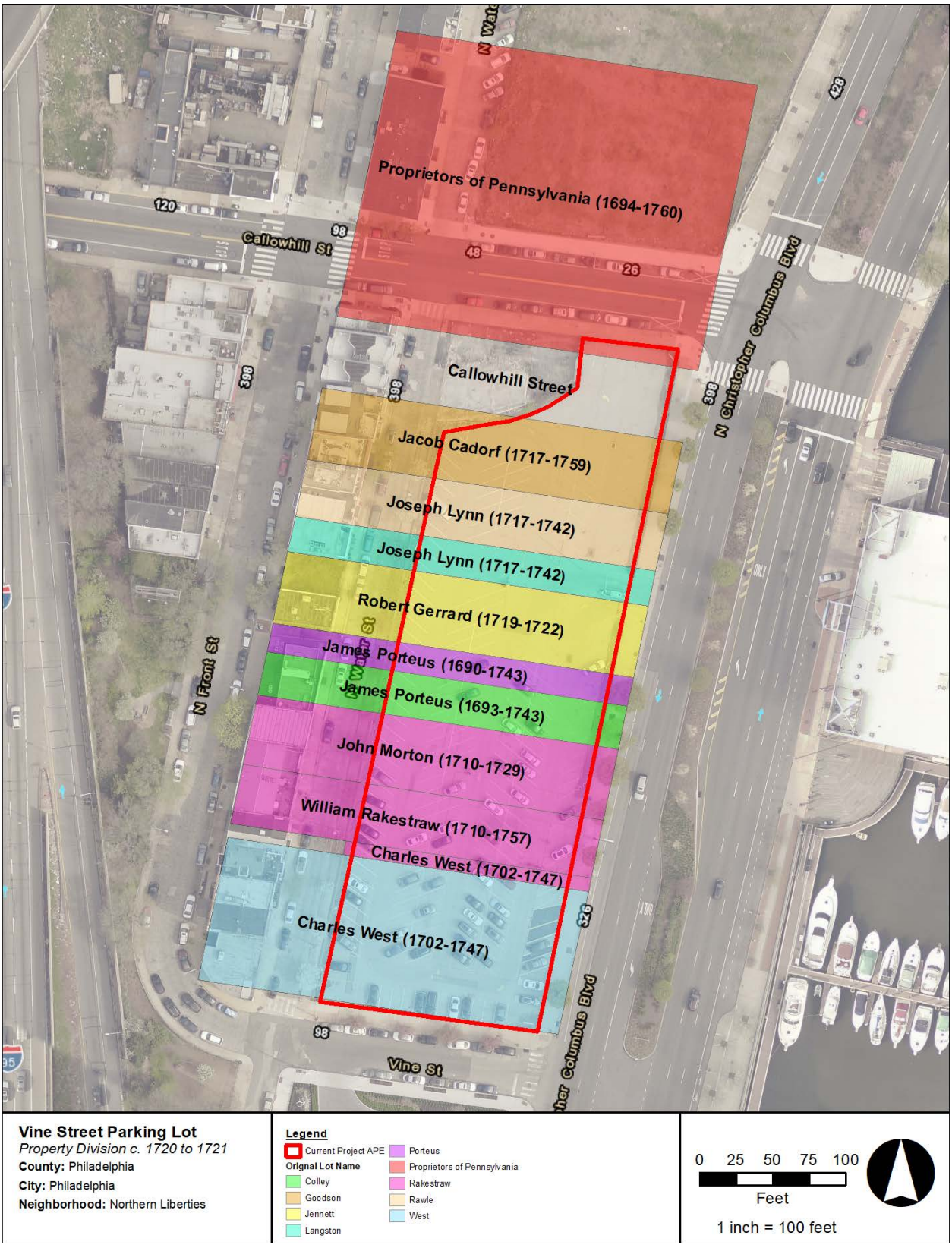

Figure 8.2. Vine Street lot properties c. 1720

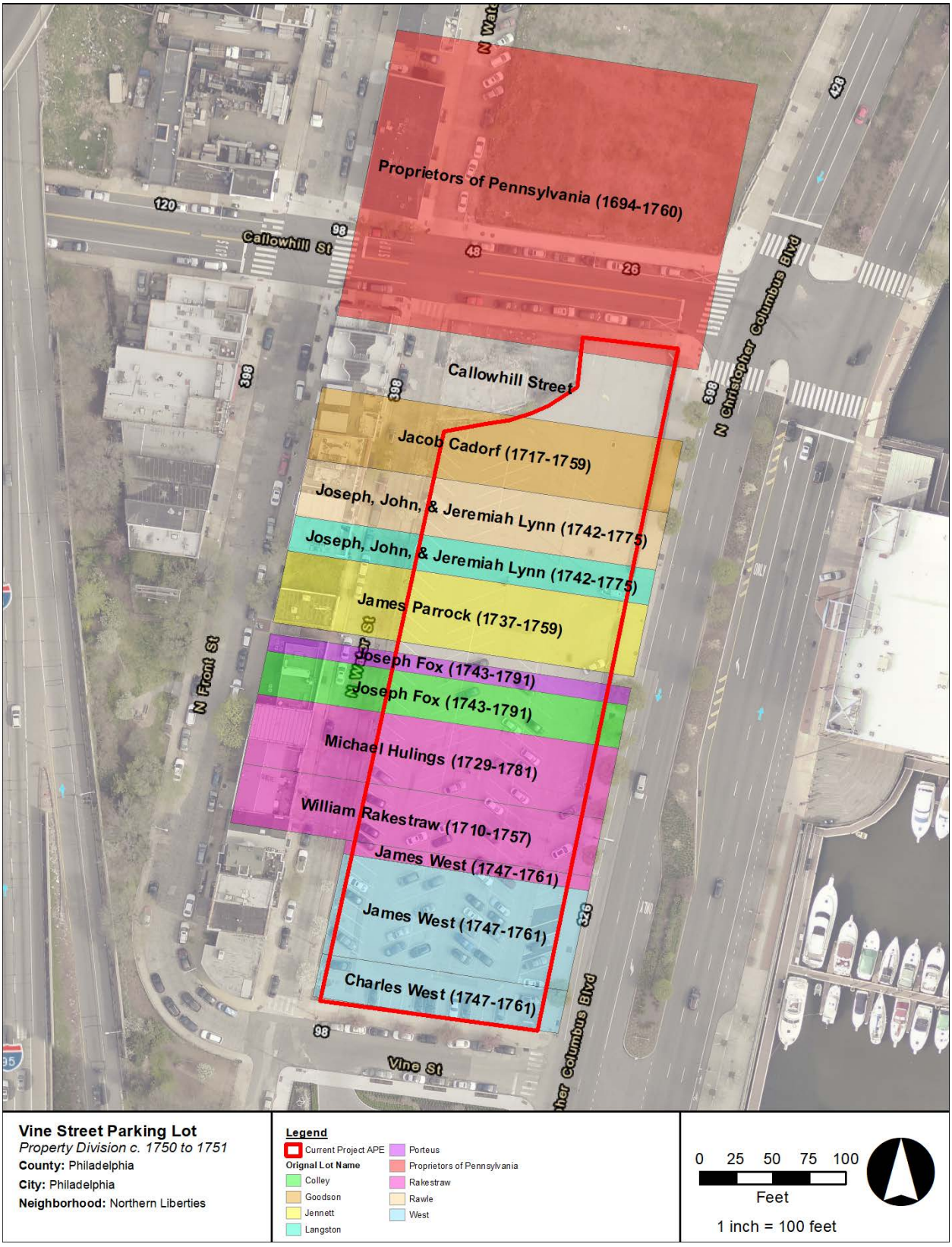

Figure 8.3. Vine Street lot properties c. 1750

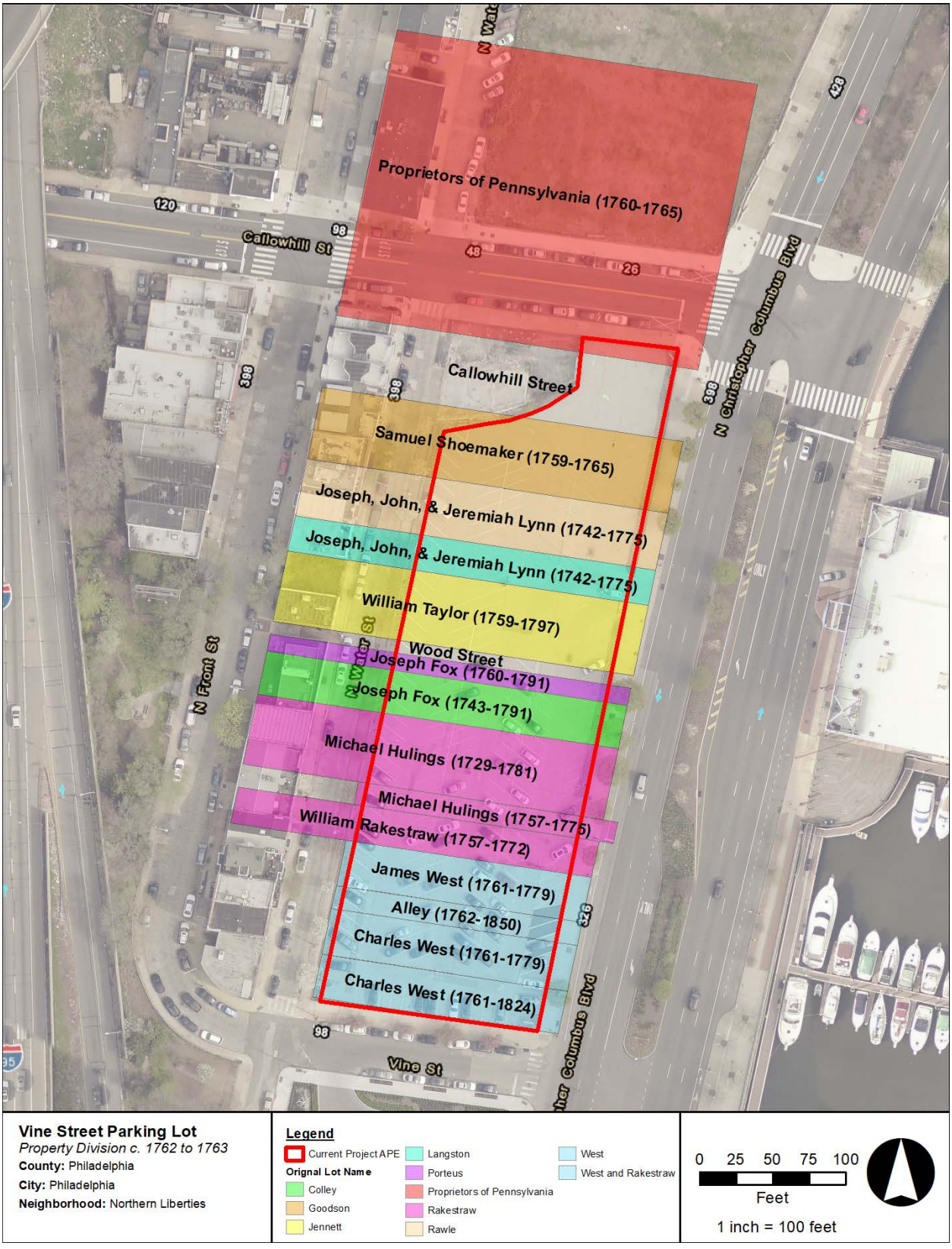

Figure 8.4. Vine Street lot properties c. 1762

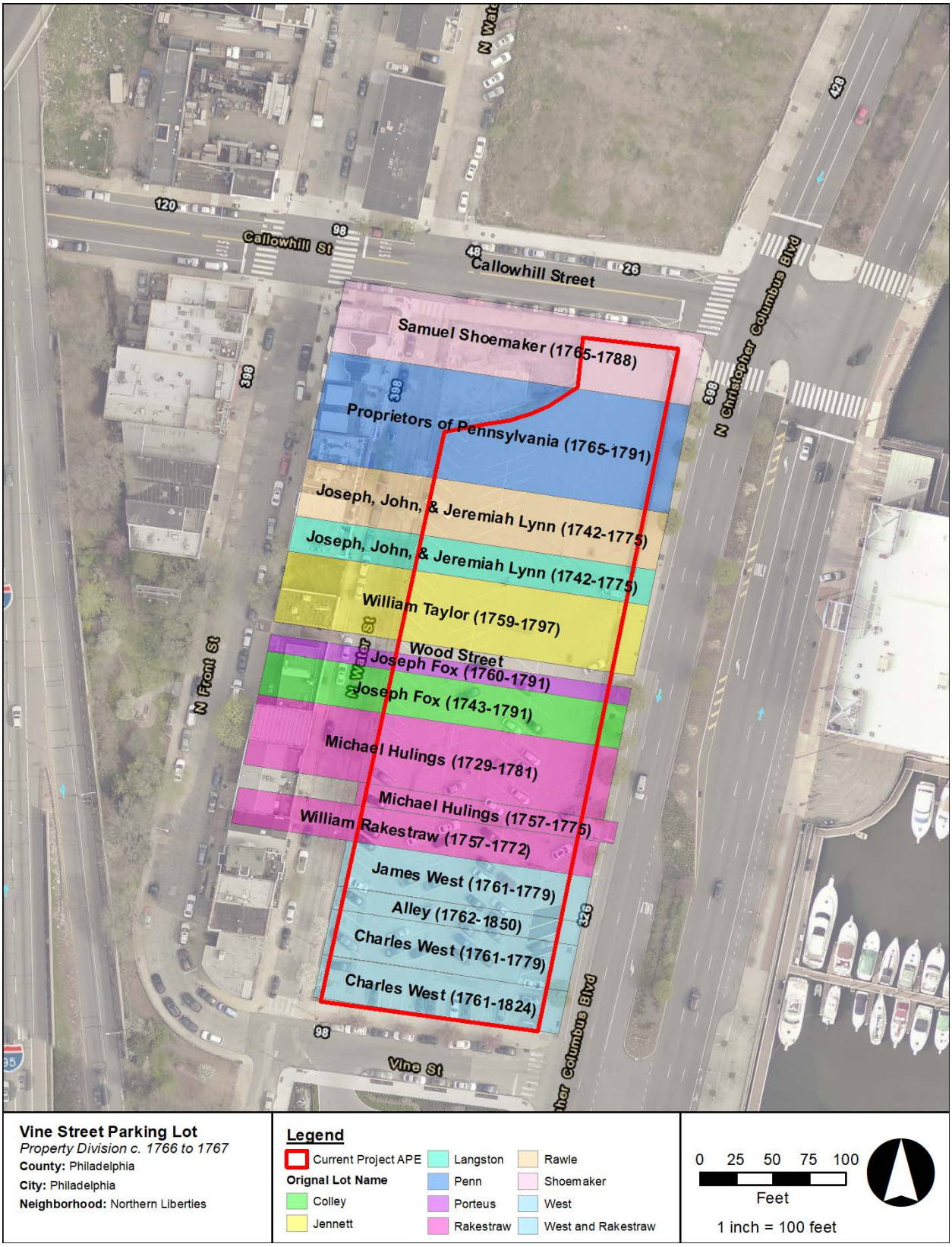

Figure 8.5. Vine Street lot properties c. 1766 (Samuel Shoemaker swapped lots with the Proprietors and Callowhill Street moved north).

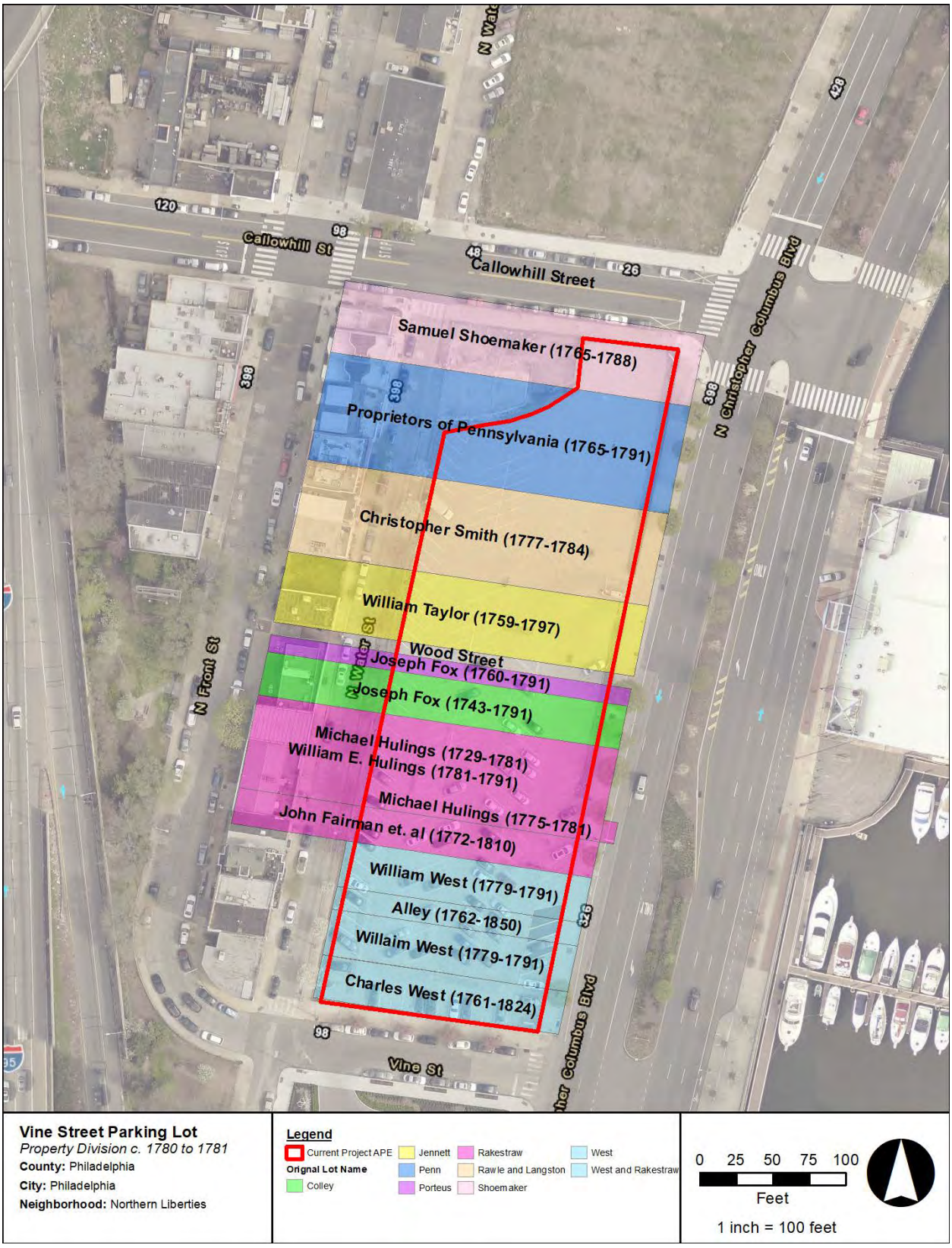

Figure 8.6. Vine Street lot properties c. 1780

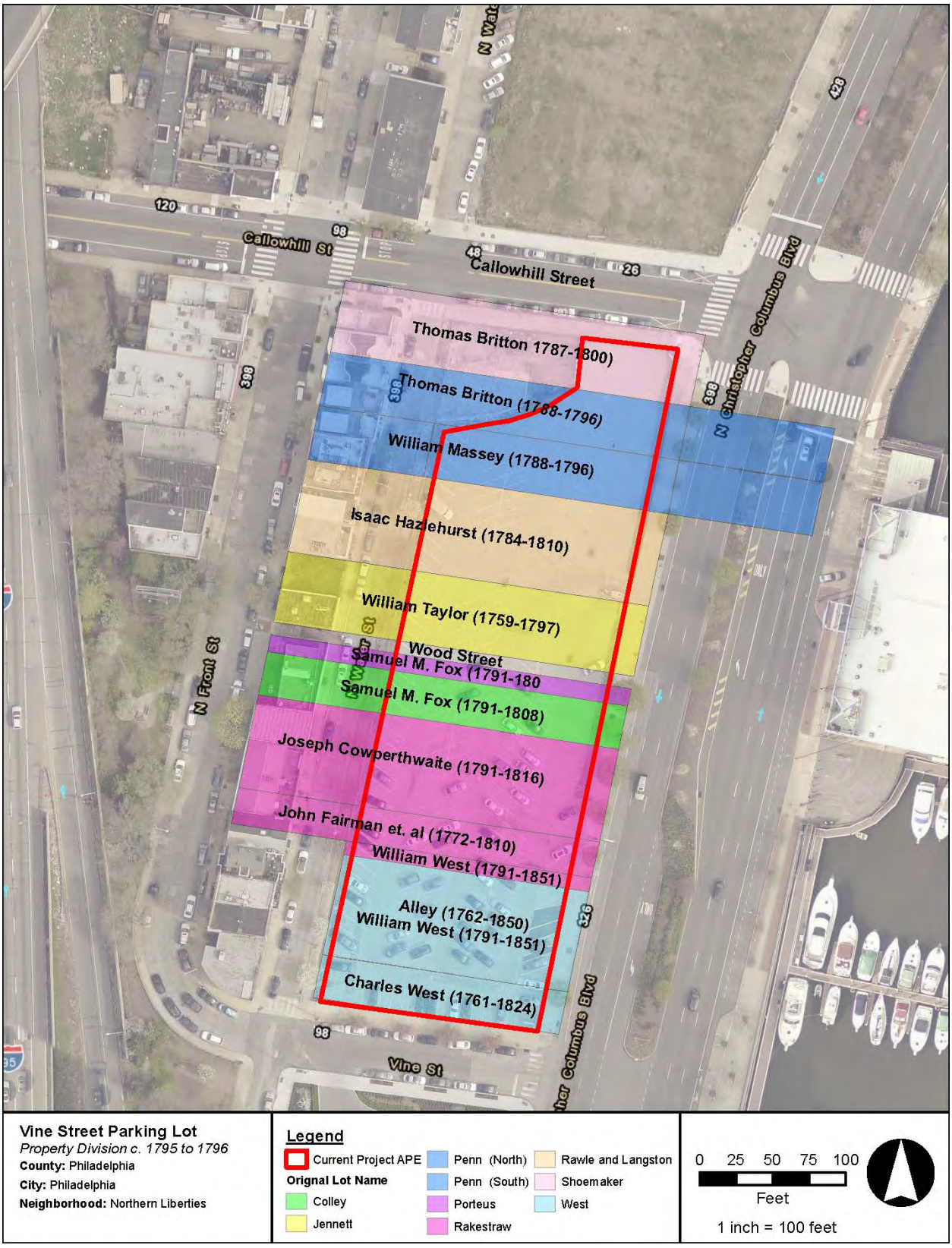

Figure 8.7. Vine Street lot properties c. 1795

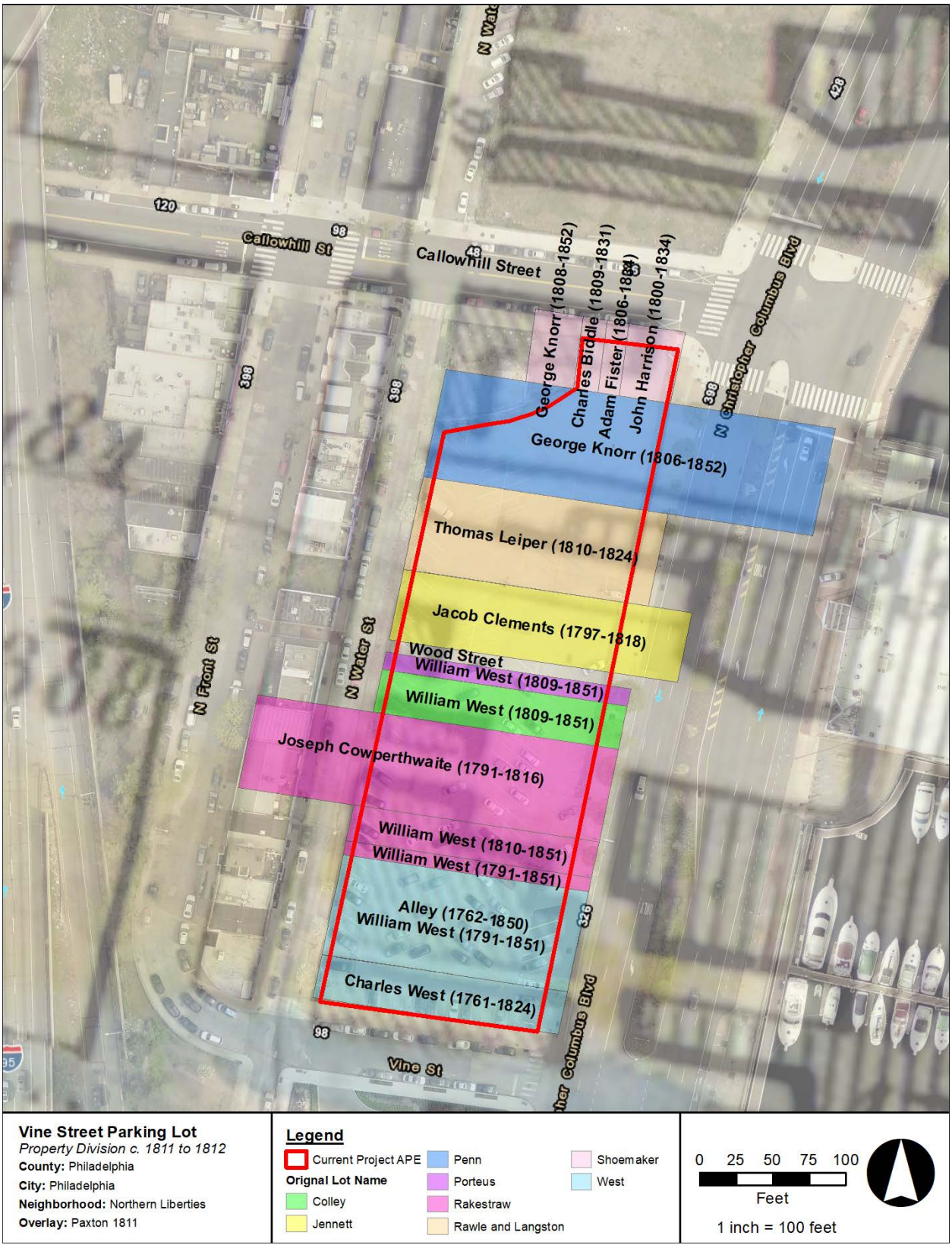

Figure 8.8. Vine Street lot properties c. 1811

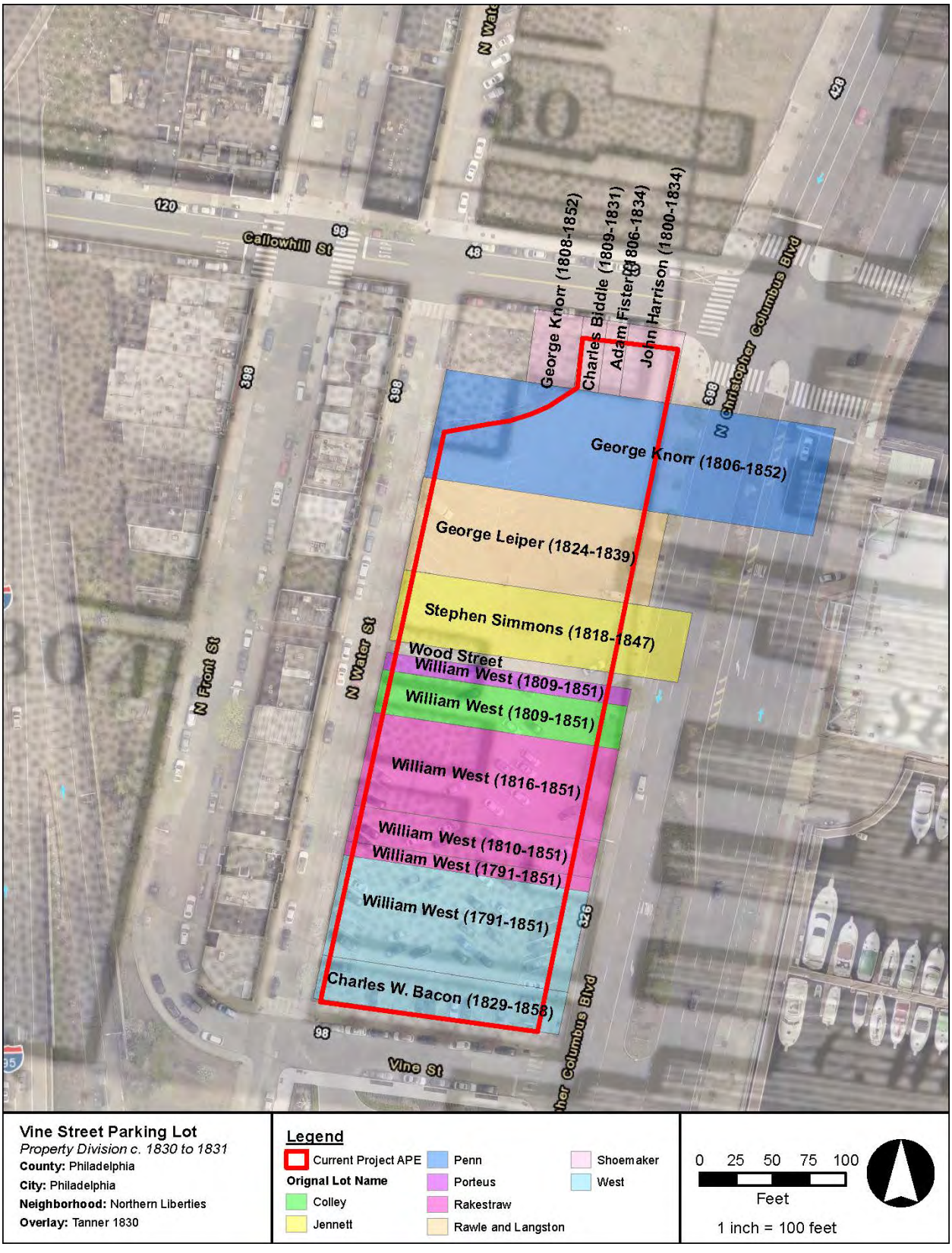

Figure 8.9. Vine Street lot properties c. 1830

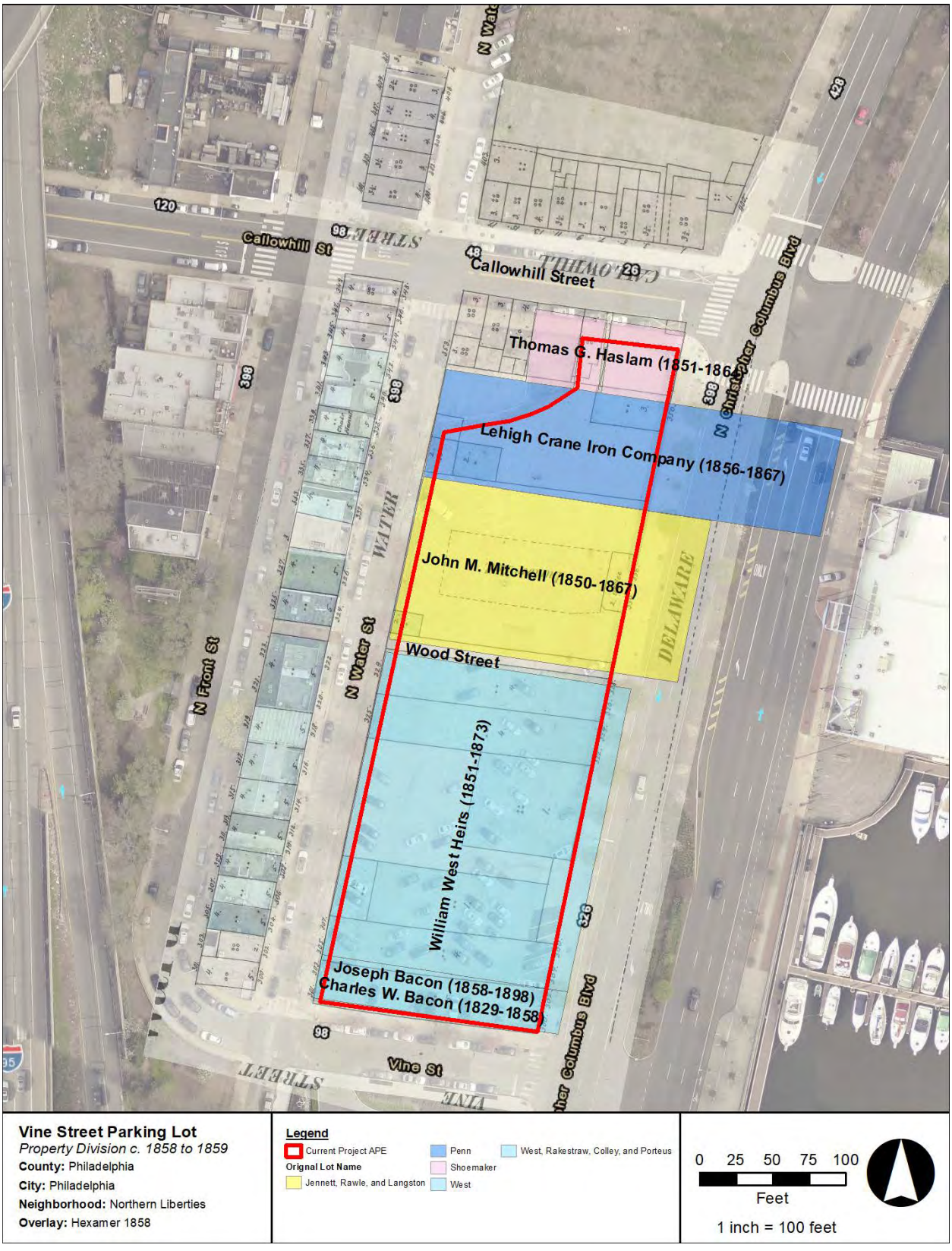

Figure 8.10. Vine Street lot properties c. 1858

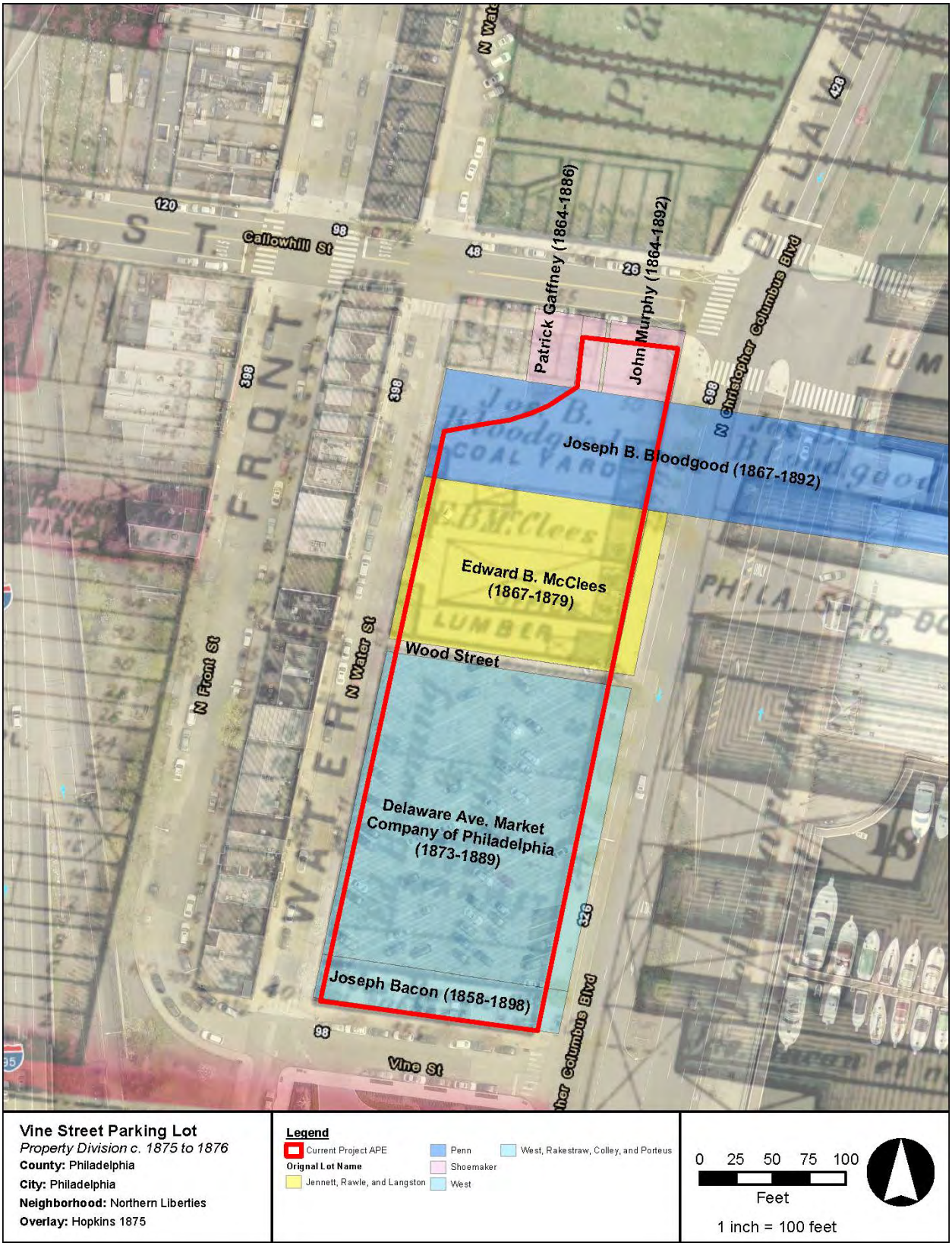

Figure 8.11. Vine Street lot properties c. 1875

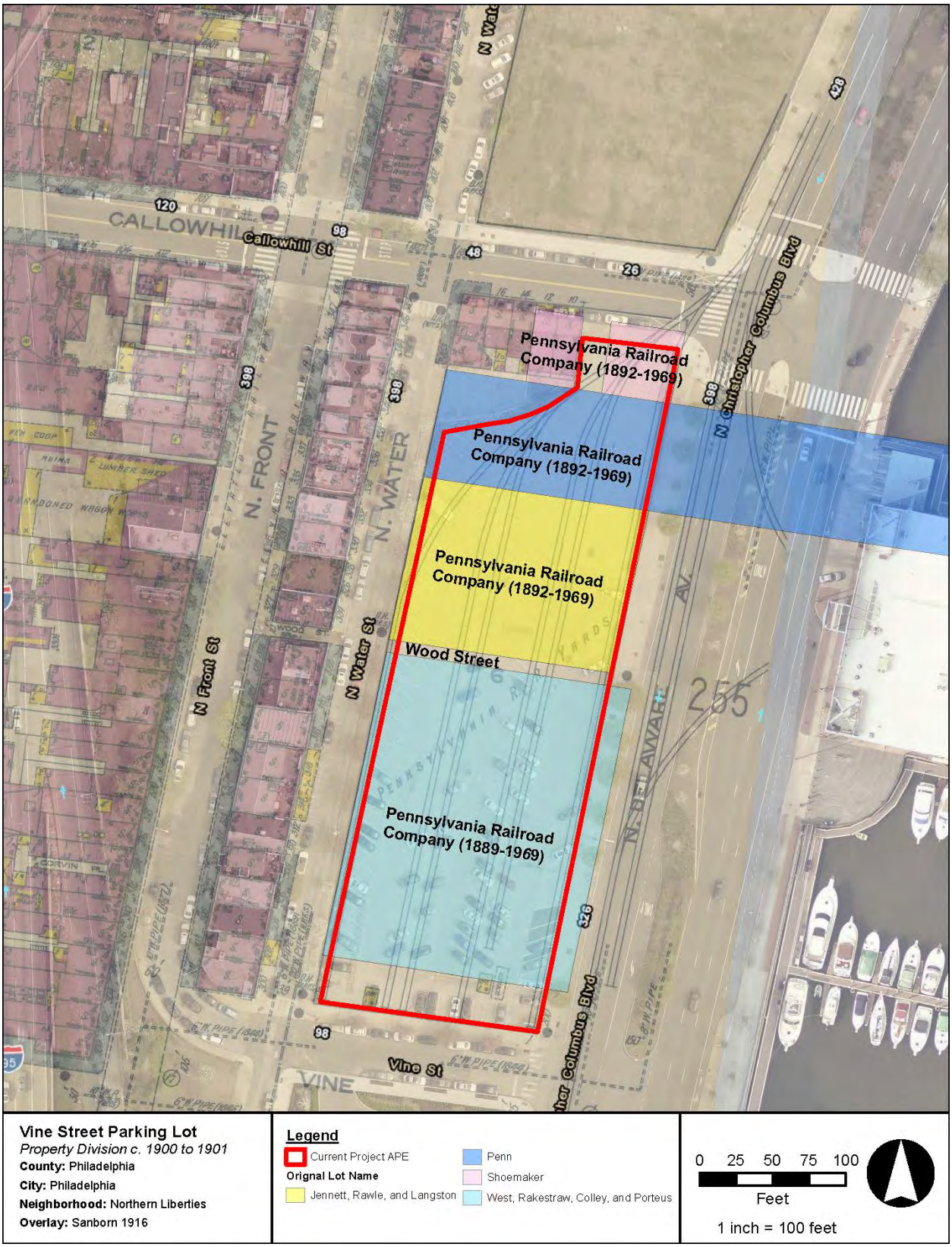

Figure 8.12. Vine Street lot properties c. 1900

Appendix C. Context Percent Contribution Tables

Figure 8.13. Context 9, Percent Contribution

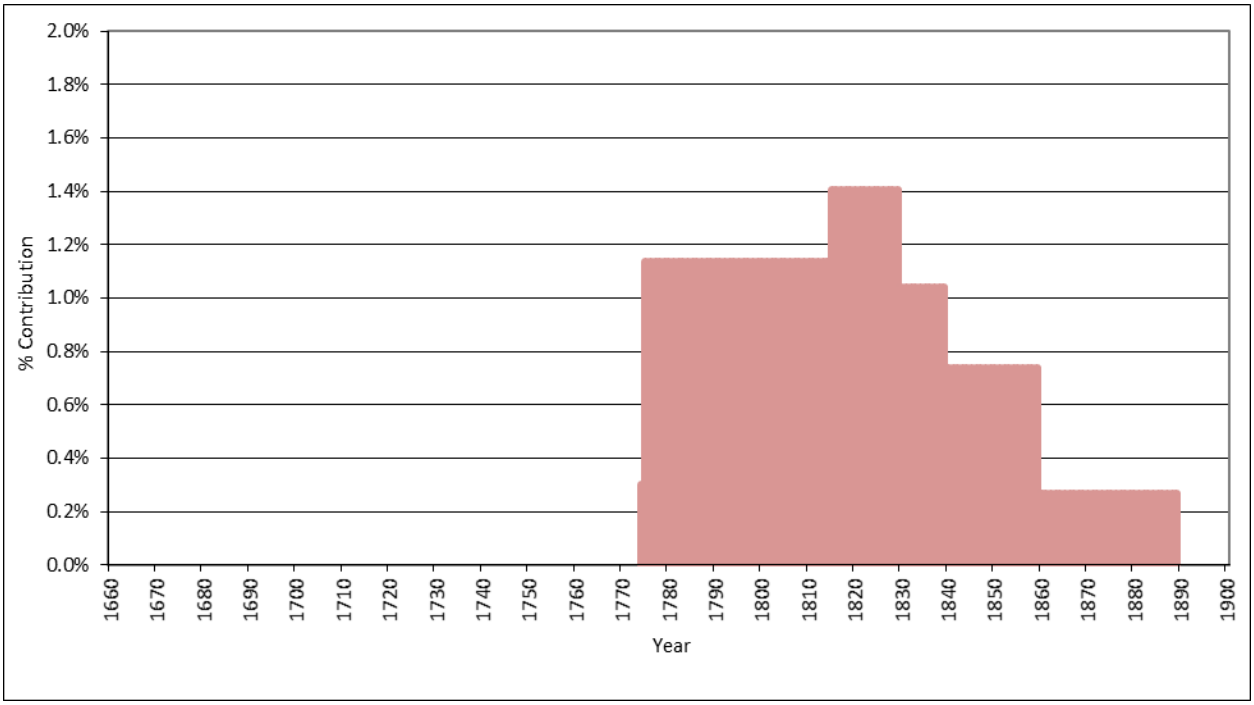

Figure 8.14. Context 21, Percent Contribution

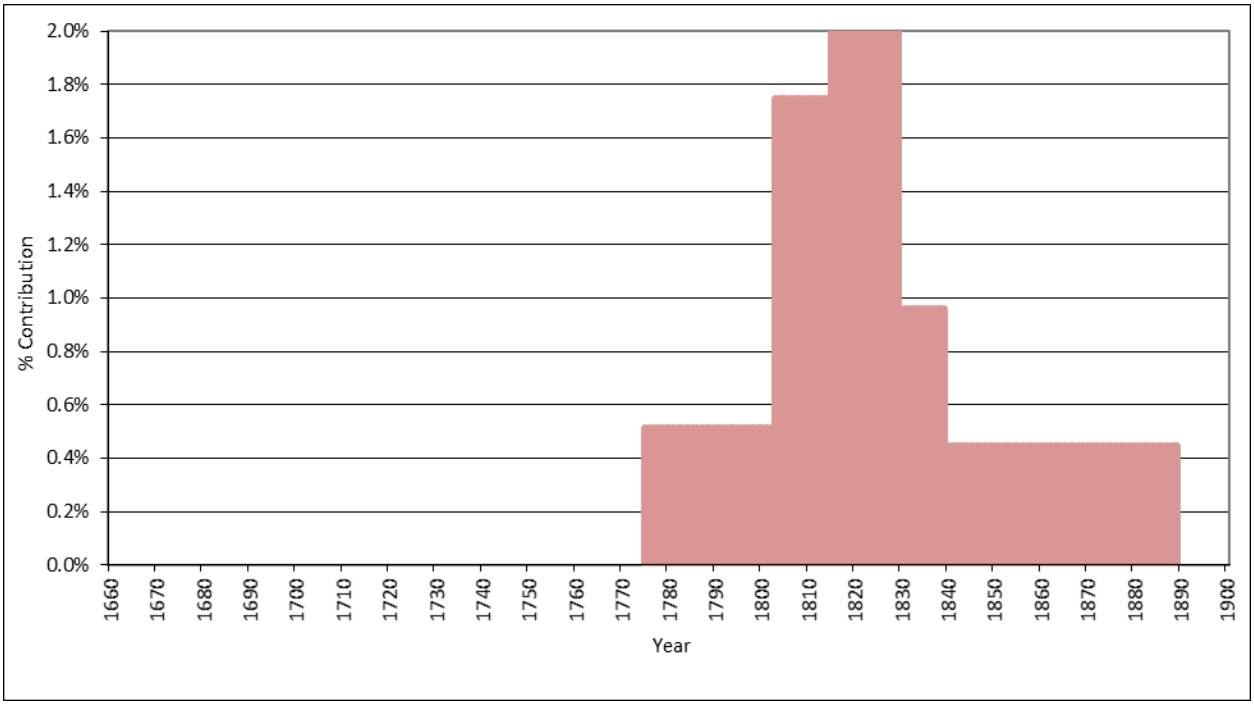

Figure 8.15. Context 32, Percent Contribution

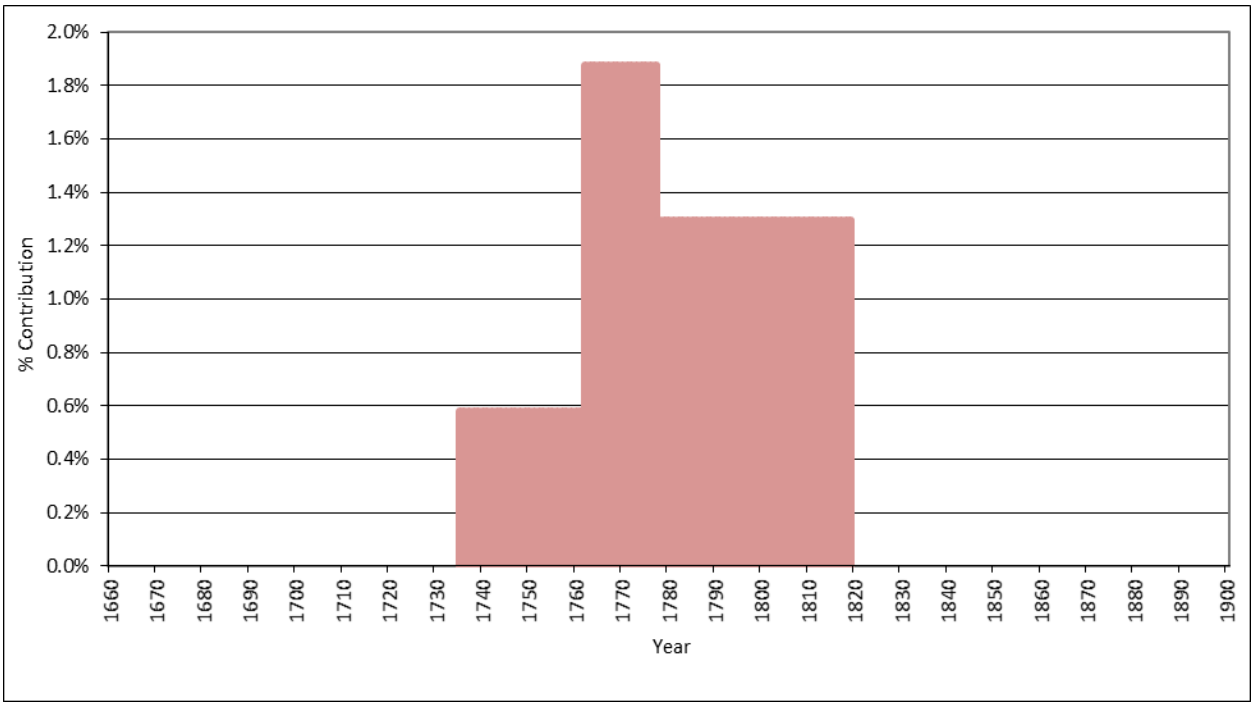

Figure 8.16. Context 51, Percent Contribution

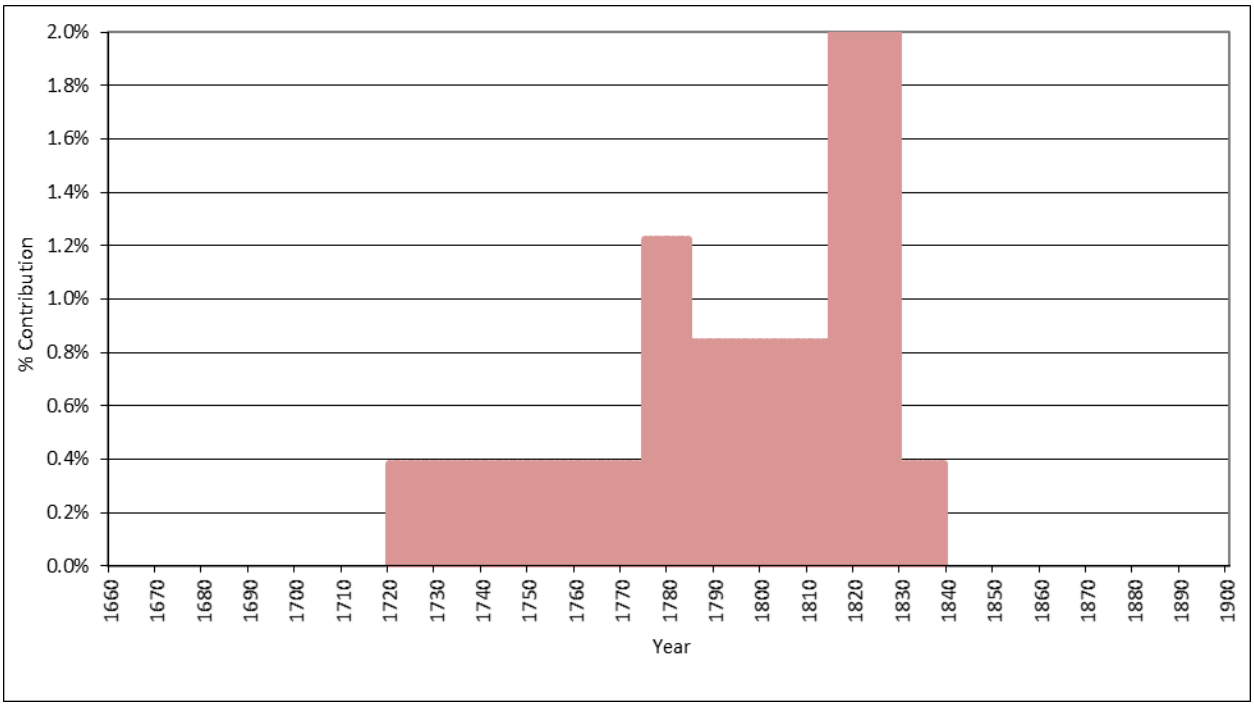

Figure 8.17. Context 70, Percent Contribution

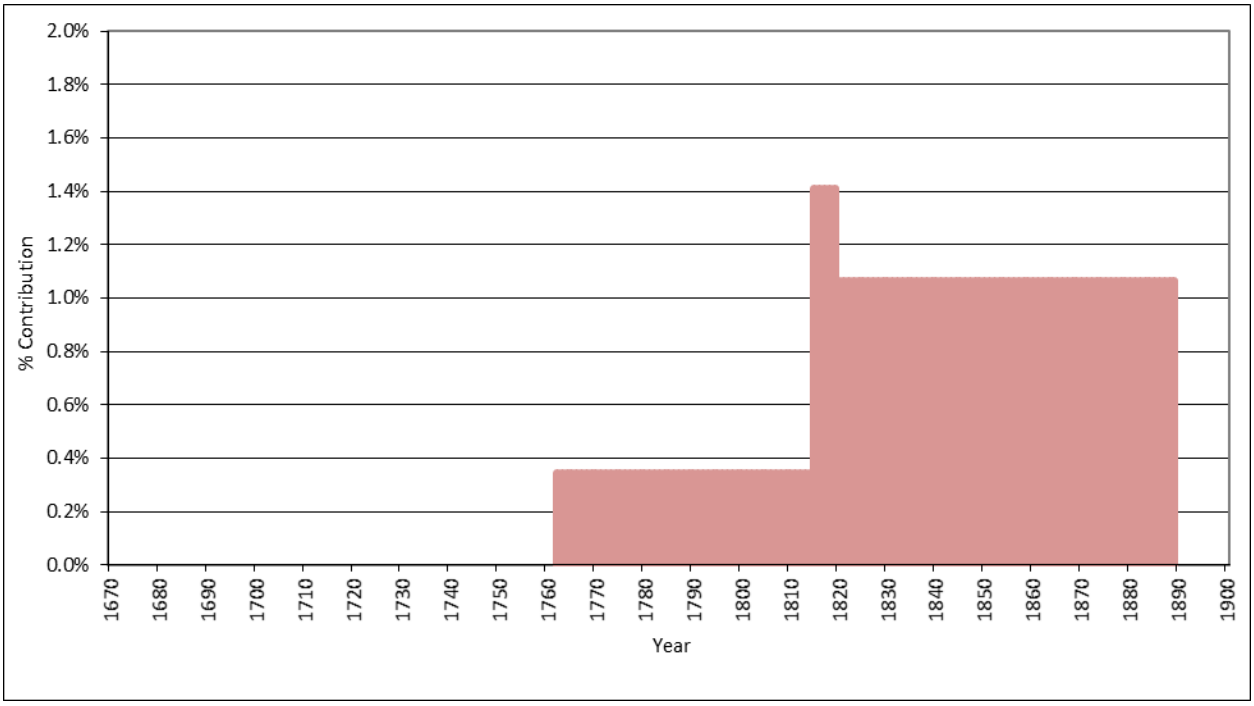

Figure 8.18. Context 104, Percent Contribution

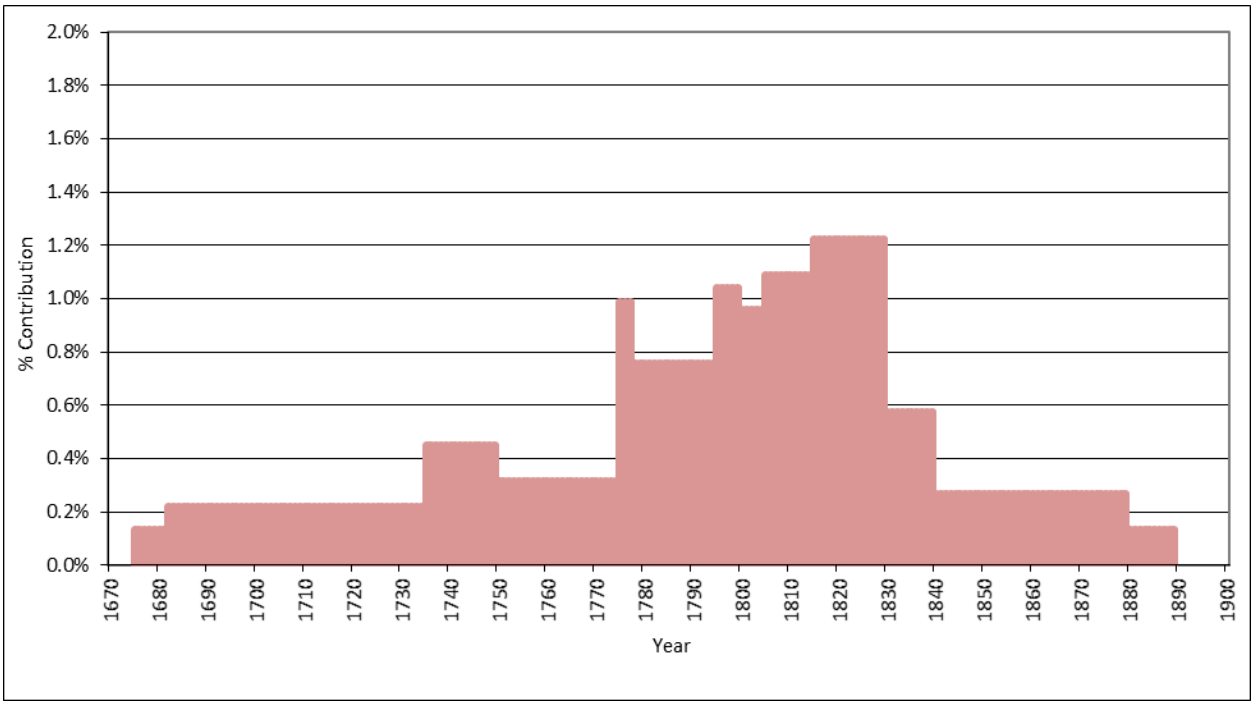

Figure 8.19. Context 107, Percent Contribution

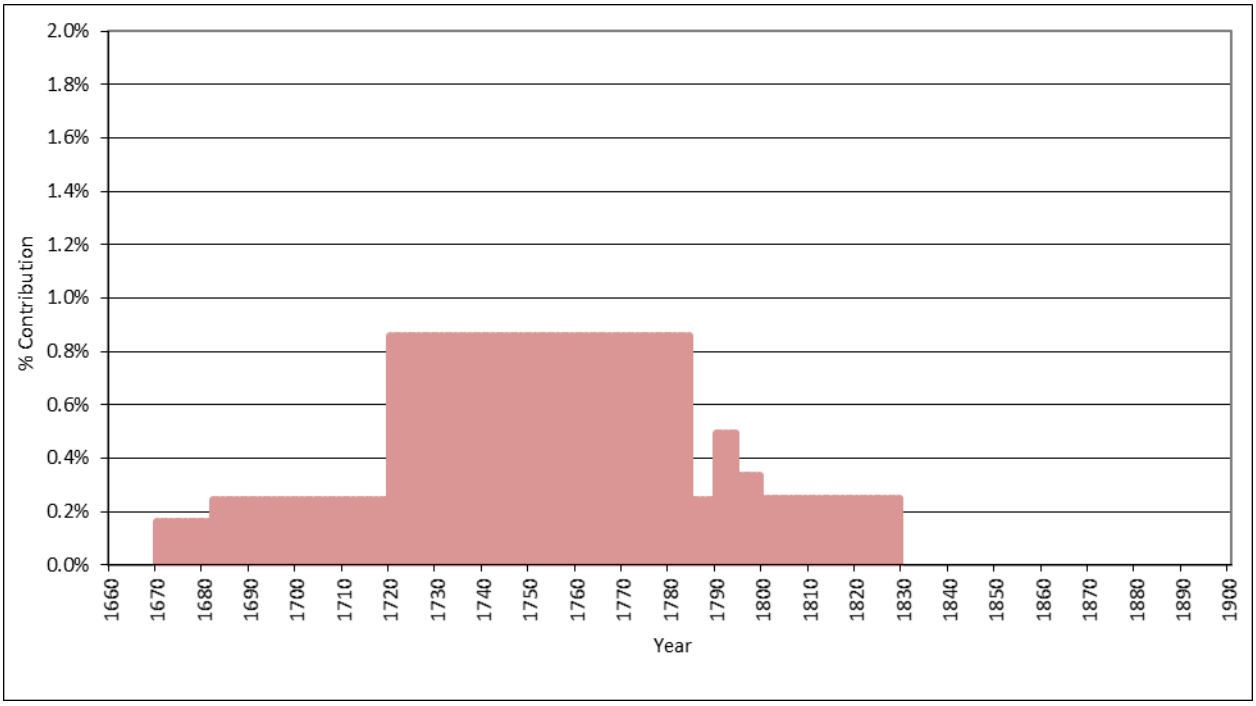

Figure 8.20. Context 117, Percent Contribution

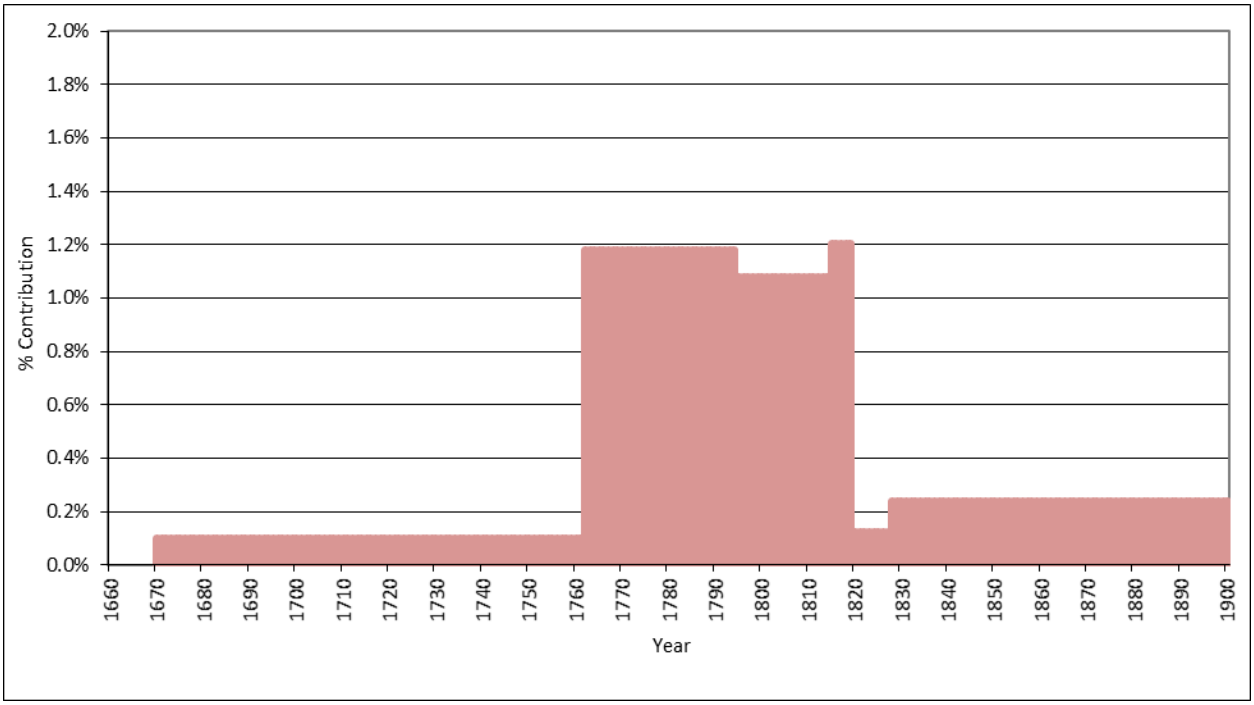

Figure 8.21. Context 120, Percent Contribution

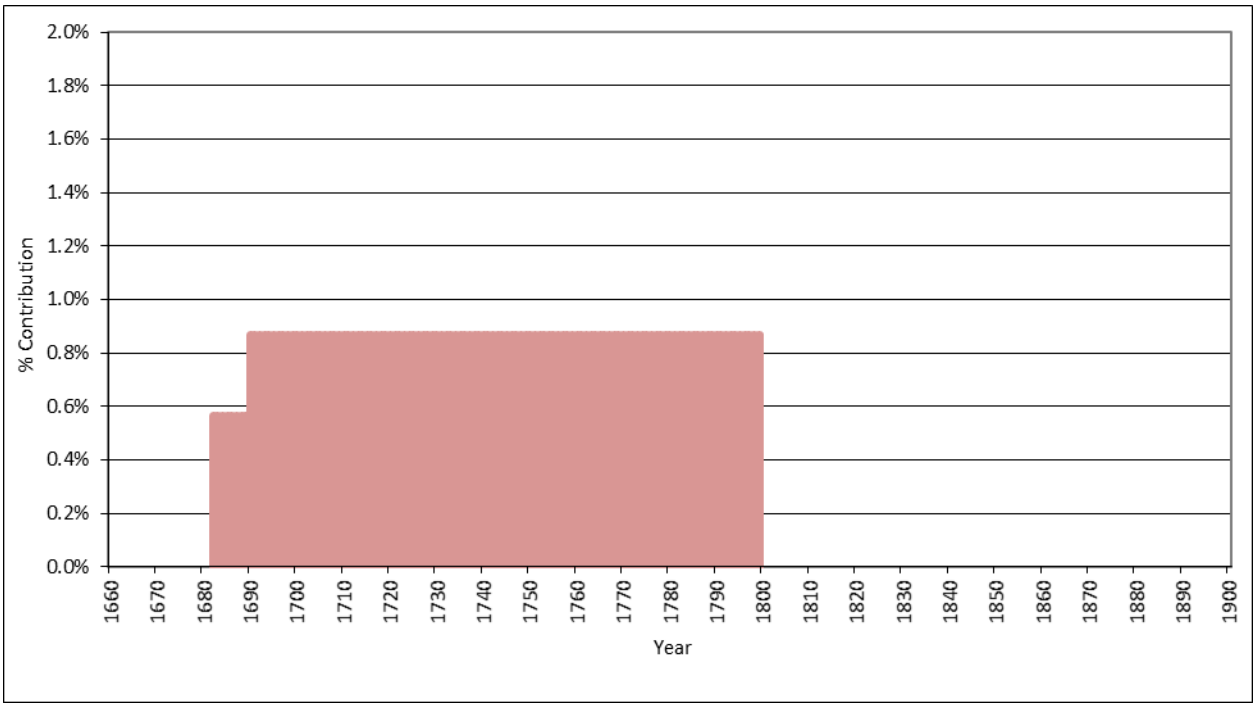

Figure 8.22. Context 124, Percent Contribution

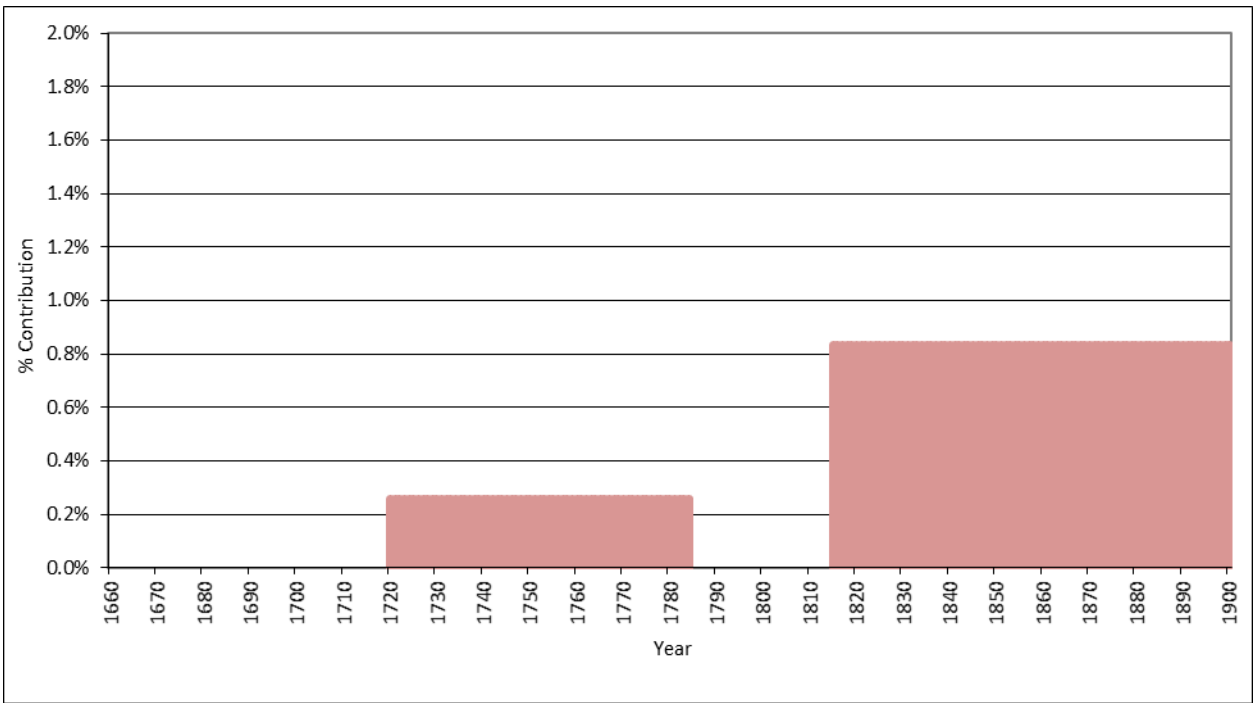

Figure 8.23. Context 145, Percent Contribution

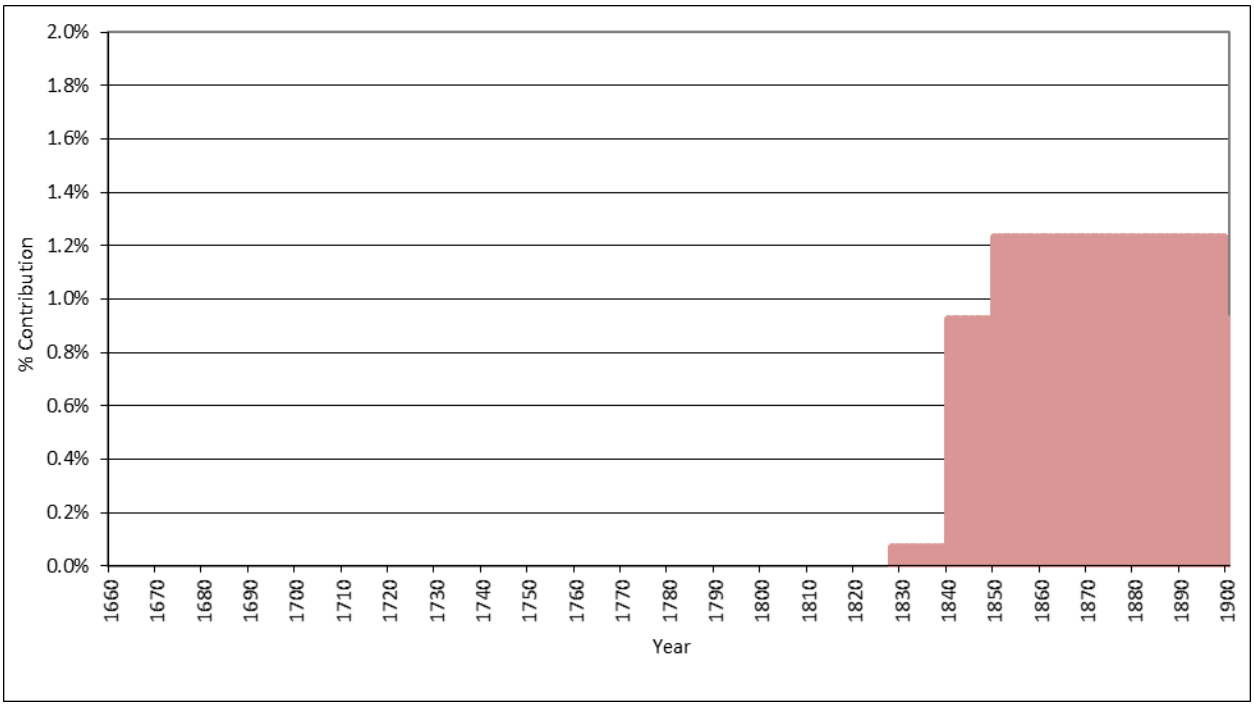

Figure 8.24. Context 169, Percent Contribution

Figure 8.25. Context 178, Percent Contribution

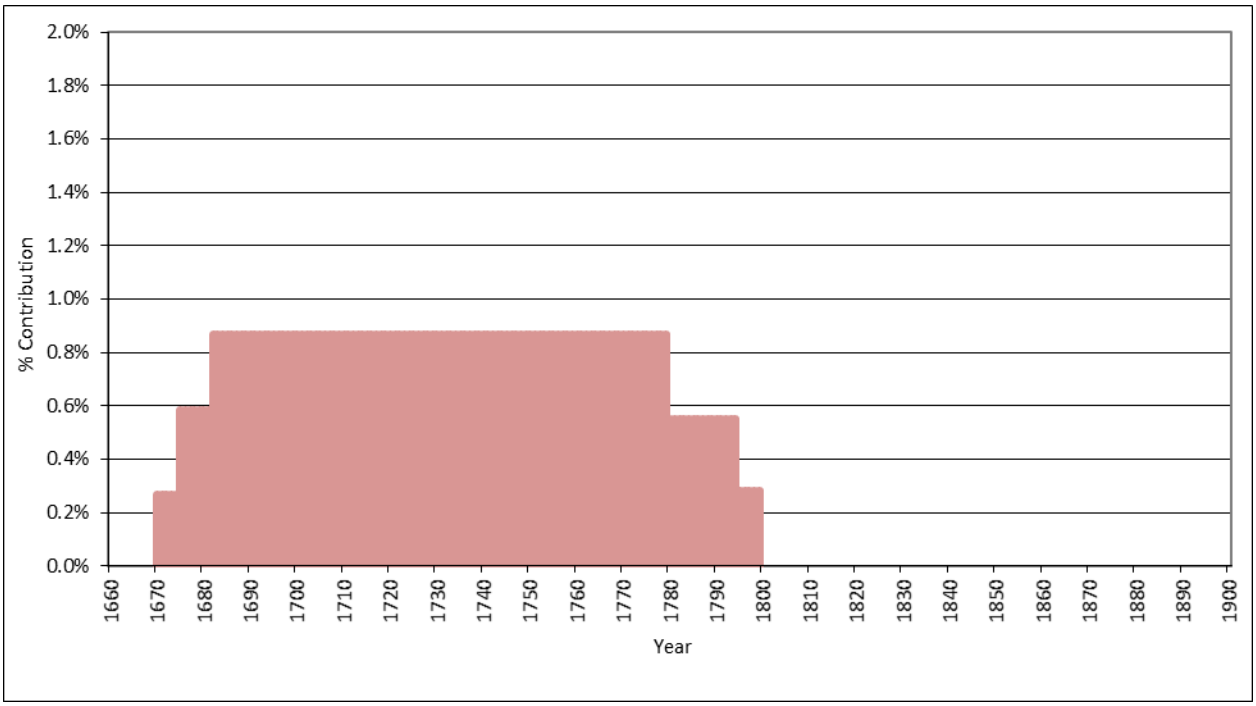

Figure 8.26. Context 194, Percent Contribution

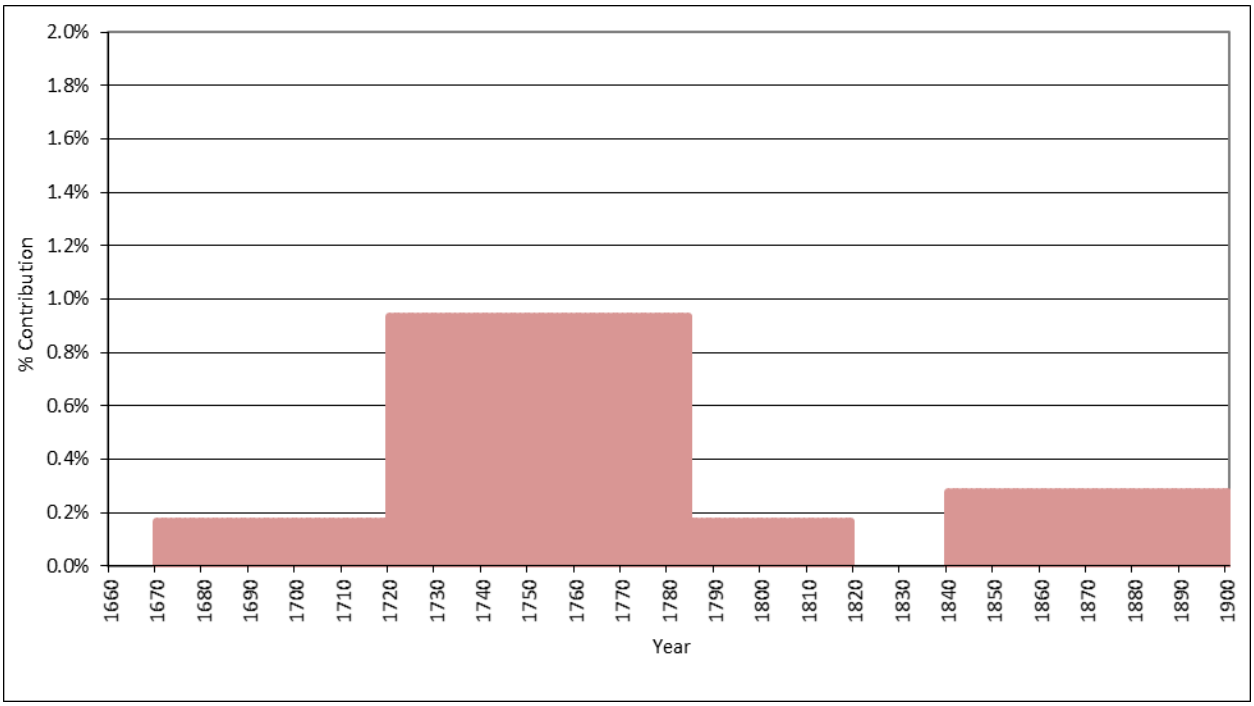

Figure 8.27. Context 195, Percent Contribution

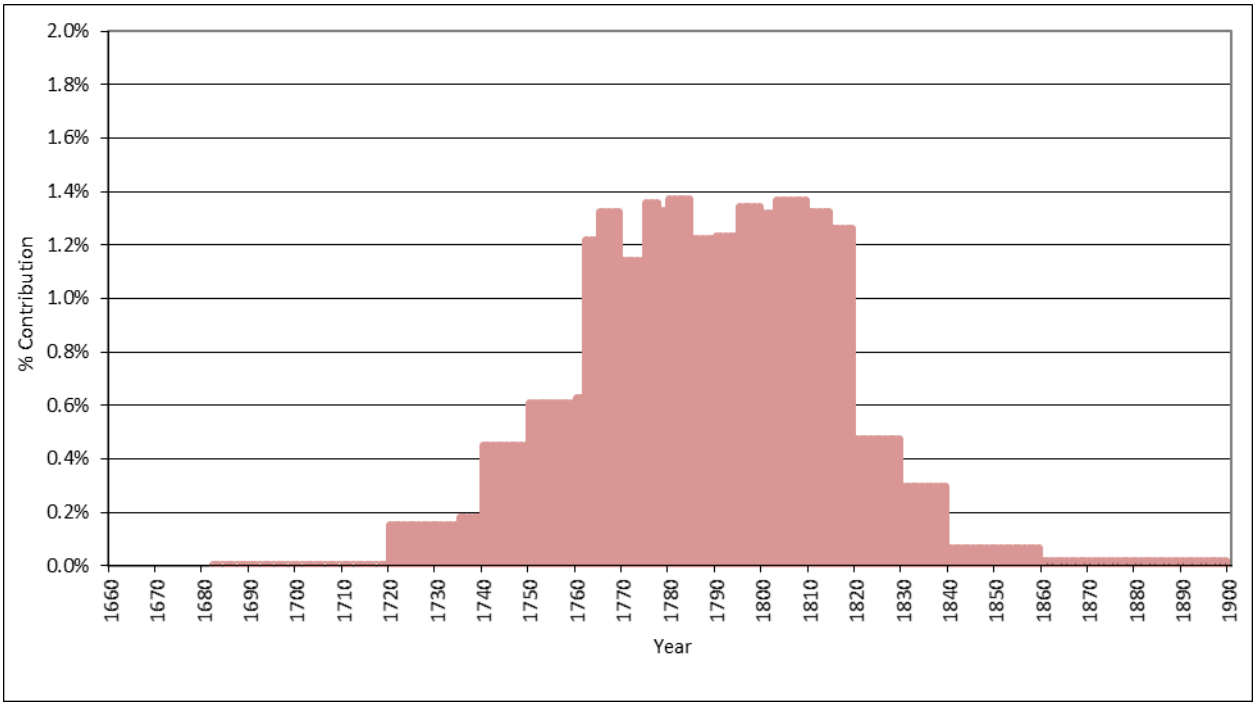

Figure 8.28. Context 197, Percent Contribution

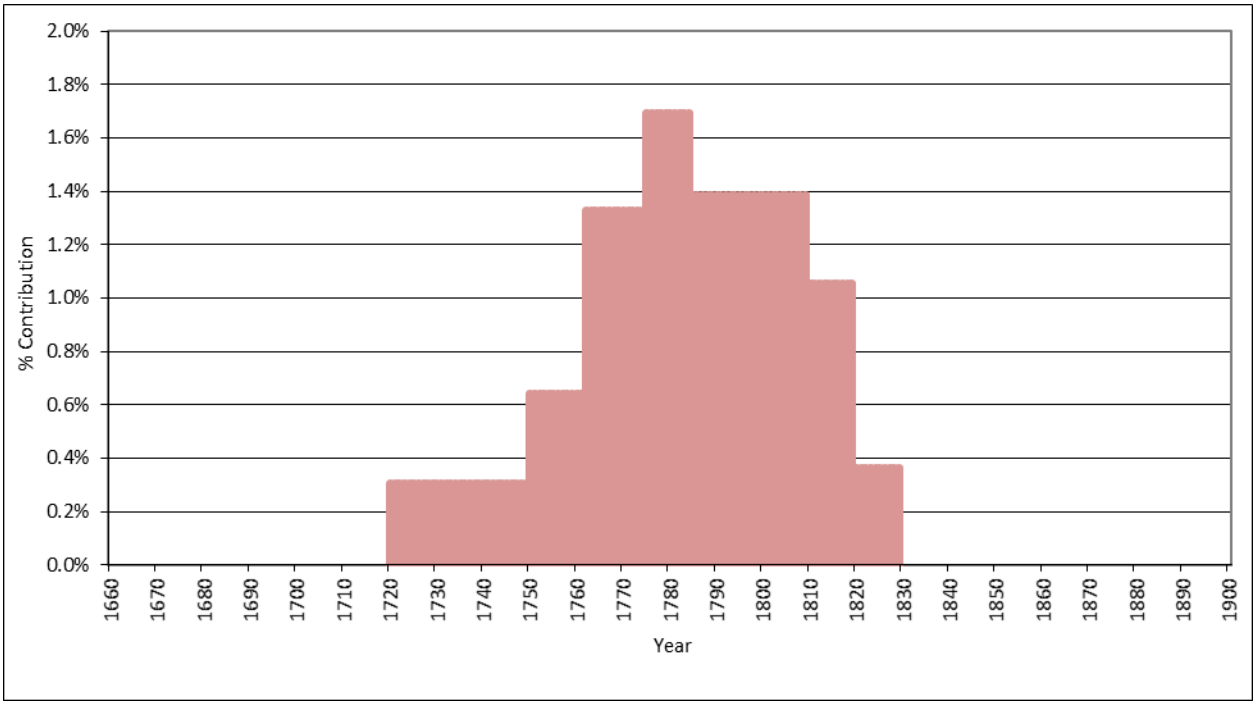

Figure 8.29. Context 198, Percent Contribution

Appendix D. Artifact Inventory

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
6	1	1		30.001	4.001	0.47-1.34 Bd	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Vertebra of a medium mammal.			13.80
6	1	1		30.002	4.002	0.47-1.34 Bd	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Possible metatarsal or metacarpal bone of a medium sized mammal.			5.00
6	1	1		30.003	4.003	0.47-1.34 Bd	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Possible long bone fragment of a medium sized mammal.			2.40
6	1	1		30.004	4.004	0.47-1.34 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Pearlware		Indeterminate							No visible decoration. Organically stained and heavy usewear on one side.	1775-1840	Azizi et al 1996	2.90
6	1	1		30.005	4.005	0.47-1.34 Bd	1	Historic	Household	Glass: Non-Lead Glass	Indeterminate: Body Sherd		Colorless		Indeterminate								Flat body sherd.			2.10
6	1	1		30.006	4.006	0.47-1.34 Bd	2	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Amber		Indeterminate								Curved body sherds. Sherds do not mend.			4.20
6	1	1		30.007	4.007	0.47-1.34 Bd	2	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua, Light													3.60
6	1	1		30.008	4.008	0.47-1.34 Bd	1	Historic	Architectural	Metal: Iron	Nail: Fragment				Indeterminate						Rusted		Too rusted to determine manufacturing technique.			23.00
9	1		3	31.001	2.001	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Saucer: Base/Body Sherd			Pearlware		Painted	Earth Tone Colors: Floral	Footring, Free-Standing Wedge			Organically Stained	X	Painted decoration on interior; organically stained on interior and exterior.	1795-1830	Miller et al 2000 pg. 12	15.70
9	1		3	31.002	2.002	app. 3.7	3	Historic	Household	Ceramic: Refined Earthenware	Saucer: Rim Sherd			Pearlware		Painted	Earth Tone Colors: Floral				Organically Stained		Brown painted line under interior rim; floral painted decoration under it. Sherds do not mend but could belong to the same vessel.	1795-1830	Miller et al 2000 pg. 12	5.40
9	1		3	31.003	2.003	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Teaware, General: Rim Sherd			Pearlware		Painted	Brown: Indeterminate				Organically Stained		Brown painted band visible on interior and exterior of rim. Likely a tea cup or small bowl/breakfast cup.	1795-1830	Miller et al 2000 pg. 12	2.30
9	1		3	31.004	2.004	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Teaware, General: Body Sherd			Pearlware		Painted	Earth Tone Colors: Indeterminate						Likely either a saucer or tea cup.	1795-1830	Miller et al 2000 pg. 12	1.20
9	1		3	31.005	2.005	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Teaware, General: Body Sherd			Pearlware		Painted	Earth Tone Colors: Floral						Likely a tea cup.	1795-1830	Miller et al 2000 pg. 12	0.60
9	1		3	31.006	2.006	app. 3.7	2	Historic	Household	Ceramic: Refined Earthenware	Teaware, General: Body Sherd			Pearlware		Painted	Earth Tone Colors: Indeterminate				Organically Stained		Likley part of a tea cup or small bowl/breakfast cup. Sherds do not mend but could belong to the same vessel.	1795-1830	Miller et al 2000 pg. 12	3.60
9	1		3	31.007	2.007	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Rim Sherd			Creamware		Indeterminate					Organically Stained		Feather edged creamware rim. Heavily stained.	1762-1800	Miller et al 2000 pg. 12, www.jefpat.org	8.20
9	1		3	31.008	2.008	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Handle			Pearlware		Indeterminate					Organically Stained		Unidentified handle fragment; heavily stained. Likely belonged to a medium/large sized hollowware.	1775-1840	Azizi et al 1996	11.50
9	1		3	31.009	2.009	app. 3.7	2	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Pearlware		Dipt	Mocha	w/ self			Organically Stained	X	Blue and brown banded around the rim. Under the bands there is a tan solid color field with a mocha/dendritic pattern visible. Sherds mend.	1790-1860	www.jefpat.org	4.20
9	1		3	31.010	2.010	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Pearlware		Dipt	Brown: Banded						Single brown band visible. Possibly engine turned or rouletted, but sherd is too small to identify specifically.	1775-1860	Azizi et al 1996, www.jefpat.org	0.60
9	1		3	31.011	2.011	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Rim Sherd			Creamware		Indeterminate				Bath	Organically Stained		No decoration visible; heavily stained. Bath rim.	1775-1820	www.jefpat.org, Miller et al 2000 pg. 12	4.00
9	1		3	31.012	2.012	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Rim Sherd			Creamware		Indeterminate				Scalloped	Organically Stained		No decoration visible; heavily stained. Scalloped rim.	1762-1820	Miller et al 2000 pg. 12	1.20
9	1		3	31.013	2.013	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Body Sherd			Creamware		Indeterminate							No decoration visible. Marly/cavetto sherd from a plate.	1762-1820	Miller et al 2000 pg. 12	2.00
9	1		3	31.014	2.014	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Base Sherd			Creamware		Indeterminate					Organically Stained		Flat base sherd with no footring remaining. No decoration visible. Obvious use wear present and heavily stained.	1762-1820	Miller et al 2000 pg. 12	5.10
9	1		3	31.015	2.015	app. 3.7	8	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Creamware		Indeterminate					Organically Stained		No decoration visible; multiple vessels represented.	1762-1820	Miller et al 2000 pg. 12	9.50
9	1		3	31.016	2.016	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base/Body Sherd			Creamware		Indeterminate		Footring, Free-Standing Round			Organically Stained		Large hollowware base; possibly a chamber pot base. Heavily stained. No decoration visible. Some kiln damage visible.	1762-1820	Miller et al 2000 pg. 12	23.40
9	1		3	31.017	2.017	app. 3.7	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd		Gray	Salt Glazed, Gray/Buff Bodied		Albany-Type Slip	Brown, Dark:						Unidentified body sherd from a medium/large-sized hollowware.	1805-1940	Miller et al 2000 pg. 10, Azizi et al 1996	34.10

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
9	1		3	31.018	2.018	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Teaware, General: Body Sherd			Red Bodied		Engine Turned: Rouletted	Geometric Pattern					X	Likely a tea or coffee pot sherd, or sugar bowl sherd. There is a ledge for a lid visible. Rouletted bands visible just under the ledge with geometric engine turned decoration under it. Small amount of kiln damage visible on the interior.	1760-1830	Hawkins 1999, Rickard & Carpentier 2004	8.30
9	1		3	31.019	2.019	app. 3.7	2	Historic	Household	Ceramic: Coarse Earthenware	Food Storage, General: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Likely sherds belonging to a large jar. Dark brown glaze on interior; unglazed exterior. Sherds do not mend but likely belong to the same vessel.			99.20
9	1		3	31.020	2.020	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Dish: Body Sherd			Redware		Slip Decorated: Single Glazed	Yellow & Green: Trailed Slip w/ Copper Blotches					X	6 wavy yellow slip lines visible with copper blotching on top of them.	1870		77.70
9	1		3	31.021	2.021	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Dark Patches in Glaze: Single Glazed	Brown, Dark: Blotched						This sherd is glazed on the exterior and is unglazed on the interior. Typically it is the opposite.			10.00
9	1		3	31.022	2.022	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Molded Pattern: Double Glazed	Brown, Dark: Indeterminate				Reduced		Thin-bodied hollowware sherd with a molded band visible. Sherd paste is slightly reduced.			5.00
9	1		3	31.023	2.023	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:				Reduced		Thin-bodied rim sherd; paste is reduced.			1.40
9	1		3	31.024	2.024	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Rim is much thicker than the sherd in FS 2.23.			2.90
9	1		3	31.025	2.025	app. 3.7	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Redware		Lead Glazed: Double Glazed	Black:						Thin-bodied sherds; sherds do not mend but likely belong to the same vessel.			5.00
9	1		3	31.026	2.026	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Interior Spalled	Black:									1.80
9	1		3	31.027	2.027	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Exterior Spalled	Brown, Dark:									1.00
9	1		3	31.028	2.028	app. 3.7	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Base Sherd			Porcelain, Hard Paste		Indeterminate							No decoration visible; small base sherd. Likely a teaware of some kind.			2.10
9	1		3	31.029	2.029	app. 3.7	1	Historic	Household	Ceramic: Porcelain	Tea Cup: Body/Rim Sherd			Porcelain, Chinese Export		Painted: Molded Pattern	Blue: Other				Scalloped		Nanking shaded trellis, spearhead, and dumbbell rim pattern on interior. There is a painted pattern on the exterior but it is unidentified. There is a brown/yellow overglazed painted line on top of the rim. Body is molded with light ribs. Dates are based on the dates for the Naking shaded trellis, spearhead, and dumbbell rim form.	1765-1820	Madsen & White 2011 pg. 102	4.50
9	1		3	31.030	2.030	app. 3.7	3	Historic	Household	Ceramic: Porcelain	Saucer: Base/Body/Rim Sherd			Porcelain, Chinese Export		Painted: Painted, Overglaze	Blue & Light Brown: Other	Footring, Free-Standing Wedge			Scalloped		Nanking shaded trellis, spearhead, and dumbbell rim pattern on interior. Not enough of the central pattern remains to identify it. There is a light brown overglazed painted line on top of the rim. . Dates based on the dates for the Naking shaded trellis, spearhead, & dumbbell rim form. Two sherds mend but all three likely belong to the same vessel.	1765-1820	Madsen & White 2011 pg. 102	26.70
9	1		3	31.031	2.031	app. 3.7	1	Historic	Household	Ceramic: Porcelain	Saucer: Base/Body Sherd			Porcelain, Chinese Export		Painted	Blue: Other	Footring, Free-Standing Wedge			Scalloped		Not enough of central pattern remains to identify it, but it is likely a pavilion landscape. The spearhead & dumbbell portion of a Naking shaded trellis, spearhead, & dumbbell rim pattern is present. Since the entire rim pattren isn't present, no dates are given. For reference, the Naking shaded trellis, spearhead, & dumbbell rim pattern dates to 1765-1829 (Madsen & White 1999:102).			19.70

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
9	1		3	31.032	2.032	app. 3.7	1	Historic	Household	Ceramic: Porcelain	Plate: Base/Body Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate	Tooled Foot, Wedge-Shaped Foot Ring					Plate features a shaded trellis rim border. Not enough of the central design remains to identify pattern but it is likely a Naking style pavillion landscape.			15.90
9	1		3	31.033	2.033	app. 3.7	1	Historic	Household	Ceramic: Porcelain	Teaware, General: Body/Rim Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate						Likely a saucer or small bowl. Not enough of the decoration remains to identify the pattern but it looks like a landscape pattern.			3.10
9	1		3	31.034	2.034	app. 3.7	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate						Small sherd; not enough of decoration remains to identify pattern.			0.70
9	1		3	31.035	2.035	app. 3.7	1	Historic	Household	Ceramic: Porcelain	Hollowware: Base Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate	Footring, Free-Standing Square					Not enough of decoration remains to identify pattern.			6.30
9	1		3	31.036	2.036	app. 3.7	1	Historic	Household	Ceramic: Porcelain	Teaware, General: Rim Sherd			Porcelain, Chinese Export		Painted, Overglaze	Indeterminate: Neo-Classical Style			Scalloped			Likely a tea cup. The paint is so degraded; actual color cannot be determined.	1765-1810	Madsen & White 2011 pg. 116	0.40
9	1		3	31.037	2.037	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Teaware, General: Body/Rim Sherd			Whiteware		Molded Pattern	Indeterminate				Organically Stained		Lightly molded; possibly with scrolls. Sherd looks like a later whiteware. Likely a tea cup. Heavily stained.	1815		3.90
9	1		3	31.038	2.038	app. 3.7	5	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua													14.20
9	1		3	31.039	2.039	app. 3.7	2	Historic	Household	Glass: Lead	Stemware: Body Sherd		Colorless		Mouth Blown, General			w/ self			Organically Stained		Likely a wine glass or champage flute. Very heavily stained. Sherds mend.			29.20
9	1		3	31.040	2.040	app. 3.7	4	Historic	Indeterminate	Glass: Non-Lead Glass	Indeterminate: Body Sherd		Colorless		Indeterminate								Thin, curved sherds. Could be lamp glass or container glass. Sherds do not mend but could belong to the same object.			4.30
9	1		3	31.041	2.041	app. 3.7	1	Historic	Household	Glass: Common Glass	Bottle: Body Sherd		Green, Bright		Mold Blown, Machine	Embossed	Other						"7-up" green colored bottle sherd embossed with the "registered" mark ("R" inside circle). The mark was originally introduced as part of the Trademark Act of 1946.	1946		4.00
9	1		3	31.042	2.042	app. 3.7	1	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Aqua		Indeterminate								Small, thin, curved sherd.			0.60
9	1		3	31.043	2.043	app. 3.7	1	Historic	Household	Glass: Common Glass	Indeterminate: Body Sherd		Amber		Indeterminate						Patinated		Unidentified sherd; very degraded.			0.50
9	1		3	31.044	2.044	app. 3.7	3	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Olive		Indeterminate						Patinated		Curved sherds; heavily patinated. Likely bottle glass. Sherds do not mend.			10.60
9	1		3	31.045	2.045	app. 3.7	2	Historic	Architectural	Glass: Non-Lead Glass	Plate Glass: Fragment		Colorless										One piece is .25" thick and the other is .20" thick.			21.90
9	1		3	31.046	2.046	app. 3.7	2	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Unglazed clay pipe stems. Not charred. (5/64 dia.)			2.90
9	1		3	31.047	2.047	app. 3.7	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay							Charred		Unglazed clay pipe stems. Slightly charred. (5/64 dia.)			1.10
9	1		3	31.048	2.048	app. 3.7	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay		Glazed	Black:						Exterior of pipe glazed/enameled in a lustre-like glaze. (5/64 dia.)			1.10
9	1		3	31.049	2.049	app. 3.7	2	Organic	Food Related	Fauna: Shell	Shell Hinge	Oyster														104.20
9	1		3	31.050	2.050	app. 3.7	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Clam, Quahog											N = 2			5.60
9	1		3	31.050	2.050	app. 3.7	1	Historic	Indeterminate	Metal: Iron	Strap: Fragment				Indeterminate						Rusted		Flat metal strap. Does not look curved enough to be a barrel strap.			74.50
9	1		3	31.051	2.051	app. 3.7	1	Historic	Architectural	Metal: Iron	Spike: Complete				Hand Wrought						Rusted		Large spike with wood still adhered to it. Too rusted to determine if it is an early or later wrought spike.	1890		109.40
9	1		3	31.052	2.052	app. 3.7	2	Historic	Architectural	Metal: Iron	Nail: Complete				Hand Wrought						Rusted		Too rusted to determine if they are early or later wrought nails.	1890		19.50
9	1		3	31.053	2.053	app. 3.7	2	Historic	Architectural	Metal: Iron	Nail: Complete				Square						Rusted		Nails are likely hand-headed and they are bent, so they could be made of wrought iron.			13.40
9	1		3	31.054	2.054	app. 3.7	1	Historic	Architectural	Metal: Iron	Nail: Complete				Wire						Rusted		Nail head is completely rusted. Large nail.	1880		67.20
9	1		3	31.055	2.055	app. 3.7	1	Organic	Indeterminate	Fauna: Bone	Rib: Fragment	Unidentified Mammal											Rib fragment from a large mammal, probably cow or horse. No cut/butcher marks visble.			40.20
9	1		3	31.056	2.056	app. 3.7	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragment from a large mammal, probably cow or horse. No cut/butcher marks visble.			20.20

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
9	1		3	31.057	2.057	app. 3.7	1	Organic	Indeterminate	Fauna: Bone	Tarsal: Complete	Unidentified Mammal											4th tarsal from a large mammal, probably a cow. No cut or butcher marks visible.			81.30
9	1		3	31.058	2.058	app. 3.7	1	Organic	Indeterminate	Fauna: Bone	Calcaneus: Complete	Unidentified Mammal											Calcaneus from a large mammal, probably a cow. No cut or butcher marks visible.			156.30
9	1		3	31.059	2.059	app. 3.7	2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragments from a juvenile animal. Probably a medium-sized mammal.			17.80
9	1		3	31.060	2.060	app. 3.7	2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragments from a medium-sized mammal. No cut or butcher marks visible.			50.40
9	1		3	31.061	2.061	app. 3.7	1	Organic	Indeterminate	Fauna: Bone	Rib: Fragment	Unidentified Mammal											Rib fragment from a medium-sized mammal. No cut or butcher marks visible.			5.40
9	1		3	31.062	2.062	app. 3.7	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragment with saw marks visible.			8.70
9	1		3	31.063	2.063	app. 3.7	2	Organic	Indeterminate	Flora: Wood	Wood Fragment	Indeterminate														60.40
9	1		3	31.064	2.064	app. 3.7	10	Organic	Indeterminate	Flora: Wood	Wood Fragment	Indeterminate														462.60
21	1			32.001	7.001	0.35-0.68	2	Historic	Indeterminate	Flora: Wood	Wood Fragment												Very small wood fragments			0.10
21	1			32.002	7.002	0.35-0.68	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Dipt	Brown: Banded				Burned		Small curved body fragments with brown band on the exterior, pieces do not mend	1775-1860	Azizi et al 1996, www.jefpat.org	0.90
21	1			32.003	7.003	0.35-0.68	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Painted	Blue:						Curved body fragment with painted blue decoration partially visible, not enough to determine pattern	1775-1830	Miller et al 2000 pg. 12	1.00
21	1			32.004	7.004	0.35-0.68	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Indeterminate					Burned		Pearlware body fragment with no decoration visible, bottom part of a rim, top of the rim not present, burned	1774-1840	Azizi et al 1996	1.40
21	1			32.005	7.005	0.35-0.68	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Whiteware									Very small whiteware fragment, no decoration visible	1815		0.40
21	1			32.006	7.006	0.35-0.68	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware/Whiteware		Indeterminate: Exterior Spalled					Stained		Stained fragments, no decoration visible, pieces do not mend, spalled on one side			1.70
21	1			32.007	7.007	0.35-0.68	4	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua												11.00
21	1			32.008	7.008	0.35-0.68	3	Historic	Household	Glass: Non-Lead Glass	Container Glass: Body Sherd		Colorless		Indeterminate								Small curved fragments, pieces do not mend			2.70
21	1			32.009	7.009	0.35-0.68	1	Historic	Household	Glass: Non-Lead Glass	Indeterminate: Fragment		Colorless		Indeterminate								Small flat colorless fragment			1.10
29	2			40.001	1.001	app. 1.2-2.4	2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Two rib bones from a possibly medium sized mammal.			5.30
29	2			40.002	1.002	app. 1.2-2.4	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Vertebra of a possibly medium sized mammal.			6.50
29	2			40.003	1.003	app. 1.2-2.4	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Metapodial bone of a medium sized mammal.			115.00
29	2			40.004	1.004	app. 1.2-2.4	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:	Pedestaled Foot					Round base/body sherd			14.90
29	2			40.005	1.005	app. 1.2-2.4	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base Sherd			Red Bodied		Lead Glazed: Single Glazed	Brown, Dark:						Lead glaze on interior.			10.50
29	2			40.006	1.006	app. 1.2-2.4	2	Historic	Household	Ceramic: Coarse Earthenware	Dish/Pan: Rim Sherd			Redware		Slip Decorated: Lead Glazed	Green, Yellow: Trailed Slip w/ Copper Blotches	w/ self		Guttered		X	Wide guttered rim. Wavy green trailed slip line inside interior gutter and one striaght yellow trailed slip line on interior rim. Single glazed on interior Wash on exterior.	1870		9.10
29	2			40.007	1.007	app. 1.2-2.4	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Base Sherd			Redware		Lead Glazed: Single Glazed	Brown:				Obvious Use Wear		Lead glazed on interior. Heavy use wear apparent on interior.			7.40
29	2			40.008	1.008	app. 1.2-2.4	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Indeterminate:						Lead glazed on interior, most of glaze has popped off leaving the white slip underneath visible.			8.90
29	2			40.009	1.009	app. 1.2-2.4	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd			White Salt Glazed		Indeterminate							No visible decoration.	1720-1785	www.jefpat.org	0.30
29	2			40.010	1.010	app. 1.2-2.4	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			White Ball Clay									Small curved body sherd.			0.30
29	2			40.011	1.011	app. 1.2-2.4	3	Historic	Architectural	Metal: Iron	Nail: Fragment				Cut						Rusted		Cut nails, too rusted to identify further.			30.20
29	2			40.012	1.012	app. 1.2-2.4	4	Historic	Architectural	Metal: Iron	Nail: Fragment				Indeterminate						Rusted		Too rusted to determine manufacturing technique.			31.90
29	2			40.013	1.013	app. 1.2-2.4	1	Historic	Indeterminate	Flora: Wood	Wood Fragment												Small plank of wood with evidence on one side of being axe cut.			10.00
32	1			33.001	3.001	app. 3.7	1	Historic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Femur of a medium sized mammal. Butcher cut marks			47.60

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
																							visible on the anterior portion of the bone shaft.			
32	1			33.002	3.002	app. 3.7	1	Historic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Vertebra of a large mammal that has been sawed through.			58.40
32	1			33.003	3.003	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base Sherd			Redware		Lead Glazed: Single Glazed	Brown:						Interior glazed.			5.20
32	1			33.004	3.004	app. 3.7	1	Historic	Household	Ceramic: Coarse Earthenware	Pan: Rim Sherd			Redware		Slip Decorated: Lead Glazed	Yellow: Trailed Slip			Guttered			Two straight lines of yellow slip, one on interior rim and on inside of gutter on interior rim.	1870		7.50
32	1			33.005	3.005	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Indeterminate							No visible decoration.	1775-1840	Azizi et al 1996	2.60
32	1			33.006	3.006	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Printed	Blue: Indeterminate						Very small portion of blue printed motif visible on interior.	1803-1830	www.jefpat.org, Miller et al 2000 pg. 13	0.40
32	1			33.007	3.007	app. 3.7	1	Historic	Household	Ceramic: Refined Earthenware	Flatware: Body Sherd			Whiteware		Indeterminate							No visible decoration. Possible marley and cavetto poriton of a plate.	1815		2.30
32	1			33.008	3.008	app. 3.7	1	Historic	Household	Glass: Non-Lead Glass	Bottle: Base/Body Sherd		Colorless		Mouth blown, Hinge Mold	Embossed	Lettering	Pontil, Glass tipped			Patinated		Square bottle. Embossed lettering on all four sides: "BY.../KINGS.../ESSEN.../PEPE..."	1810-1865	http://www.sha.org/bottle/bases.htm, www.sha.org/bottles	23.00
32	1			33.009	3.009	app. 3.7	1	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua													2.10
32	1			33.010	3.010	app. 3.7	1	Historic	Architectural	Metal: Iron	Nail: Complete				Cut						Rusted		Cut nail, too rusted at head to identify any further.			5.90
32	1			33.011	3.011	app. 3.7	1	Historic	Architectural	Metal: Iron	Nail: Fragment				Indeterminate						Rusted		Too rusted to determine manufacturing technique.			1.40
32	1			33.012	3.012	app. 3.7	1	Historic	Indeterminate	Metal: Lead	Indeterminate: Fragment												Thick lead fragment that is oval shaped and hollow but clamped together on one side.			115.50
32	1			33.013	3.013	app. 3.7	4	Historic	Personal	Fauna: Leather	Shoe/Boot Sole: Fragment												Leather shoe sole missing heel.			52.10
32	1			33.014	3.014	app. 3.7	1	Historic	Personal	Fauna: Leather	Shoe/Boot Sole: Complete												Small complete child's shoe sole.			46.50
51	1			34.001	5.001	1.34-2.0	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Vertebra fragment of a medium sized mammal.			3.10
51	1			34.002	5.002	1.34-2.0	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Small curved hollow bone, possibly long bone, of a medium sized mammal.			1.60
51	1			34.003	5.003	1.34-2.0	3	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Flat bone fragments of a mammal.			0.70
51	1			34.004	5.004	1.34-2.0	1	Historic	Household	Ceramic: Coarse Earthenware	Pan: Rim Sherd			Redware		Slip Decorated: Lead Glazed	Yellow: Trailed Slip			Guttered			One curved line of yellow trailed slip inside gutter of rim and one straight line of trailed slip visible on interior body.	1870		17.30
51	1			34.005	5.005	1.34-2.0	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Slip Decorated: Lead Glazed	Yellow: Trailed Slip						Four straught lines of trailed slip visible on interior body. Single glazed on interior.	1870		5.70
51	1			34.006	5.006	1.34-2.0	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Base Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Interior glazed.			4.10
51	1			34.007	5.007	1.34-2.0	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Thin, curved body sherd.			3.70
51	1			34.008	5.008	1.34-2.0	1	Historic	Household	Ceramic: Refined Earthenware	Plate, 7": Rim Sherd			Creamware		Indeterminate				Scalloped			No visible decoration.	1762-1820	Miller et al 2000 pg. 12	8.90
51	1			34.009	5.009	1.34-2.0	2	Historic	Household	Ceramic: Refined Earthenware	Plate: Base Sherd			Creamware		Indeterminate		Footring, Free-Standing Round			Obvious Use Wear		No visible decoratioin. Sherds do not mend but likely belong to the same vessel. Orgainc staining. Heavy use wear on interior.	1762-1820	Miller et al 2000 pg. 12	35.20
51	1			34.010	5.010	1.34-2.0	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Unidentified Refined Earthenware		Indeterminate							No visible decoration. Small curved body sherds. Heavy organic staining. Sherds do not mend.			1.40
51	1			34.011	5.011	1.34-2.0	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd			White Salt Glazed		Scratch Blue	Blue: Indeterminate					X	Small portion of scratch blue motif visible on both sides of sherd: interior has one thing curved line visible; exterior has to adjacent curved lines with repeating arrow-like motif above them.	1735-1778	Noel Hume 2001 pg. 206, www.jefpat.org	0.40
51	1			34.012	5.012	1.34-2.0	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Body Sherd			Porcelain, Hard Paste		Indeterminate							No visible decoration.			0.10
51	1			34.013	5.013	1.34-2.0	1	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Green		Mouth Blown, General								Slightly curved body sherd.			5.50
51	1			34.014	5.014	1.34-2.0	1	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Olive		Mouth Blown, General								Curved body sherds.			1.30
51	1			34.015	5.015	1.34-2.0	1	Historic	Household	Glass: Lead	Indeterminate: Body Sherd		Colorless		Mouth Blown, General								Curved body sherd.			0.30

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
51	1			34.016	5.016	1.34-2.0	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Pipe stem, broken on both ends. (4/64 dia.)			1.20
51	1			34.017	5.017	1.34-2.0	4	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua													3.00
51	1			34.018	5.018	1.34-2.0	2	Historic	Architectural	Metal: Iron	Nail: Fragment				Indeterminate						Rusted		Too rusted to determine manufacturing technique.			12.50
51	1			34.901	5.901	1.34-2.0	1	Organic	Food Related	Flora: Shell	Shell Fragment	Cocos nucifera											Coconut shell fragment.			15.20
66	2			41.001	12.001		1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal									Stained		Indeterminate mammal bone, no cut/butcher marks present, stained with dark blotches			216.70
66	2			41.002	12.002		2	Historic	Indeterminate	Flora: Wood	Wood Fragment										Stained		Small piece of wood, stained with some black blotches, flaking			3.40
66	2			41.003	12.003		1	Historic	Indeterminate	Flora: Wood	Wood Fragment										Stained		Small piece of wood, stained with some black blotches			7.20
66	2			41.004	12.004		1	Organic	Food Related	Fauna: Shell	Shell Fragment												One fragment from the spiral interior of a conch shell			3.20
66	2			41.005	12.005		1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Very small pipe stem fragment, no decoration visible (5/64 dia.)			0.80
66	2			41.006	12.006		1	Historic	Architectural	Metal: Iron	Nail: Complete				Indeterminate						Rusted		Rusted iron nail, hand-headed, too rusted to determine manufacture technique			67.20
66	2			41.007	12.007		1	Historic	Household	Glass: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:				Charred		Curved body fragment, glazed interior, unglazed exterior, small ledge visible on the interior, probably near the rim, no rim section present, slightly charred on exterior			29.00
66	2			41.008	12.008		1	Historic	Household	Glass: Coarse Earthenware	Hollowware: Body Sherd			Redware		Dark Patches in Glaze: Double Glazed	Brown: Blotched						Small body fragment with small patches of dark glaze on the interior, dark brown on the exterior, double glazed			8.00
66	2			41.009	12.009		1	Historic	Household	Glass: Refined Earthenware	Chamber Pot: Rim Sherd			Whiteware		Indeterminate				Flare	Burned		Flared flat rim fragment, burned with small dark stained patches, probably from a chamber pot, no decoration visible	1815		12.50
66	2			41.010	12.010		1	Historic	Household	Glass: Refined Earthenware	Indeterminate: Body Sherd			Pearlware/Whiteware		Indeterminate: Exterior Spalled							Very small body fragment, no decoration visible, spalled on one side	1805-1880	Miller et al 2000 pg. 13, Miller 1993	0.10
66	2			41.011	12.011		1	Historic	Household	Glass: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Indeterminate					Burned		Heavily burned body fragment on the interior and exteriors, unable to determine decoration			7.80
66	2			41.012	12.012		1	Historic	Household	Glass: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:				Charred		Flat tooled base with dark brown glazed exterior, interior is too charred to determine decoration			27.60
66	2			41.013	12.013		1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd		Gray	Westerwald/Rhenish		Incised & Stamped: Painted	Blue: Indeterminate					X	Sherd has 2 stamped rosettes and incised lines visible. Blue painted on top of the stamped and incised decoration. Probably a mug or small jug. Likely either German-made or early New York City.	1682-1775	http://www.city-data.com/world-cities/Philadelphia-History.html, www.jefpat.org	24.70
68	2			42.001	11.001		1	Organic	Food Related	Fauna: Shell	Shell Hinge: Almost Complete	Oyster									Stained		Almost complete oyster shell with hinge present, dark brack staining on the exterior of shell			52.20
68	2			42.002	11.002		1	Historic	Household	Glass: Common Glass	Bottle: Base/Body Sherd		Green		Mold Blown, Indeterminate				Smooth Base		Obvious Use Wear		Cylindrical base fragment from a bottle, shiver marks visible near the base of the body, straight-sided body partially visible, use wear on base, smooth base, no air venting marks visible, possible embossed letter in the middle of the base, but unable to read			77.90
70	1			35.001	8.001	4.3-45	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd			White Salt Glazed		Indeterminate							Small sherd; no decoration visible.	1720-1785	www.jefpat.org	0.30
70	1			35.002	8.002	4.3-45	6	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Unidentified Refined Earthenware		Indeterminate					Organically Stained		Probably creamware or pearlware but the sherds are either too burned or stained to identify ware type. No decoration visible. Sherds do not mend.			4.20
70	1			35.003	8.003	4.3-45	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Unidentified Refined Earthenware		Indeterminate					Organically Stained		Probably creamware or pearlware but the sherd is either too burned or stained to identify ware type. No decoration visible. Flat base sherd with no footring remaining. Obvious use wear visible.			2.20

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
70	1			35.004	8.004	4.3-45	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base Sherd			Pearlware		Indeterminate			Footring, Free-Standing Wedge		Organically Stained		No decoration visible.	1775-1840	Azizi et al 1996	1.70
70	1			35.005	8.005	4.3-45	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Pearlware		Painted	Blue: Indeterminate						Large brush strokes, likely floral patterned. Dates based on the dates for large brush strokes.	1815-1830	www.jefpat.org	0.80
70	1			35.006	8.006	4.3-45	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Pearlware		Painted	Blue: Indeterminate							1775-1830	Miller et al 2000 pg. 12	0.10
70	1			35.007	8.007	4.3-45	1	Historic	Household	Glass: Non-Lead Glass	Drinking Vessel: Base/Body Sherd		Colorless		Mouth Blown, General				Pontil, Glass tipped				Likely a shot glass or small tumbler.			29.60
70	1			35.008	8.008	4.3-45	1	Historic	Architectural	Metal: Iron	Nail: Complete				Hand Wrought						Rusted		Hand wrought nails generally stop being used after 1830 but were still made after cut nails were introduced for use in situations where nails needed to be clinched or where the stress may break a cut nail (Wells 2000:321-322).			24.10
70	1			35.009	8.009	4.3-45	1	Historic	Indeterminate	Fauna: Leather	Indeterminate: Fragment												Unidentified leather fragment.			3.70
71	1			36.001	9.001	app. 4.5	1	Historic	Indeterminate	Metal: Iron	Indeterminate: Fragment				Indeterminate						Rusted		Heavily rusted iron fragment, flat on one side, heavy			67.10
71	1			36.002	9.002	app. 4.5	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Pipe stem fragment, no decoration visible (5/64 dia.)			2.40
71	1			36.003	9.003	app. 4.5	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware/Whiteware		Indeterminate					Obvious Use Wear		Small body fragments, no decoration visible, pieces mend, use marks visible on interior	1805-1880	Miller et al 2000 pg. 13, MIller 1993	0.50
82	1		17	37.001	10.001	4.5-4.91	1	Historic	Architectural	Ceramic: Coarse Earthenware	Brick, Bat: Fragment		Orange								Stained		Large brick fragment with one measureable side, very shipped, dark staining in several places			930.50
82	1		17	37.002	10.002	4.5-4.91	1	Organic	Indeterminate	Flora: Wood	Wood Fragment												Small wood fragment, very light, flat on one side			0.80
82	1		17	37.003	10.003	4.5-4.91	1	Organic	Food Related	Fauna: Shell	Shell Hinge: Fragment	Oyster											Oyster shell fragment with hinge			12.60
82	1		17	37.004	10.004	4.5-4.91	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Clam											n=1 small clam shell fragment			3.40
82	1		17	37.005	10.005	4.5-4.91	1	Historic	Fuel	Lithic: Coal	Coal Fragment															2.30
82	1		17	37.006	10.006	4.5-4.91	1	Historic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Long bone, probably from a medium sized mammal, no butcher or cut marks visible			35.40
82	1		17	37.007	10.007	4.5-4.91	1	Historic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Rib fragment, no butcher or cut marks visible			1.30
82	1		17	37.008	10.008	4.5-4.91	1	Historic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Small indeterminate bone fragment, no butcher or cut marks visible			3.90
82	1		17	37.009	10.009	4.5-4.91	1	Historic	Architectural	Metal: Iron	Latch: Complete				Indeterminate						Rusted		Rusted iron, right angle at one end and a metal loop at the other, probably a hook and eye latch for a door, comes to a point at one end			31.00
82	1		17	37.010	10.010	4.5-4.91	2	Historic	Architectural	Metal: Iron	Nail: Complete				Indeterminate						Rusted		Rusted iron nails, one is bent at one end, too rusted to determine type			19.80
82	1		17	37.011	10.011	4.5-4.91	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Hard Paste		Painted	Black: Indeterminate						Small curved porcelain fragment with stright rim, very small painted leaves and two horizontal lines visible on the interior rim, one leaf visible on exterior rim			0.60
82	1		17	37.012	10.012	4.5-4.91	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware/Whiteware		Indeterminate					Burned		Small body fragments, burned, no decoration visible, pieces do not mend	1805-1880	Miller et al 2000 pg. 13, Miller 1993	0.90
82	1		17	37.013	10.013	4.5-4.91	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Creamware		Indeterminate							Very small curved fragment, thin,	1762-1820	Miller et al 2000 pg. 12	0.30
82	1		17	37.014	10.014	4.5-4.91	2	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Olive		Mouth Blown, General						Patinated		Curved body fragment, pieces do not mend, one piece is heavily patinated			7.10
82	1		17	37.015	10.015	4.5-4.91	1	Historic	Household	Ceramic: Stoneware	Hollowware: Handle		Gray	Salt Glazed, Gray/Buff Bodied									Round handle fragment from a stoneware vessel, orange interior			51.80
82	1		17	37.016	10.016	4.5-4.91	1	Historic	Household	Ceramic: Refined Earthenware	Teaware, General: Body Sherd			Red Bodied		Molded Pattern	Rouletted						Curved body fragment with at least four rouletted lines with repeating dots visible, small ledge			7.10
82	1		17	37.017	10.017	4.5-4.91	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment										Stained		Very small bone fragment, very dark staining, no butcher or cut marks visible			0.70

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
84	2			43.001	13.001		1	Historic	Architectural	Metal: Iron	Spike: Complete				Cut						Rusted		Large iron spike, top half of the spike is rusted with some wood present, tapers on two sides	1790-1890	Wells 2000 pg. 323-325	120.00
87	1		6	38.001	14.001		1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base/Body Sherd			Pearlware		Dipt	Brown-Orange: Indeterminate		Tooled Foot, Wedge-Shaped Foot Ring		Burned		Base and body of a cylindrical hollowware, with dipt solid brown/orange decoration on the exterior, not enough to determine pattern, burned, tooled wedge foot	1775-1860	Azizi et al 1996, www.jefpat.org	8.90
104	3	2		45.001	21.001	0.37-1.35 Bd	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment												Bone fragment from a large mammal, no butcher or cut marks visible			226.60
104	3	2		45.002	21.002	0.37-1.35 Bd	1	Organic	Food Related	Fauna: Shell	Shell Hinge: Almost Complete	Clam											Almost complete clam shell with hinge present			70.10
104	3	2		45.003	21.003	0.37-1.35 Bd	2	Organic	Food Related	Fauna: Shell	Shell Hinge: Fragment	Oyster											Two shell fragments, both with hinges present			34.70
104	3	2		45.004	21.004	0.37-1.35 Bd	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Clam											n=1 clam shell fragment			3.40
104	3	2		45.005	21.005	0.37-1.35 Bd	4	Organic	Indeterminate	Fauna: Bone	Bone: Fragment				Indeterminate								Bone fragments, no butcher or cut marks visible			11.90
104	3	2		45.006	21.006	0.37-1.35 Bd	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Small bone fragment with butcher mark			5.80
104	3	2		45.007	21.007	0.37-1.35 Bd	1	Historic	Fuel	Lithic: Coal	Coal Fragment												Large coal fragment			115.90
104	3	2		45.008	21.008	0.37-1.35 Bd	1	Historic	Architectural	Metal: Iron	Nail: Complete				Indeterminate						Rusted		Rusted iron nail, bent			7.60
104	3	2		45.009	21.009	0.37-1.35 Bd	1	Historic	Architectural	Metal: Iron	Nail: Almost Complete				Hand Wrought						Rust Stained		Bent nail, some rust visible, hand wrought, tapers on all four sides	1830		4.90
104	3	2		45.010	21.010	0.37-1.35 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Handle			Redware		Lead Glazed: Double Glazed	Brown:						Fragment from a large handle, interior and exterior glazed			10.60
104	3	2		45.011	21.011	0.37-1.35 Bd	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Handle			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Small curved body fragments, very dark brown glaze on the interior and exterior, pieces do not mend			6.50
104	3	2		45.012	21.012	0.37-1.35 Bd	3	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua													2.10
104	3	2		45.013	21.013	0.37-1.35 Bd	1	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Olive		Indeterminate								Very small curved fragment			1.40
104	3	2		45.014	21.014	0.37-1.35 Bd	1	Historic	Household	Ceramic: Porcelain	Plate: Body Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate						Marley and covetto visible with a flower and several geometric patterns on the interior			3.60
104	3	2		45.015	21.015	0.37-1.35 Bd	3	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Fragment			Whiteware									Small whiteware fragments, pieces do not mend, no decoration visible, mostly flat	1815		3.20
104	3	2		45.016	21.016	0.37-1.35 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Whiteware					Footring, Undercut				Undercut base fragment, no decoration visible	1815		5.60
104	3	2		45.017	21.017	0.37-1.35 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Creamware		Incised	Lined						Small curved fragment with two parallel incised lines present	1762-1820	Miller et al 2000 pg. 12	0.80
106	3			46.001	18.001	2.35-2.80	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Small fragment from a pipe stem, no decoration visible (5/64 dia.)			1.70
107	3	2		47.002	20.002	0.25-.35 Bd/2.6-3.1	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragment with no butcher or cut marks visible			27.40
107	3	2		47.003	20.003	0.25-.35 Bd/2.6-3.1	0	Organic	Food Related	Fauna: Shell	Shell Fragment												n=1			5.00
107	3	2		47.004	20.004	0.25-.35 Bd/2.6-3.1	1	Historic	Architectural	Metal: Iron	Nail: Complete				Cut						Rusted		Short nail, bent, hand-headed			2.40
107	3	2		47.005	20.005	0.25-.35 Bd/2.6-3.1	1	Historic	Activities	Ceramic: Coarse Earthenware	Flower Pot: Body Sherd			Redware		Unglazed							Curved unglazed body fragment			4.90
107	3	2		47.006	20.006	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Very small fragment, dark brown glaze on the interior and exterior			1.00
107	3	2		47.007	20.007	0.25-.35 Bd/2.6-3.1	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:						Body fragments, glazed on the interior, unglazed exterior, pieces do not mend			28.20
107	3	2		47.008	20.008	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:				Burned		Very small curved fragment, glazed on the interior and exterior, burned			0.80
107	3	2		47.009	20.009	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Tin Glazed		Painted	Green, Blue: Indeterminate					X	Very small tin glazed fragment, green and blue painted decoration visible on one side	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	0.20
107	3	2		47.010	20.010	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Fragment			Whiteware		Indeterminate							Flat fragment, no decoration visible	1815		1.80
107	3	2		47.011	20.011	0.25-.35 Bd/2.6-3.1	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Indeterminate							Thin body fragements, curved, pieces do not mend, no decoration visible	1775-1840	Azizi et al 1996	0.70

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
107	3	2		47.012	20.012	0.25-.35 Bd/2.6-3.1	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Pearlware		Painted	Blue: Other						Small curved rim fragments with blue lines along the interior rim, pieces do not mend	1775-1830	Miller et al 2000 pg. 12	0.70
107	3	2		47.013	20.013	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd			White Salt Glazed		Scratch Blue	Blue:						Small curved fragment with two scratched blue lines visible on the exterior	1735-1778	Noel Hume 2001 pg. 206, www.jefpat.org	0.40
107	3	2		47.014	20.014	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Painted	Earth Tone Colors: Indeterminate						Small curved fragment with zig-zag brown line partially visible on the interior	1795-1830	Miller et al 2000 pg. 12	0.90
107	3	2		47.015	20.015	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware/Whiteware		Indeterminate	Blue:						Very small fragment with blue decoration on one side	1805-1880	Miller et al 2000 pg. 13, Miller 1993	0.40
107	3	2		47.016	20.016	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd		Buff	Salt Glazed, Gray/Buff Bodied		Sprigged	Other					X	Thin body fragment with sprigged floral motif on the exterior, partially visible, Hohr type stoneware	1675-1750	www.jefpat.org	4.10
107	3	2		47.017	20.017	0.25-.35 Bd/2.6-3.1	3	Historic	Household	Glass: Common Glass	Window Glass: Fragment		Aqua													3.60
107	3	2		47.018	20.018	0.25-.35 Bd/2.6-3.1	1	Historic	Household	Glass: Common Glass	Bottle: Base/Body Sherd		Aqua		Mouth Blown, General								Small cylindrical bottle base and body, not enough of the base to see if there is a pontil scar, straight-sided, no air venting marks visible			1.20
107	3	2 SW Ext.		48.001	24.001	0.07-0.46 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Flatware: Base Sherd			Unidentified Refined Earthenware		Indeterminate			Footring, Undercut		Burned		Likely creamware or pearlware but sherd is too burned/stained to identify ware-type.			5.80
107	3	2 SW Ext.		48.002	24.002	0.07-0.46 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Unidentified Refined Earthenware		Indeterminate					Burned		Likely creamware or pearlware but sherd is too burned/stained to identify ware-type.			0.70
107	3	2 SW Ext.		48.003	24.003	0.07-0.46 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Unidentified Refined Earthenware		Indeterminate					Burned		Either creamware, pearlware, or whiteware but sherd is too burned/stained to identify ware-type.			0.70
107	3	2 SW Ext.		48.004	24.004	0.07-0.46 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Exterior Spalled	Brown, Dark:									14.00
107	3	2 SW Ext.		48.005	24.005	0.07-0.46 Bd	1	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua													0.60
107	3	2 SW Ext.		48.006	24.006	0.07-0.46 Bd	1	Organic	Indeterminate	Fauna: Bone	Rib: Fragment	Unidentified Mammal											No cut or butcher marks visible.			2.40
107	3	2 SW Ext.		48.007	24.007	0.07-0.46 Bd	1	Historic	Architectural	Metal: Iron	Nail: Indeterminate				Indeterminate						Rusted		Heavily rusted; unidentifiable.			85.80
107	3	2		47.001	20.001	0.25-.35 Bd/2.6-3.1	8	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Bone fragments withno butcher or cut marks visible			13.40
111	3			49.001	17.001	2.7-2.8	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Body Sherd			Pearlware		Printed	Blue: Negative						Covetto and part of Marley visible, negative printed flower on the interior	1815-1840	Azizi et al 1996, www.jefpat.org	3.30
112	3	2 SW Ext.		50.001	25.001	0.46-0.69 Bd	2	Historic	Household	Flora: Wood	Wood Fragment										Burned		Completely blackened burned wood			19.60
112	3	2 SW Ext.		50.002	25.002	0.46-0.69 Bd	6	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Fragments with no cut or butcher marks visible			47.30
112	3	2 SW Ext.		50.003	25.003	0.46-0.69 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown:						Very small body fragment, interior and exterior glazed			0.60
112	3	2 SW Ext.		50.004	25.004	0.46-0.69 Bd	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd			Salt Glazed, Gray/Buff Bodied		Bristol-Type Slip	Gray:						Body fragment with light gray bristol slip on the exterior, unglaze interior			4.00
112	3	2 SW Ext.		50.005	25.005	0.46-0.69 Bd	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd			Nottingham Type		Indeterminate							Small body fragment, no decoration visible	1690-1800	www.jefpat.org	2.60
113	3	2 SW Ext.		52.001	26.001	3.6-4.5	1	Historic	Architectural	Metal: Iron	Nail: Indeterminate				Indeterminate						Rusted		Heavily rusted piece of iron, to rusted to identify, probably a large nail			113.30
113	3	2 SW Ext.		52.002	26.002	3.6-4.5	1	Organic	Indeterminate	Fauna: Bone	Vertebrae: Almost Complete	Unidentified Mammal											Vertebrae from a mammal, no butcher or cut marks visible			22.60
113	3	2 SW Ext.		52.003	26.003	3.6-4.5	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragments with several cut marks visible			161.60
113	3	2 SW Ext.		52.004	26.004	3.6-4.5	1	Organic	Indeterminate	Fauna: Bone	Rib: Fragment	Unidentified Mammal											Rib fragment, probably from a large mammal, rows of cut marks visible			53.00
113	3	2 SW Ext.		52.005	26.005	3.6-4.5	16	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Small bone fragments, no cut or butcher marks visible			30.50
113	3	2 SW Ext.		52.006	26.006	3.6-4.5	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown:						Curved body fragment, interior and exterior glazed			4.40
113	3	2 SW Ext.		52.007	26.007	3.6-4.5	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown-Yellow:						Small fragment with brown-yellow glaze on the exterior, interior unglazed			2.60
113	3	2 SW Ext.		52.008	26.008	3.6-4.5	1	Historic	Indeterminate	Metal: Indeterminate	Indeterminate: Fragment				Indeterminate								Small curved triangular piece of metal			1.90

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
113	3	2 SW Ext.		52.009	26.009	3.6-4.5	1	Historic	Household	Ceramic: Coarse Earthenware	Flatware: Rim Sherd			Iberian Coarse Earthenware		Lead Glazed: Single Glazed	Green:					X	Rim fragment with dark green rim and the interior glazed with green and small dark blotches, exterior is unglazed, possible North Devon Gavel			6.60
117	3	2		53.001	22.001	0.35-1.15 Bd	6	Organic	Food Related	Fauna: Shell	Shell Hinge: Fragment												Shell fragments with hinges present			188.10
117	3	2		53.002	22.002	0.35-1.15 Bd	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Oyster											n=1			3.20
117	3	2		53.003	22.003	0.35-1.15 Bd	1	Organic	Food Related	Fauna: Shell	Shell Hinge: Fragment	Clam											Clam shell fragment with hinge			63.40
117	3	2		53.004	22.004	0.35-1.15 Bd	1	Historic	Manufacturing	Metal: Indeterminate	Slag															14.60
117	3	2		53.005	22.005	0.35-1.15 Bd	2	Historic	Manufacturing	Glass: Common Glass	Slag															30.30
117	3	2		53.006	22.006	0.35-1.15 Bd	1	Historic	Architectural	Metal: Iron	Nail: Complete				Cut						Rusted		Rusted iron nail, tapers on two sides, hand-headed	1790-1830	Wells 2000 pg. 323-325	7.30
117	3	2		53.007	22.007	0.35-1.15 Bd	2	Organic	Indeterminate	Fauna: Bone	Tooth: Fragment	Unidentified Mammal											Two teeth fragments, one is large, no butcher or cut marks visible			29.30
117	3	2		53.008	22.008	0.35-1.15 Bd	2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragments with a cut mark visible on each			116.60
117	3	2		53.009	22.009	0.35-1.15 Bd	4	Organic	Indeterminate	Fauna: Bone	Rib: Fragment	Unidentified Mammal											Rib fragments, no butcher or cut marks visible			45.00
117	3	2		53.010	22.010	0.35-1.15 Bd	13	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Bone fragments with no butcher or cut marks visible			128.20
117	3	2		53.011	22.011	0.35-1.15 Bd	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Clam											n=2			2.20
117	3	2		53.012	22.012	0.35-1.15 Bd	6	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua													3.40
117	3	2		53.013	22.013	0.35-1.15 Bd	1	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Olive		Indeterminate						Patinated		Heavily patinated, curved body fragment			20.10
117	3	2		53.014	22.014	0.35-1.15 Bd	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Pipe stem fragment, no decoration visible (6/64 dia.)			4.40
117	3	2		53.015	22.015	0.35-1.15 Bd	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay							Charred		Pipe stem fragment, no decoration visible, charred interior			1.60
117	3	2		53.016	22.016	0.35-1.15 Bd	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Bowl			White Ball Clay							Charred		Pipe bowl fragment, no decoration visible, charred inteiror			2.90
117	3	2		53.017	22.017	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base Sherd			Redware		Lead Glazed: Single Glazed	Brown-Yellow:		Tooled Foot, Flat Base		Stained		Tooled flat round base fragment interior glazed exterior unglazed, indeterminate material or staining corroded on the interior			83.20
117	3	2		53.018	22.018	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:		Tooled Foot, Flat Base				Tooled flat base, extend slightly further than the body, interior glaze, exteiror unglazed			57.70
117	3	2		53.019	22.019	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Curved body fragment with dark brown glaze on interior, unglazed exterior			21.50
117	3	2		53.020	22.020	0.35-1.15 Bd	3	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:						Small curved body fragments, interior glazed, exterior unglazed, pieces do not mend, at least two vessels represented			13.90
117	3	2		53.021	22.021	0.35-1.15 Bd	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown:						Curved body fragments, pieces do not mend, interior and exterior glazed			13.80
117	3	2		53.022	22.022	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Curved body fragment with brown glazed interior and very dark brown glazed exterior			4.10
117	3	2		53.023	22.023	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Fragment			Redware		Lead Glazed: Exterior Spalled	Brown:						Very small curved fragment interior glazed, exterior spalled			0.40
117	3	2		53.024	22.024	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Flatware: Body Sherd			Redware		Slip Decorated: Single Glazed	Yellow-Green: Trailed Slip						Body fragment with wavy surface, and at least three yellow-green trailed slip lines visible	1870		5.80
117	3	2		53.025	22.025	0.35-1.15 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Red Bodied		Molded Pattern	Other						Small curved fragments, several paralled molded lines on the exterior			0.70
117	3	2		53.026	22.026	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Curved fragment with tie-down line on the exterior, interior and exterior glazed			3.40
117	3	2		53.027	22.027	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Indeterminate		Lead Glazed: Exterior Spalled	Green: Indeterminate						Possible North Devon fragment with exterior spalled and green glazed interior			3.10
117	3	2		53.028	22.028	0.35-1.15 Bd	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Yellow:				Reduced		Reduced and overfied redware fragments with yellow-brown glaze on exterior and dark			2.40

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
																							brown on the interior, pieces do not mend			
117	3	2		53.029	22.029	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Base Sherd			Buff Bodied		Green Glaze: Single Glazed						X	Small base fragment with green glaze on interior with darker green blotches, buff bodied, further research needed			4.70
117	3	2		53.030	22.030	0.35-1.15 Bd	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			British Buff-Bodied Slipware		Lead Glazed: Double Glazed	Yellow:						Curved body fragment with yellow glazed exterior unglazed interior, British Buff-Bodied Slipware but no slip decoration visible	1670-1795	Azizi et al 1996	1.70
117	3	2		53.031	22.031	0.35-1.15 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Tin Glazed		Painted	Blue: Indeterminate						Very small body fragment with blue decoration on the interior	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	0.50
117	3	2		53.032	22.032	0.35-1.15 Bd	1	Historic	Household	Ceramic: Stoneware	Saucer: Body/Rim Sherd			White Salt Glazed		Indeterminate							Saucer rim and body fragment, no decoration visible	1720-1785	www.jefpat.org	2.90
117	3	2		53.033	22.033	0.35-1.15 Bd	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd			White Salt Glazed		Indeterminate							Curved body fragment, no decoration visible	1720-1785	www.jefpat.org	3.20
117	3	2 SW Ext.		55.001	27.001		1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			British Buff-Bodied Slipware		Slip Decorated: Double Glazed	Brown: Trailed Slip						Only a small amount of slipped decoration remains. Beginning of a handle present.	1670-1795	Azizi et al 1996	7.80
117	3	2 SW Ext.		55.002	27.002		1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown/Yellow:						Interior glazed with a brownish-yellow lead glaze. Exterior unglazed. Rim is slightly flared, not quite everted.			7.40
117	3	2 SW Ext.		55.003	27.003		1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											No cut or butcher marks visible.			16.60
117	3	2 SW Ext.		55.004	27.004		2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Cut marks visible.			64.50
120	4			62.001	35.001	1.95-3.00	2	Organic	Indeterminate	Fauna: Shell	Coral: Fragment	Coral														8.50
120	4			62.002	35.002	1.95-3.00	1	Organic	Food Related	Fauna: Shell	Shell Hinge: Almost Complete	Oyster											Oyster shell with hinge present			27.20
120	4			62.003	35.003	1.95-3.00	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Long bone, probabbly from a large mammal, small cut marks visible			280.00
120	4			62.004	35.004	1.95-3.00	3	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragments with no cut or butcher marks visible			69.10
120	4			62.005	35.005	1.95-3.00	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:						Curved body fragment, glazed interior, unglazed exterior			4.10
120	4			62.006	35.006	1.95-3.00	1	Historic	Household	Ceramic: Coarse Earthenware	Jar: Base/Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:		Pedestaled Foot		Stained		Interior glazed, bulbous body, small tooled flat pedestal base, probably a jar base/body, black staining on several broken edges			132.50
120	4			62.007	35.007	1.95-3.00	1	Historic	Household	Ceramic: Coarse Earthenware	Jar: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown:			Flare			Flared jar rim, interior glazed, exterior unglazed			58.90
120	4			62.008	35.008	1.95-3.00	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Unglazed							Thick redware body fragment, unglazed			53.90
120	4			62.009	35.009	1.95-3.00	2	Historic	Household	Ceramic: Coarse Earthenware	Flatware: Body Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip						Curved body fragments, both have at least three yellow trailled slip lines visible	1870		45.30
120	4			62.010	35.010	1.95-3.00	1	Historic	Household	Ceramic: Coarse Earthenware	Dish: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip			Coggled			Dish with coggled rim, at least four trailed wavy slip lines with two yellow dot visible, not enough to get diameter	1870		75.30
120	4			62.011	35.011	1.95-3.00	1	Historic	Household	Ceramic: Coarse Earthenware	Flatware: Body Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip				Stained		Slightly curved fragment with at least two yellow trailed slip lines visible on the interior, exterior unglazed, darkened with staining on the interior	1870		11.20
120	4			62.012	35.012	1.95-3.00	1	Historic	Household	Ceramic: Coarse Earthenware	Flatware: Body Sherd			British Buff-Bodied Slipware		Slip Decorated: Single Glazed	Brown: Indeterminate						Brown slip decoration, does not look trailed or combed, irregular blotches of brown, exterior unglazed	1670-1795	Azizi et al 1996	13.00
120	4			62.013	35.013	1.95-3.00	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Yellowware		Indeterminate							Curved body fragment, no decoration visible	1828-1940	www.jefpat.org, Azizi et al 1996	8.20
120	4			62.014	35.014	1.95-3.00	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Whiteware		Printed	Blue: Indeterminate						Small curved fragment, blue printed on the interior with a wheel or flower motif	1815-1915	Azizi et al 1996	2.90
120	4			62.015	35.015	1.95-3.00	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Chinese Export		Decal Overglaze	Polychrome: Indeterminate						Small rim and body fragment with a red a black flower on the exterior rim and a thin brown line along the top of the rim			1.40

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
120	4			62.016	35.016	1.95-3.00	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Whiteware		Indeterminate							Body fragment with no decoration visible			2.80
120	4			62.017	35.017	1.95-3.00	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Creamware		Indeterminate							Flat fragment from a base, no decoration visible	1762-1820	Miller et al 2000 pg. 12	11.90
120	4			62.018	35.018	1.95-3.00	4	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Creamware		Undecorated					Stained		Small curved body fragments, pieces do not mend, no decoration visible, black staining on the broken edges	1762-1820	Miller et al 2000 pg. 12	8.90
120	4			62.019	35.019	1.95-3.00	4	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Undecorated					Stained		Smooth rim and curved body fragments, no decoration visible, pieces do not mend but probably from the same vessel, some black staining on the broken edges and parts of the body	1762-1820	Miller et al 2000 pg. 12	39.20
122	4			63.001	16.001	3.15-4.00	1	Historic	Household	Ceramic: Coarse Earthenware	Dish/Pan: Body Sherd			Redware		Slip Decorated: Exterior Spalled	Yellow & Green: Trailed Slip w/ Copper Blotches						Fragments of at least 4 wavy slip lines visible.	1870		6.80
122	4			63.002	16.002	3.15-4.00	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd		Buff	Unidentified Stoneware									Unglazed on the interior; has a tan salt glaze/slip on the exterior. Likely a hollowware.			27.30
123	3	2 SW Ext.		56.001	28.001		1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Partial vertebra of a large mammal.			59.40
123	3	2 SW Ext.		56.002	28.002		1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Distal or proximal end of a long bone from a medium sized mammal.			31.20
123	3	2 SW Ext.		56.003	28.003		3	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Fragments of long bone shafts from medium sized mammals.			32.10
123	3	2 SW Ext.		56.004	28.004		1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Possible scapula fragment of a small mammal.			10.00
123	3	2 SW Ext.		56.005	28.005		1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Small round bone fragment of a medium sized mammal.			4.20
123	3	2 SW Ext.		56.006	28.006		1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Very small long bone, possibly belonging to a bird.			0.60
123	3	2 SW Ext.		56.007	28.007		3	Organic	Food Related	Fauna: Shell	Shell Hinge: Complete	Oyster														73.30
123	3	2 SW Ext.		56.008	28.008		2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown:						Sherds do not mend.			6.20
123	3	2 SW Ext.		56.009	28.009		1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Pearlware		Indeterminate							No visible decoration.	1775-1840	Azizi et al 1996	2.90
123	3	2 SW Ext.		56.010	28.010		1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Whiteware		Indeterminate			Tooled Foot, Square Foot Ring				No visible decoration.	1815		2.30
123	3	2 SW Ext.		56.011	28.011		1	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua													0.90
123	3	2 SW Ext.		56.012	28.012		1	Historic	Indeterminate	Other: Composite	Indeterminate: Fragment										Rusted		Rusted iron fragement attached to a fragment of brick.			53.70
123	3	2 SW Ext.		56.013	28.013		2	Historic	Indeterminate	Metal: Iron	Indeterminate: Fragment										Rusted		Rusted fragments of iron in varying shapes.			73.10
123	3	2 SW Ext.		56.014	28.014		3	Historic	Indeterminate	Metal: Indeterminate	Indeterminate: Fragment										Burned		Badly burned and melted metal fragments.			50.50
124	3	2 SW Ext.		57.001	29.001	0.6-0.83 Bd	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd			Nottingham Type		Indeterminate						X	No decoration visible.	1690-1800	www.jefpat.org	3.50
124	3	2 SW Ext.		57.002	29.002	0.6-0.83 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base Sherd			Tin Glazed		Indeterminate							Most of the glaze has spalled off.	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	7.30
124	3	2 SW Ext.		57.003	29.003	0.6-0.83 Bd	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Tin Glazed		Glaze Not Extant							Completely spalled.	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	0.80
124	3	2 SW Ext.		57.004	29.004	0.6-0.83 Bd	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem												Does not appear to be charred. (5/64 dia.)			2.40
124	3	2 SW Ext.		57.005	29.005	0.6-0.83 Bd	2	Historic	Manufacturing	Glass: Common Glass	Manufacturing Debris															35.60
124	3	2 SW Ext.		57.006	29.006	0.6-0.83 Bd	1	Organic	Indeterminate	Flora: Wood	Charcoal Fragment										Burned					0.20
132	3			58.001	30.001	2.65-	1	Historic	Household	Ceramic: Stoneware	Hollowware: Base/Body Sherd		Gray	Salt Glazed, Gray/Buff Bodied							Reduced		Unglazed interior; salt glazed exterior. Paste is slightly reduced.			22.70
133	3			59.001	31.001	4.95-5.00	1	Historic	Household	Ceramic: Coarse Earthenware	Dish: Body/Rim Sherd			British Buff-Bodied Slipware		Slip Decorated: Single Glazed	Brown: Trailed & Combed Slip			Coggled		X		1670-1795	Azizi et al 1996	7.80

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
145	5			71.001	32.001	3.2-3.45	10	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base/Body Sherd			White Granite		Molded Pattern	Indeterminate	w/ self	Pedestaled Foot		Rust Stained		Pattern resembles a basket weave. Two sherds mend but all ten likely belong to the same vessel.	1840-1930	www.jefpat.org, Miller et al 2000 pg. 13	84.70
145	5			71.002	32.002	3.2-3.45	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Yellowware		Indeterminate							No decoration visible.	1828-1940	www.jefpat.org, Azizi et al 1996	3.00
145	5			71.003	32.003	3.2-3.45	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Victorian Majolica		Colored Glaze	Pink:		Tooled Foot, Rounded Foot Ring				Pink glazed on interior and exterior.	1850-1900	Katz-Marks, Mariann 1992	2.70
145	5			71.004	32.004	3.2-3.45	1	Historic	Household	Ceramic: Porcelain	Saucer: Rim Sherd			Porcelain, Hard Paste		Gilding	Gold: Lined						Single gilded line visible under interior rim.	1850		2.90
145	5			71.005	32.005	3.2-3.45	4	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua								Patinated					12.20
145	5			71.006	32.006	3.2-3.45	2	Historic	Architectural	Ceramic: Coarse Earthenware	Pipe, Sewer/Water: Fragment					Lead Glazed: Interior Spalled	Brown:						Pieces probably belong to the same pipe.			40.40
145	5			71.007	32.007	3.2-3.45	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem												(5/64 dia.)			5.50
145	5			71.008	32.008	3.2-3.45	2	Organic	Food Related	Fauna: Shell	Shell Hinge	Oyster														72.60
145	5			71.009	32.009	3.2-3.45	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Clam											N = 2			3.40
145	5			71.010	32.010	3.2-3.45	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Bird											No cut or butcher marks visible.			1.10
145	5			71.011	32.011	3.2-3.45	1	Organic	Indeterminate	Fauna: Bone	Phalange, Foot: Complete	Unidentified Bird											No cut or butcher marks visible.			0.80
145	5			71.012	32.012	3.2-3.45	3	Historic	Architectural	Metal: Iron	Nail: Fragment				Indeterminate						Rusted		Nails are heavily rusted and still have wood adheared to them. Cannot identify manufacturing technique.			23.20
166	4			64.001	37.001	3.1-3.4	4	Historic	Household	Glass: Common Glass	Bottle: Neck		Olive		Mouth Blown, General			w/ self					Cylindrical large bottle neck. No visible mold seams.			75.40
167	4			65.001	39.001	4.1-4.7	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Body Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate						Very small body fragment, blue printed pattern on the interior			0.20
167	4			65.002	39.002	4.1-4.7	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Clam											n=1, very small fragment			0.60
167	4			65.003	39.003	4.1-4.7	2	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua													8.80
167	4			65.004	39.004	4.1-4.7	1	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Olive		Mouth Blown, General								Curved body fragment			11.70
167	4			65.005	39.005	4.1-4.7	2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Fragments with no cut or butcher marks visible			17.10
167	4			65.006	39.006	4.1-4.7	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:						Small curved fragment, glazed interior, unglazed exterior			1.50
167	4			65.007	39.007	4.1-4.7	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Rim and body fragment with dark brown glaze on interior, unglazed exterior			21.60
169	4			66.001	44.001	4.5-4.8	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Fragment with no cut marks or butcher marks visible			54.40
169	4			66.002	44.002	4.5-4.8	3	Historic	Architectural	Metal: Iron	Nail: Almost Complete				Indeterminate						Rusted		Rusted iron pieces, probably nails			96.10
169	4			66.003	44.003	4.5-4.8	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Unglazed					Stained		Very think redware body fragment, unglazed, faint white lines on the interior, burned			85.20
169	4			66.004	44.004	4.5-4.8	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:				Stained		Tooled flat base with small section of the body present, glazed interior, unglazed exterior, some dark staining visible			45.90
169	4			66.005	44.005	4.5-4.8	1	Historic	Household	Ceramic: Coarse Earthenware	Flatware: Body Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip						Body fragment with at least three yellow trailed slip lines, unglazed exterior	1870		6.80
169	4			66.006	44.006	4.5-4.8	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Unglazed							Small unglazed body fragment			3.60
169	4			66.007	44.007	4.5-4.8	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:				Burned		Small body fragment, interior and exterior glazed			3.00
169	4			66.008	44.008	4.5-4.8	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Body fragments, interior and exterior glazed, pieces do not mend			13.80
169	4			66.009	44.009	4.5-4.8	3	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Whiteware		Indeterminate					Stained		Flat base fragments, pieces do not mend, no decoration visible, black staining	1815		11.70
169	4			66.010	44.010	4.5-4.8	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Whiteware		Printed	Black: Indeterminate						Body fragment with partial black printed decoration on the exterior, possible top of a tree visible	1815-1915	Azizi et al 1996	1.80
169	4			66.011	44.011	4.5-4.8	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Whiteware		Printed	Blue: Indeterminate						Very small, thin rim fragment with blue printed branches and part of a flower visible on the interior	1815-1915	Azizi et al 1996	0.50

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
169	4			66.012	44.012	4.5-4.8	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Body/Rim Sherd			Porcelain, Chinese Export		Painted	Blue, Brown: Indeterminate						Thin rim fragment with brown line along the top of the rim, pattern along the interior rim and a painted leaf visible on the exterior body			1.90
169	4			66.013	44.013	4.5-4.8	1	Historic	Household	Ceramic: Stoneware	Hollowware: Base Sherd			White Salt Glazed		Indeterminate							Small pedestal base fragment, no decoration visible	1720-1785	www.jefpat.org	2.90
178	3			60.001	36.001		1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone with a row of cut marks visible			40.20
178	3			60.002	36.002		1	Historic	Architectural	Metal: Iron	Nail: Complete				Indeterminate						Rusted		Heavily rusted iron nail			19.10
178	3			60.003	36.003		1	Organic	Indeterminate	Fauna: Shell	Coral: Fragment	Coral														10.40
178	3			60.004	36.004		1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Almost Complete			White Ball Clay							Charred		Undecorated pipe stem and bowl, some charring on the exterior (5/64 dia.)			18.00
178	3			60.005	36.005		1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Iberian Coarse Earthenware		Lead Glazed: Single Glazed	Green:					X	Curved body fragment, cord-made vessels with lines faintly visible, green glazed interior, exterior is unglazed			41.60
178	3			60.006	36.006		1	Historic	Household	Ceramic: Stoneware	Hollowware: Base/Body Sherd		Gray	Nottingham Type		Incised	Other					Tooled flat base, two incised lines around the base of the body	1690-1800	www.jefpat.org	18.00
178	3			60.007	36.007		2	Historic	Architectural	Ceramic: Coarse Earthenware	Tile: Fragment			Tin Glazed		Indeterminate							Thick white tin glazed tile fragments, possible floor or wall tiles, pieces do not mend			69.50
178	3			60.008	36.008		2	Historic	Household	Ceramic: Refined Earthenware	Bowl, Small: Body/Rim Sherd			Tin Glazed		Indeterminate				Flare		X	White tin glazed small bowl, bulbous body and flared rim, majority spalled on the exterior, no other decoration visible, pieces mend	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	41.30
178	3			60.009	36.009		1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			British Buff-Bodied Slipware		Slip Decorated: Double Glazed	Brown: Indeterminate						Small curved fragment, brown slip decoration visible on exterior	1670-1820	Azizi et al 1996	1.60
189	5			72.001	38.001	2.4-4.2	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Rib fragment of a small to medium sized mammal.			0.90
189	5			72.002	38.002	2.4-4.2	1	Organic	Food Related	Fauna: Shell	Shell Hinge: Complete															48.60
189	5			72.003	38.003	2.4-4.2	1	Historic	Household	Ceramic: Stoneware	Hollowware: Handle			Nottingham Type		Other (see comments)							Two incised lines on exterior of handle, each with the same motif of vertical lines of slip in them: 2 dark brown lines on the exterior followed by two light brown lines with one white line at the center.	1690-1800	www.jefpat.org	1.70
189	5			72.004	38.004	2.4-4.2	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			British Buff-Bodied Slipware		Slip Decorated: Single Glazed	Brown, Yellow: Trailed Slip						Interior glazed. One line of yellow trailed slip next to one line of brown trailed slip on interior.	1670-1795	Azizi et al 1996	1.20
189	5			72.005	38.005	2.4-4.2	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown:						Light brown glaze on exterior, dark brown glaze on interior.			4.50
189	5			72.006	38.006	2.4-4.2	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Interior glazed.			3.30
189	5			72.007	38.007	2.4-4.2	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Redware		Slip Decorated: Single Glazed	White: Indeterminate						Interior glazed. Small spot of white slip visible on interior.			5.30
189	5			72.008	38.008	2.4-4.2	2	Historic	Household	Ceramic: Coarse Earthenware	Dish: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown:	w/ self		Coggled			Interior glaze.			14.50
194	5			73.001	43.001	3.7-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Dish/Pan: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow & Green: Trailed Slip w/ Copper Blotches					X	Dish or pan with a German-style rim.	1870		15.90
194	5			73.002	43.002	3.7-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base Sherd			British Buff-Bodied Slipware		Lead Glazed: Single Glazed	Yellow:						Interior glazed; exterior unglazed. No slip decoration visible.	1670-1795	Azizi et al 1996	6.80
194	5			73.003	43.003	3.7-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Manganese Mottled		Reeded						X	Likely a mug or tankard base but not enough of the vessel remains to identify definitively. Reeded bands visible around the base.	1675-1780	www.jefpat.org	15.00
194	5			73.004	43.004	3.7-4.6	1	Historic	Indeterminate	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Unidentified Coarse Earthenware		Reeded: Double Glazed	Brown, Dark:				Rust Stained		Unidentified object. Very thick and coarse, paste is a salmon color. Resembles a water/sewer pipe but it has reeding on the exterior. It is from the same context as some very early ceramics so if it is a pipe, it is likely intrusive.			69.90

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
194	5			73.005	43.005	3.7-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Tin Glazed		Painted	Blue: Indeterminate						Small sherd; not enough of decoration remains to identify pattern.	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	1.00
194	5			73.006	43.006	3.7-4.6	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate						Not enough of decoration remains to identify pattern. What is visible looks like a floral pattern.			3.30
194	5			73.007	43.007	3.7-4.6	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Slightly charred. (5/64 dia.)			2.60
194	5			73.008	43.008	3.7-4.6	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Cut marks visible.			25.00
194	5			73.009	43.009	3.7-4.6	1	Organic	Indeterminate	Fauna: Bone	Bone: Almost Complete	Unidentified Mammal											No cut or butcher marks visible.			34.00
195	5	3		75.001	45.001	1.14-1.9	2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragments with no cut or butcher marks visible			39.40
195	5	3		75.002	45.002	1.14-1.9	1	Historic	Indeterminate	Flora: Wood	Wood Fragment										Burned		Bent wood fragment, burned, probably from a plank			6.70
195	5	3		75.003	45.003	1.14-1.9	1	Organic	Food Related	Fauna: Shell	Shell Hinge: Fragment	Oyster											Large oyster shell fragment with hinge present			107.50
195	5	3		75.004	45.004	1.14-1.9	2	Organic	Food Related	Fauna: Shell	Shell Hinge: Complete	Clam											Two small complete clam shells			6.00
195	5	3		75.005	45.005	1.14-1.9	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Oyster											n=1			0.30
195	5	3		75.006	45.006	1.14-1.9	1	Historic	Indeterminate	Metal: Iron	Indeterminate: Fragment				Indeterminate						Rusted		Very rusted metal rod or bar			619.60
195	5	3		75.007	45.007	1.14-1.9	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd			White Salt Glazed		Indeterminate							Small body fragment, no decoration visible	1720-1785	www.jefpat.org	2.00
195	5	3		75.008	45.008	1.14-1.9	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown:						Rim fragment, interior glazed, exterior unglazed			10.90
195	5	3		75.009	45.009	1.14-1.9	1	Historic	Household	Ceramic: Coarse Earthenware	Flatware: Body Sherd			British Buff-Bodied Slipware		Slip Decorated: Single Glazed	Brown, Yellow: Trailed Slip						Glazed interior with at least five trailed slip lines visible with faint yellow lines next to them	1670-1820	Azizi et al 1996	13.00
195	5	3		75.010	45.010	1.14-1.9	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown/Green:				Burned		Body fragment with brown/green interior glaze, unglazed exterior, burned section on the exterior			17.10
195	5			74.001	49.001	4.5-5.8	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment										Burned		Large hollow long bone. Burned.			78.60
195	5			74.002	49.002	4.5-5.8	1	Historic	Household	Glass: Common Glass	Indeterminate: Body Sherd		Aqua		Indeterminate											4.10
195	5			74.003	49.003	4.5-5.8	4	Historic	Personal	Fauna: Leather	Shoe/Boot Parts: Fragment												Multiple shoe fragments.			28.70
195	5			74.004	49.004	4.5-5.8	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:						Not fully fired. Brown glaze on interior is faded. Body is very coarse and quart temper present.			17.50
195	5			74.005	49.005	4.5-5.8	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Double Glazed	Black:		Pedestaled Foot				Sherds mend.			19.10
195	5			74.006	49.006	4.5-5.8	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip						Slip decoration on interior is partially spalled.	1870		4.00
195	5			74.007	49.007	4.5-5.8	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Slip Decorated: Copper Highlights	Yellow: Trailed Slip						Yellow trailed slip covered by green copper highlights.	1870		12.50
195	5			74.008	49.008	4.5-5.8	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Body/Rim Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate						Painted blue decoration on interior.			0.70
195	5			74.009	49.009	4.5-5.8	1	Historic	Household	Ceramic: Refined Earthenware	Saucer: Body/Rim Sherd			White Granite		Undecorated								1840-1930	www.jefpat.org, Miller et al 2000 pg. 3	5.80
195	5			74.010	49.010	4.5-5.8	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd			White Salt Glazed		Indeterminate								1720-1785	www.jefpat.org	1.90
195	5			74.011	49.011	4.5-5.8	1	Historic	Household	Ceramic: Stoneware	Hollowware: hande			White Salt Glazed		Indeterminate							Round handle fragment.	1720-1785	www.jefpat.org	5.10
197	4			67.070	40.070	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Molded Pattern	Other						Three molded lines below exterior rim and one olded line on exterior body that has partially spalled off.	1762-1820	Miller et al 2000 pg. 12	12.90
197	4			67.071	40.071	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Molded Pattern	Beaded						One line of beading below exterior rim.	1762-1820	Miller et al 2000 pg. 12	3.00
197	4			67.072	40.072	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Indeterminate							No visible decoration. Two vessels represented.	1762-1820	Miller et al 2000 pg. 12	6.30
197	4			67.073	40.073	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Indeterminate							No visible decoration.	1762-1820	Miller et al 2000 pg. 12	2.60
197	4			67.074	40.074	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Creamware		Molded Pattern	Ribbed						Molded ribs on exterior.	1762-1820	Miller et al 2000 pg. 12	4.50
197	4			67.001	40.001	4.6-5.2	80	Organic	Other	Fauna: Bone	Bone: Fragment	Indeterminate											Multiple large bone fragments.			1846.20

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
197	4			67.002	40.002	4.6-5.2	15	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Feline (Cat)											Fragmented cat skull.			30.20
197	4			67.003	40.003	4.6-5.2	9	Organic	Indeterminate	Fauna: Other	Coral: Fragment	Coral														117.30
197	4			67.004	40.004	4.6-5.2	1	Historic	Other	Lithic: Flint, Other	Strike-a-light/Core: Complete		Gray-Yellow										Core that was subsequently repurposed as a strike-a-light as evidence by heavy batter along multiple edges.			24.30
197	4			67.005	40.005	4.6-5.2	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Clam, Quahog											Count = 3			15.20
197	4			67.006	40.006	4.6-5.2	5	Historic	Architectural	Metal: Iron	Nail: Complete				Cut						Rusted		Large cut nails, too rusted to identify manufatcuring technique any further.			76.00
197	4			67.007	40.007	4.6-5.2	1	Historic	Indeterminate	Metal: Iron	Indeterminate: Fragment										Rusted		Long flat object that is hooked at the top and has another hook protruding from the body slightly above the center.			52.90
197	4			67.008	40.008	4.6-5.2	9	Historic	Indeterminate	Metal: Iron	Indeterminate: Fragment										Rusted		Flat rectangular iron fragment.			856.90
197	4			67.009	40.009	4.6-5.2	1	Historic	Architectural	Other: Composite	Mortar: Fragment		Tan													4.40
197	4			67.010	40.010	4.6-5.2	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Bowl			White Ball Clay									Complete pipe bowl with a small portion of stem still attached. (5/64 dia.)			12.20
197	4			67.011	40.011	4.6-5.2	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Bowl			White Ball Clay									Broken pipe bowl with a small fragment of pipe stem still attached. (6/64 dia.)			5.90
197	4			67.012	40.012	4.6-5.2	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Bowl			White Ball Clay		Molded Pattern	Ribbed						Small fragment of lower portion of pipe bowl with molded ribs on exterior.			1.40
197	4			67.013	40.013	4.6-5.2	2	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay				w/ self					Pipe stem broken on both ends. Organically stained. (5/64 dia.)			7.40
197	4			67.014	40.014	4.6-5.2	5	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Pipe stems broken on both ends. Multiple pipes may be represented. (5/64 dia.)			14.00
197	4			67.015	40.015	4.6-5.2	6	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Olive		Mouth Blown, General			w/ self			Patinated		Curved body sherds. Heavily patinated.			22.10
197	4			67.016	40.016	4.6-5.2	7	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Green		Mouth Blown, General						Patinated		Curved body sherds. Multiple vessels may be represented. Heavily patinated.			28.40
197	4			67.017	40.017	4.6-5.2	4	Historic	Household	Glass: Common Glass	Container Glass: Base Sherd		Green		Mouth Blown, General						Patinated		Cylindrical body sherd. Heavily patinated.			77.70
197	4			67.018	40.018	4.6-5.2	5	Historic	Household	Glass: Common Glass	Container Glass: Body Sherd		Aqua, Light		Mouth Blown, General								Curved body sherds. Sherds do not mend.			8.70
197	4			67.019	40.019	4.6-5.2	1	Historic	Household	Glass: Common Glass	Indeterminate: Body Sherd		Amethyst		Mouth Blown, General								Slightly curved body sherd.			1.20
197	4			67.020	40.020	4.6-5.2	1	Historic	Household	Glass: Common Glass	Bottle: Base Sherd		Olive		Free Blown				Pontil, Sand		Patinated		Large cylindrical bottle, possibly for liquor. Large kick-up in base.	1870		200.70
197	4			67.021	40.021	4.6-5.2	1	Historic	Household	Glass: Common Glass	Bottle: Base/Body Sherd		Olive		Free Blown				Pontil, Glass tipped		Patinated		Large cylindrical bottle, possibly for liquor. Large kick-up in base.	1865		419.40
197	4			67.022	40.022	4.6-5.2	1	Historic	Household	Glass: Lead	Bottle: Body/Rim Sherd		Colorless		Free Blown					Flare			Rim neck and shoulders of a bottle. Looks possibly rectangular from shape of shoulders.			13.20
197	4			67.023	40.023	4.6-5.2	1	Historic	Household	Glass: Non-Lead Glass	Tumbler: Base/Body Sherd		Colorless		Free Blown				Pontil, Glass tipped				Cylindrical tumbler base.			61.50
197	4			67.024	40.024	4.6-5.2	1	Historic	Household	Glass: Non-Lead Glass	Tumbler: Base/Body Sherd		Colorless		Free Blown				Pontil, Glass tipped				Cylindrical tumbler base.			29.90
197	4			67.025	40.025	4.6-5.2	1	Historic	Household	Glass: Non-Lead Glass	Tumbler: Base/Body Sherd		Colorless		Free Blown								Cylindrical tumbler base.			13.20
197	4			67.026	40.026	4.6-5.2	1	Historic	Household	Glass: Non-Lead Glass	Tumbler: Body/Rim Sherd		Colorless		Free Blown	Etched	Other						Etched motif on exterior: wavy line right below rim with a straight ring below it; Large X and dot motif on body below ring.			2.40
197	4			67.027	40.027	4.6-5.2	3	Historic	Household	Glass: Non-Lead Glass	Container Glass: Body Sherd		Colorless		Mouth Blown, General								Curved body sherds. Sherds do not mend.			11.30
197	4			67.028	40.028	4.6-5.2	12	Historic	Architectural	Glass: Common Glass	Window Glass: Body Sherd		Aqua												45.80

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
197	4			67.029	40.029	4.6-5.2	5	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base/Body Sherd			Tin Glazed		Fazackerly Palette	Polychrome: Indeterminate		Footring, Free-Standing Round			X	Overglaze painted on both exterior and interior. Interior motif: circulular design that appears to be a bowl with blue on the outside and light green at the center with "foxy" red leaf-like objectes protuding from either side. Exterior motif: Purple circular flower with three green leaves attached to it and two separate red leaves next to it. Only two sherds mend but all from the same vessel.	1750-1770	Miller et al 2000 pg. 11	99.80
197	4			67.030	40.030	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Tin Glazed		Painted	Blue: Floral						Blue painted floral motif on interior.	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	5.10
197	4			67.031	40.031	4.6-5.2	3	Historic	Household	Ceramic: Stoneware	Hollowware: Body/Rim Sherd			White Salt Glazed		Indeterminate							No visible decoration. Multiple vessels represented.	1720-1785	www.jefpat.org	18.90
197	4			67.032	40.032	4.6-5.2	9	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd			White Salt Glazed		Indeterminate							No visible decoration. Sherds do not mend.	1720-1785	www.jefpat.org	14.80
197	4			67.033	40.033	4.6-5.2	2	Historic	Household	Ceramic: Stoneware	Hollowware: Base Sherd			White Salt Glazed		Indeterminate							No visible decoration. Multiple vessels represented.	1720-1785	www.jefpat.org	23.70
197	4			67.034	40.034	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Rim Sherd			White Salt Glazed		Scratch Blue	Blue: Indeterminate						Two horinzontal lines of scratch blue on interior body right below rim.	1735-1778	Noel Hume 2001 pg. 206, www.jefpat.org	1.10
197	4			67.035	40.035	4.6-5.2	4	Historic	Household	Ceramic: Porcelain	Saucer: Base/Body/Rim Sherd			Porcelain, Hard Paste		Painted	Blue: Indeterminate	w/ self	Tooled Foot, Rounded Foot Ring				Painted motif on interior. One ring around interior rim and a landscape motif on interior base: one person holding a bird next to a tree in the foreground and a person working in a field with a house in the background. Geometric motif around the landscape motif. One sherd does not mend.	1760		43.10
197	4			67.036	40.036	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Hollowware: Base/Body/Rim Sherd			Porcelain, Hard Paste		Painted: Painted, Overglaze	Blue, Red: Other		Footring, None	Flare			Red overlgaze painted flowers on exterior and exterior body with blue leaves (underglaze). Blue (underglaze) and red (overglaze) criss-crossing straight lines on base.			14.30
197	4			67.037	40.037	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Plate: Base/Body Sherd			Porcelain, Hard Paste		Painted, Overglaze	Red, Gold: Indeterminate		Tooled Foot, Wedge-Shaped Foot Ring				Painted on interior: Two gold lines that loop toghether with a ring around them where they loop. Lines and loop are outlines in red. Red flower on interior base.			31.80
197	4			67.038	40.038	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Flatware: Base Sherd			Porcelain, Hard Paste		Painted: Painted, Overglaze	Blue, Red: Indeterminate						One painted straight blue line visible and one red overglaze painted curved ribbon-like line on interior base.			11.70
197	4			67.039	40.039	4.6-5.2	3	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Hard Paste		Printed	Blue: Indeterminate	w/ self					Printed motif on interior and interior: Roof of a building and trees visible on exerior body and ring around interior rim.			4.20
197	4			67.040	40.040	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Base/Body Sherd			Porcelain, Hard Paste		Painted	Blue: Indeterminate		Footring, Free-Standing Round				Painted tree visible on interior base.			5.60
197	4			67.041	40.041	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Base Sherd			Porcelain, Hard Paste		Printed	Blue: Indeterminate		Footring, Free-Standing Wedge				Printed landscape decoration on interior. Two vessels represented.			9.50
197	4			67.042	40.042	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body Sherd			Porcelain, Hard Paste		Painted	Blue: Indeterminate						Multiple vessels represented. Decoration present on exterior.			3.40
197	4			67.043	40.043	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Body Sherd			Porcelain, Hard Paste		Painted	Blue: Floral						One painted flower visible on interior body.			2.40
197	4			67.044	40.044	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Hollowware: Rim Sherd			Porcelain, Hard Paste		Printed	Blue: Indeterminate						Four lines on exterior below rim. Two lines on interior rim.			0.50
197	4			67.045	40.045	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Flatware: Rim Sherd			Porcelain, Hard Paste		Painted	Blue: Indeterminate						One line on interior rim and one partially visible shape that resembles a leaf.			0.90
197	4			67.046	40.046	4.6-5.2	2	Historic	Household	Ceramic: Porcelain	Indeterminate: Body/Rim Sherd			Porcelain, Hard Paste		Printed: Painted, Overglaze	Indeterminate: Indeterminate	w/ self					One brown painted line on top of rim. Overglaze paianted motif on interior body. Paint has chipped off and only a vague stained outline of motif remains.			2.60

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
197	4			67.047	40.047	4.6-5.2	3	Historic	Household	Ceramic: Porcelain	Hollowware: Body Sherd			Porcelain, Hard Paste		Indeterminate							No visible decoration. Sherds do not mend.			9.10
197	4			67.048	40.048	4.6-5.2	4	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Prattware		Molded Pattern: Painted	Green: Other						Vertical molded wide ribs on exterior body. Molded flower at end of attached handle. Flower painted yellow. Green painted spots on exertior. Sherds do not mend but belong to the same vessel.	1780-1840	Lewis & Lewis 1993	18.10
197	4			67.049	40.049	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Plate, 7": Rim Sherd			Pearlware		Molded Pattern: Painted	Green: Shell Edge, Even Scalloped, Curved Lines			Scalloped			Sherds do not mend but likely belong to the same vessel.	1800-1840	www.jefpat.org	11.10
197	4			67.050	40.050	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Pearlware		Dipt	Brown, Black: Mocha						Dipt mocha pattern with a brown background and black patches in it on exterior/	1790-1860	www.jefpat.org	7.70
197	4			67.051	40.051	4.6-5.2	5	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Pearlware		Dipt	Polychrome: Banded	w/ self		Flare		X	Banded motif on exterior. Alternating blue and orange bands, starting with blue below the rim and ending with orange near the base (both have 3). Second orange band has a band of repeating bornw circles within it. Slightly flared rim.	1775-1860	Azizi et al 1996, www.jefpat.org	12.30
197	4			67.052	40.052	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base/Body Sherd			Pearlware		Printed	Blue: Indeterminate		Footring, Free-Standing Round				Possibly floral motif on exterior: not enough to determine.	1803-1830	www.jefpat.org, Miller et al 2000 pg. 13	11.00
197	4			67.053	40.053	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base Sherd			Pearlware		Painted	Blue: Indeterminate		Footring, Free-Standing Round				Ray-like lines on interior base with possibly a star at the center (only top three rays of star visible).	1775-1830	Miller et al 2000 pg. 12	5.80
197	4			67.054	40.054	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Painted	Blue: Indeterminate						One painted blue line visible on interior.	1775-1830	Miller et al 2000 pg. 12	1.40
197	4			67.055	40.055	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Pearlware		Painted	Blue: Indeterminate						Criss-crossing and curving lines on exterior body, likely a landscape motif but not enough to discern; two lines on interior rim (one straight line over one wavy line).	1775-1830	Miller et al 2000 pg. 12	1.90
197	4			67.056	40.056	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Pearlware		Painted	Blue: Indeterminate						Two lines on interior rim: one straight line above one wavy line.	1775-1830	Miller et al 2000 pg. 12	0.70
197	4			67.057	40.057	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Pearlware		Painted	Blue: Indeterminate						Indeterminate painted motif on interior rim, criss-crossing lines.	1775-1830	Miller et al 2000 pg. 12	0.60
197	4			67.058	40.058	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Flatware: Rim Sherd			Pearlware		Painted	Earth Tone Colors: Indeterminate						Painted motif on interior: not enough to determine motif. One brown horizontal line on interior rim and one small portion of green shape below the brown line.	1795-1830	Miller et al 2000 pg. 12	0.50
197	4			67.059	40.059	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Printed	Black: Floral						Stem with four leaves visible on interior.	1803-1830	www.jefpat.org, Miller et al 2000 pg. 13	0.70
197	4			67.060	40.060	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Plate, 7": Rim Sherd			Pearlware		Indeterminate							No visible decoration. Sherds probably from the same vessel.	1775-1840	Azizi et al 1996	6.70
197	4			67.061	40.061	4.6-5.2	5	Historic	Household	Ceramic: Refined Earthenware	Plate, 8": Rim Sherd			Pearlware		Molded Pattern	Bath Rim						No visible decoration. All from the same plate. Bath style rim. Kiln pad mark on rim. One sherd does not mend.	1775-1840	Azizi et al 1996	31.80
197	4			67.062	40.062	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Rim Sherd			Pearlware		Indeterminate							No visible decoration.	1775-1840	Azizi et al 1996	2.30
197	4			67.063	40.063	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Pearlware		Indeterminate			Footring, Free-Standing Wedge				No visible decoration.	1775-1840	Azizi et al 1996	4.00
197	4			67.064	40.064	4.6-5.2	7	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Indeterminate							Curved body sherds. Sherds do not mend.	1775-1840	Azizi et al 1996	12.40
197	4			67.065	40.065	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Painted, Overglaze	Red: Indeterminate						Overglaze painting on interior and exterior. One painted line below interior rim. Repeating motif on exterior: trianlge of three dots with three petal-like shapes hanging down from the dots.	1765-1815	Miller et al 2000 pg. 12	10.00
197	4			67.066	40.066	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Rim Sherd			Creamware		Painted, Overglaze	Red: Indeterminate						Horizontal red line on both interior and interior rim. Indeterminate motif on exterior body. Red lines and dots visible.	1765-1815	Miller et al 2000 pg. 12	1.60
197	4			67.067	40.067	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Creamware		Painted, Overglaze	Red: Indeterminate						One horizontal line visible on interior rim.	1765-1815	Miller et al 2000 pg. 12	0.40
197	4			67.068	40.068	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Creamware		Painted, Overglaze	Red: Indeterminate						One short, wide line of painted red motif visible on exterior.	1765-1815	Miller et al 2000 pg. 12	2.80

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
197	4			67.069	40.069	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Plate, Soup: Body/Rim Sherd			White Salt Glazed		Molded Pattern	Barley			Scalloped		X	Barley pattern on interior rim.	1740-1770	www.jefpat.org	20.10
197	4			67.075	40.075	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base/Body Sherd			Creamware		Indeterminate			Tooled Foot, Flat Base				No visible decoration. Bulbous round body.	1762-1820	Miller et al 2000 pg. 12	4.50
197	4			67.076	40.076	4.6-5.2	4	Historic	Household	Ceramic: Refined Earthenware	Flatware: Base Sherd			Creamware		Indeterminate			Tooled Foot, Rounded Foot Ring		Obvious Use Wear		Use wear present on interior & exterior. Organically stained. Multiple vessels represented.	1762-1820	Miller et al 2000 pg. 12	23.50
197	4			67.077	40.077	4.6-5.2	3	Historic	Household	Ceramic: Refined Earthenware	Flatware: Base Sherd			Creamware		Indeterminate					Obvious Use Wear		Flat base sherd. Heavy usewear on interior. Organically stained. Multiple vessels represented.	1762-1820	Miller et al 2000 pg. 12	20.50
197	4			67.078	40.078	4.6-5.2	17	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Creamware		Indeterminate							No visible decoration. Sherds do not mend. Multiple vessels represented.	1762-1820	Miller et al 2000 pg. 12	45.90
197	4			67.079	40.079	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Unidentified Refined Earthenware		Indeterminate							Too stained to determine ware type. No visible decoration.			1.30
197	4			67.080	40.080	4.6-5.2	3	Historic	Household	Ceramic: Stoneware	Jar: Base/Body/Rim Sherd		Gray	salt Glazed, Brown/Gray Bodied		Slip Decorated	Mottled:	w/ self		Rolled		X	Slip decorated on exterior. Mottled brown slip on 2/3 of vessel with white slip with a faint hint of cobalt on heel on extrerior.			268.00
197	4			67.081	40.081	4.6-5.2	3	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd			salt Glazed, Brown/Gray Bodied		Slip Decorated	Mottled:	w/ self				X	Slip decorated on exterior. Mottled brown slip on 2/3 of vessel with white slip with a faint hint of cobalt on heel on extrerior.			77.60
197	4			67.082	40.082	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Bottle: Body/Rim Sherd		Gray	salt Glazed, Brown/Gray Bodied		Slip Decorated	Mottled:			Collared Ring		X	Slip decorated on exterior. Mottled brown slip on exterior. Slip present on cross-section break, likely made locally.			19.40
197	4			67.083	40.083	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Jar: Body/Rim Sherd		Gray	Salt Glazed, Gray/Buff Bodied		Painted	Blue: Indeterminate						One large cobalt blue brush stroke on exterior below rim. Flat ledge-type rim for a lid to sit on.			52.30
197	4			67.084	40.084	4.6-5.2	2	Historic	Household	Ceramic: Coarse Earthenware	Pan: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip	w/ self		Guttered	Charred		Wavy trailed slip on interior. Sherds mend.	1870		82.40
197	4			67.085	40.085	4.6-5.2	2	Historic	Household	Ceramic: Coarse Earthenware	Pan: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip	w/ self		Guttered			Wavy trailed slip on interior. Multiple vessels represented. Slightly everted rims.	1870		56.60
197	4			67.086	40.086	4.6-5.2	8	Historic	Household	Ceramic: Coarse Earthenware	Dish: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip	w/ self		Coggled	Charred		Diamond-like shapes and straight lines of trailed slip. Sherds mend into 3 separate sections but all from the same dish. Heavy use wear on interior.	1870		866.00
197	4			67.087	40.087	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Dish: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip			Coggled			Diagonal lines of yellow trailed slip on interior.	1870		24.00
197	4			67.088	40.088	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Dish: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip			Coggled			Three dots of trailed slip visible on interior.	1870		2.70
197	4			67.089	40.089	4.6-5.2	6	Historic	Household	Ceramic: Coarse Earthenware	Dish/Pan: Body Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip						Multiple vessels represented. Trailed slip on interior. Exterior unglazed.	1870		24.30
197	4			67.090	40.090	4.6-5.2	4	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body/Rim Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Curved rim sherds. Sherds do not mend.			19.10
197	4			67.091	40.091	4.6-5.2	14	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Curved body sherds. Sherds do not mend.			49.30
197	4			67.092	40.092	4.6-5.2	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body/Rim Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:			Flare			Double glazed. Multiple vessels represented.			20.80
197	4			67.093	40.093	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Bottle: Body/Rim Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:						Collar finish of a bottle.			13.70
197	4			67.094	40.094	4.6-5.2	3	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:	w/ self					Cylindrical hollowware. Possibly the lower half of the same bottle as entry 40.93; missing handle.			322.00
197	4			67.095	40.095	4.6-5.2	12	Historic	Household	Ceramic: Coarse Earthenware	Milk Pan: Base/Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown:	w/ self		Pouring		X	Interior glazed. Not all sherds mend. Two tie down lines on exterior			1148.80
197	4			67.096	40.096	4.6-5.2	32	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Multiple vessels represented. 6 sherds mend.			667.50
197	4			67.097	40.097	4.6-5.2	3	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body/Rim Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:			Flare			Two sherds mend but all from the same vessel. Curved body sherds w/ flared rim.			17.60
197	4			67.098	40.098	4.6-5.2	5	Historic	Household	Ceramic: Coarse Earthenware	Jar: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown:				Obvious Use Wear		All sherds mend. Incised line on ext. Use wear on rim.			122.70
197	4			67.099	40.099	4.6-5.2	3	Historic	Household	Ceramic: Coarse Earthenware	Jar: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						All sherds mend. Incised/tie-down line on exterior. Smear of glaze on exterior irm. Rounded outward rim.			125.60

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
197	4			67.100	40.100	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Jar: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:				Obvious Use Wear		Incised/tie-down line on exterior. Use wear on rim.			28.40
197	4			67.101	40.101	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Jar: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Black:						Exterior is weathered. Incised/tie-down lines on exterior. Rim has a slight flare.			33.70
197	4			67.102	40.102	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Jar: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Black:						Folded/rolled outward rim. Black glaze on interior.			80.50
197	4			67.103	40.103	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Jar: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Black:						Very thick rim sherd. Black glaze on interior. Exterior has use wear.			62.50
197	4			67.104	40.104	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Pan: Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown:									61.20
197	4			67.105	40.105	4.6-5.2	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Sherds mend. Spot of glaze on exterior.			81.40
197	4			67.106	40.106	4.6-5.2	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:		Philadelphia-Style Foot		Charred		Sherds mend. Phildelphia style foot on interior w/ a pedestaled base. Base has some charring.			158.70
197	4			67.107	40.107	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Body sherd w. a base of a strap style hand present.			6.50
197	4			67.108	40.108	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body/Rim Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:			Flare			Thin bodied hollware. Curved sherd w/ a flared rim.			5.80
197	4			67.109	40.109	4.6-5.2	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Redware		Indeterminate: Interior Spalled							Interior spalled. Sherds mend. Smear of glaze on exterior under rim. Probaly a jar.			8.40
197	4			67.110	40.110	4.6-5.2	6	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Exterior Spalled	Brown:						Multiple vessels represented. Exterior is spalled. Interiors are mostly spalled.			84.40
197	4			67.111	40.111	4.6-5.2	4	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Interior Spalled: Exterior Spalled							Multiple vessels represented. Both surfaces spalled.			40.10
197	4			67.112	40.112	4.6-5.2	10	Historic	Manufacturing	Ceramic: Coarse Earthenware	Saggar: Fragment			Redware									Multiple saggars represented. Short & stout Body, base & rim fragments.			976.70
197	4			67.113	40.113	4.6-5.2	2	Historic	Manufacturing	Ceramic: Coarse Earthenware	Pan: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow & Brown: Trailed Slip						Shrerds do not mend but are from the same vessel. Trailed slip on interior has yellow & brown decoration on interior. Charred on exterior.	1870		67.90
197	4			67.114	40.114	4.6-5.2	2	Historic	Household	Ceramic: Coarse Earthenware	Pan: Body/Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown, Light:				Obvious Use Wear		Very tiny pan. Sherds mend. Light use wear on rim. Lightly charred.			13.60
197	4			67.115	40.115	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Pan/Dish: Rim Sherd			Redware		Slip Decorated: Single Glazed	Indeterminate: Trailed Slip						Brown. Trailed slip is spalled.	1870		9.30
197	4			67.116	40.116	4.6-5.2	4	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Slip Decorated: Copper Highlights	Yellow & Green: Trailed Slip						Mutliple vessels represented. Trailed slip on interior w/ copper highlights.	1870		42.00
197	4			67.117	40.117	4.6-5.2	12	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Slip Decorated: Double Glazed	Yellow: Lower Delaware Valley Style						Mulitple vessels represented. Yellow slip decoration on interior. Exterior has brown glaze.	1740-1820	Azizi et al 1996	49.50
197	4			67.118	40.118	4.6-5.2	6	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Slip Decorated: Copper Highlights	Yellow: Lower Delaware Valley Style						Multiple vessels represented. Yellow trailed slip on interior w/ copper highlights. Brown glaze on interior. Two sherds mend.	1740-1820	Azizi et al 1996	44.00
197	4			67.119	40.119	4.6-5.2	7	Historic	Household	Ceramic: Coarse Earthenware	Bowl: Rim Sherd			Redware		Slip Decorated: Double Glazed	Yellow: Lower Delaware Valley Style						Multiple vessels represented. Yellow slip on interior. Brown glaze on exterior.	1740-1820	Azizi et al 1996	33.40
197	4			67.120	40.120	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Bowl: Body/Rim Sherd			Redware		Slip Decorated: Copper Highlights	Yellow: Lower Delaware Valley Style						Bowl w/ Large yellow overall slip on interior w/ copper highlights. Brown glaze on interior.	1740-1820	Azizi et al 1996	51.30
197	4			67.121	40.121	4.6-5.2	3	Historic	Household	Ceramic: Coarse Earthenware	Bowl: Body/Rim Sherd			Redware		Slip Decorated: Copper Highlights	Yellow: Lower Delaware Valley Style						Sherds mend. Yellow mottled overall slip on interior w/ copper highlights. Exterior has brown glaze.	1740-1820	Azizi et al 1996	38.30
197	4			67.122	40.122	4.6-5.2	2	Historic	Household	Ceramic: Coarse Earthenware	Bowl: Base/Body/Rim Sherd			Redware		Slip Decorated: Double Glazed	Yellow: Lower Delaware Valley Style		Pedestaled Foot		Charred		Sherds mend. Yellow overall slip on interior. Charred & use wear on interior. Exterior has brown glaze. Small bowl.	1740-1820	Azizi et al 1996	22.20
197	4			67.123	40.123	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Bowl: Base Sherd			Redware		Slip Decorated: Double Glazed	Yellow: Lower Delaware Valley Style		Philadelphia-Style Foot				Bowl base. Philadelphia style foot. Pedestaled base. Kiln pad mark on exterior. Partial glaze on ext. base. Yellow/brown mottled slip on interior. Exterior brown glaze.	1740-1820	Azizi et al 1996	90.90
197	4			67.124	40.124	4.6-5.2	1	Historic	Household	Ceramic: Coarse Earthenware	Bowl: Base Sherd			Redware		Slip Decorated: Double Glazed	Yellow: Lower Delaware Valley Style		Philadelphia-Style Foot				Yellow slip on interior. Exterior has brown glaze.	1740-1820	Azizi et al 1996	24.20

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
197	4			67.125	40.125	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Red Bodied		Lead Glazed: Double Glazed	Brown:						Two vessels represented.			2.70
197	4			67.126	40.126	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Red Bodied		Molded Pattern: Double Glazed	Brown: Indeterminate						Molded decoration on exterior.			4.10
197	4			67.127	40.127	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Red Bodied		Reeded: Rouletted	Brown: Indeterminate						Decoration on exterior has rows of rouleted beads followed by reeded lines. Has a lid ledge. Could be a teapot.			13.80
197	4			67.128	40.128	4.6-5.2	15	Historic	Household	Ceramic: Refined Earthenware	Plate: Base/Body/Rim Sherd			Creamware							Obvious Use Wear		Sherds mend into two halves of a plate. Heavy use wear on interior and exterio. Charring present.	1762-1820	Miller et al 2000 pg. 12	232.90
197	4			67.129	40.129	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Handle			Creamware		Undecorated							Creamware handle fragment.	1762-1820	Miller et al 2000 pg. 12	12.60
197	4			67.130	40.130	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Creamware		Indeterminate								1762-1820	Miller et al 2000 pg. 12	2.20
197	4			67.131	40.131	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Base Sherd			Creamware		Indeterminate			Pedestaled Foot					1762-1820	Miller et al 2000 pg. 12	18.50
197	4			67.132	40.132	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base Sherd			Creamware		Rouletted	Beaded						Sherds mend. Lightly burned. Rouleted ring of bead around footring.	1762-1820	Miller et al 2000 pg. 12	30.10
197	4			67.133	40.133	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Lid: Fragment			Creamware		Undecorated							Undecorated lid fragment.	1762-1820	Miller et al 2000 pg. 12	22.00
197	4			67.134	40.134	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Undecorated					Charred		Rolled outward rim. Sherds mend. Light charring present.	1762-1820	Miller et al 2000 pg. 12	4.70
197	4			67.135	40.135	4.6-5.2	2	Historic	Household	Ceramic: Refined Earthenware	Plate: Body/Rim Sherd			Creamware		Molded Pattern	Bath Rim			Scalloped	Obvious Use Wear		Sherds do not mend. Could be from the same plate. Bath style scalloped rim. Light use wear present.	1762-1820	Miller et al 2000 pg. 12	19.30
197	4			67.136	40.136	4.6-5.2	3	Historic	Household	Ceramic: Refined Earthenware	Tableware, General: Body/Rim Sherd			Creamware		Molded Pattern	Feather Edge			Scalloped			Two sherds mend all from the same vessel. Feather edged molded pattern on interior rim. Either a large plate or platter. Lightly scalloped rim.	1762-1800	Miller et al 2000 pg. 12, www.jefpat.org	25.00
197	4			67.137	40.137	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Body/Rim Sherd			Creamware		Molded Pattern	Geometric Pattern				Obvious Use Wear		Use wear on interior & exterior. Molded decoration on interior has a band of repeating diamond shapes.	1762-1820	Miller et al 2000 pg. 12	10.10
197	4			67.138	40.138	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Rouletted: Painted, Overglaze	Green: Indeterminate						Tiny/thin rim. Band of rouletted beads on ext. of rim. Followed by a green overglazed painted decoration.	1765-1815	Miller et al 2000 pg. 12	0.40
197	4			67.139	40.139	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Pearlware		Painted	Earth Tone Colors: Floral						Painted earthtone on interior. Brown stem w/ green leaf.	1795-1830	Miller et al 2000 pg. 12	1.30
197	4			67.140	40.140	4.6-5.2	3	Historic	Household	Ceramic: Refined Earthenware	Saucer: Body/Rim Sherd			Pearlware		Painted	Earth Tone Colors: Lined						Two sherds mend all are from the same saucer. Painted decoration on interior has a two thin brown lines w/ a thick yellow line in between.	1795-1830	Miller et al 2000 pg. 12	1.90
197	4			67.141	40.141	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Rim Sherd			Pearlware		Painted	Brown: Lined						Brown line painted on interior & exterior rim.	1795-1830	Miller et al 2000 pg. 12	0.10
197	4			67.142	40.142	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Pearlware		Painted	Blue: Indeterminate						Blue painted decoration on exterior. Exterior mostly spalled.	1775-1830	Miller et al 2000 pg. 12	0.90
197	4			67.143	40.143	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Pearlware		Painted	Blue: Indeterminate						Painted blue decoration on interior.	1775-1830	Miller et al 2000 pg. 12	0.10
197	4			67.144	40.144	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Pearlware		Dipt	Brown: Mocha						Dipt mocha decoration on exterior.	1790-1860	www.jefpat.org	2.00
197	4			67.145	40.145	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Body/Rim Sherd			Pearlware		Molded Pattern: Painted	Green: Shell Edge, Indeterminate						Scalloping and lines are about a quarter inch in from rim.	1775-1840	Azizi et al 1996	6.00
197	4			67.146	40.146	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Saucer: Body/Rim Sherd			Creamware		Painted, Overglaze	Red & Brown: Floral						Floral decoration on interior.	1765-1815	Miller et al 2000 pg. 12	1.30
197	4			67.147	40.147	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Creamware		Painted, Overglaze	Red & Brown: Floral						Decoration on exterior.	1765-1815	Miller et al 2000 pg. 12	1.30
197	4			67.148	40.148	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Rim Sherd			White Salt Glazed		Scratch Blue	Blue: Indeterminate						Small scratch blue rim sherd. Decoration on exterior.	1735-1778	Noel Hume 2001 pg. 206, www.jefpat.org	0.20
197	4			67.149	40.149	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Tableware, General: Rim Sherd			White Salt Glazed		Molded Pattern	Indeterminate						Molded decoration on interior.	1720-1785	www.jefpat.org	1.60
197	4			67.150	40.150	4.6-5.2	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Tin Glazed		Painted	Blue: Indeterminate						Blue painted decoration on interior.	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	1.00
197	4			67.151	40.151	4.6-5.2	2	Historic	Household	Ceramic: Porcelain	Indeterminate: Base Sherd			Porcelain, Hard Paste									Two vessels represented.			1.80

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
197	4			67.152	40.152	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Chinese Export		Molded Pattern: Painted, Overglaze	Red: European Neo-Classical Style						Painted overglaze decoration on exterior. Molded paneled side.	1765-1810	Madsen & White 2011 pg. 116	0.60
197	4			67.153	40.153	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Body/Rim Sherd			Porcelain, Chinese Export		Painted, Overglaze: Gilding	Red & Gold: European Neo-Classical Style						Decoration on interior has red paint w/ gold gilding.	1765-1810	Madsen & White 2011 pg. 116	1.10
197	4			67.154	40.154	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Chinese Export		Molded Pattern: Painted	Blue & Red: European Neo-Classical Style						Brown line a top rim followed by blue & red painted decoration on exterior. Hollowware is molded/paneled.	1765-1810	Madsen & White 2011 pg. 116	0.90
197	4			67.155	40.155	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Chinese Export		Painted	Blue & Brown: European Neo-Classical Style						Blue painted decoration on exterior w/ brown atop rim. Blue boarder on interior rim.	1765-1810	Madsen & White 2011 pg. 116	1.80
197	4			67.156	40.156	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Saucer: Body/Rim Sherd			Porcelain, Chinese Export		Painted	Blue: European Neo-Classical Style						Blue boarder on interior followed by another blue decoration.	1765-1810	Madsen & White 2011 pg. 116	1.00
197	4			67.159	40.159	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Chinese Export		Painted	Blue & Brown: European Neo-Classical Style						Brown line atop rim. Blue painted decoration on interior & exterior.	1765-1810	Madsen & White 2011 pg. 116	0.30
197	4			67.160	40.160	4.6-5.2	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Chinese Export		Painted: Gilding	Blue & Gold: European Neo-Classical Style						Blue boarder on interior near rim. Gold gilding atop rim. Exterior has wavy gilded decoration followed by a blue flower.	1765-1810	Madsen & White 2011 pg. 116	1.70
197	4			67.161	40.161	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd		Gray	Salt Glazed, Gray/Buff Bodied		Miscellaneous Brown Slip	Tan:						Tan slip on interior.			13.10
197	4			67.162	40.162	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd		Gray	Salt Glazed, Gray/Buff Bodied		Undecorated							No slip present. A gray bodied stoneware body sherd.			4.30
197	4			67.163	40.163	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd		Gray	Salt Glazed, Gray/Buff Bodied		Miscellaneous Brown Slip	Brown:						Brown slip on interior & exterior.			1.30
197	4			67.164	40.164	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd		Gray	Salt Glazed, Gray/Buff Bodied		Miscellaneous Brown Slip	Brown, Light:						Light brown slip on exterior. Tan slip on interior.			16.10
197	4			67.165	40.165	4.6-5.2	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd		Buff	Salt Glazed, Gray/Buff Bodied		Miscellaneous Brown Slip	Brown, Light:						Light brown slip on interior & exterior.			6.20
197	4			67.166	40.166	4.6-5.2	2	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Bowl			White Ball Clay		Molded Pattern	Indeterminate				Burned		Pipe bowl and stem fragments. Mend. Molded decoration has fish scale type pattern on stem w/ repeating lobes/rib running vertically up bowl. Impressed berry on bowl. Which could be a makers mark. (5/64 dia.)			12.40
197	4			67.167	40.167	4.6-5.2	5	Historic	Architectural	Metal: Iron	Nail: Fragment				Indeterminate						Rusted					77.20
197	4			67.168	40.168	4.6-5.2	5	Historic	Architectural	Metal: Iron	Spike: Fragment				Indeterminate						Rusted					653.50
197	4			67.169	40.169	4.6-5.2	1	Historic	Indeterminate	Metal: Iron	Indeterminate: Fragment				Indeterminate						Rusted		Rusted iron rod fragment. One end is threaded for about 4"			96.30
197	4			67.170	40.170	4.6-5.2	1	Historic	Indeterminate	Metal: Iron	Indeterminate: Fragment				Indeterminate						Rusted		Rusted rod w/ one flat end.			31.50
197	4			67.171	40.171	4.6-5.2	1	Historic	Indeterminate	Metal: Iron	Indeterminate: Fragment				Indeterminate						Rusted		Could be a tool. Rusted object one end is rod shaped that go to a flat end.			107.80
197	4			67.172	40.172	4.6-5.2	3	Organic	Food Related	Fauna: Shell	Shell Hinge: Complete	Clam														233.38
197	4			67.173	40.173	4.6-5.2	11	Organic	Food Related	Fauna: Shell	Shell Hinge: Complete	Oyster														614.90
197	4			67.174	40.174	4.6-5.2	3	Organic	Food Related	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Three mammal bone w/ cut marks.			120.50
197	4			67.175	40.175	4.6-5.2	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Large jaw fragment w/ teeth. Unidentified mammal.			36.10
197	4			67.176	40.176	4.6-5.2	1	Prehistoric	Debitage	Lithic: Chert	Flake Fragment		Gray, Dark													19.70
198	4			68.001	41.001	5.2-5.9	2	Organic	Indeterminate	Flora: Wood	Wood Fragment										Burned		Two pieces of wood, one is burned			11.00
198	4			68.002	41.002	5.2-5.9	21	Organic	Indeterminate	Fauna: Shell	Coral: Fragment	Coral														303.60
198	4			68.003	41.003	5.2-5.9	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Fragment from the end of a bone, no cut or butcher marks visible			68.40
198	4			68.004	41.004	5.2-5.9	1	Historic	Architectural	Ceramic: Coarse Earthenware	Brick, Bat: Fragment		Orange			Glazed	Gray:						Overfired glazed brick			124.20
198	4			68.005	41.005	5.2-5.9	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:						Curved body fragments, pieces do not mend, interior glazed, exterior unglazed, from two different vessels			66.00

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
198	4			68.006	41.006	5.2-5.9	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Clam											n=1			3.00
198	4			68.007	41.007	5.2-5.9	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay									Small pipe stem fragment, no decoration visible (5/64 dia.)			1.70
198	4			68.008	41.008	5.2-5.9	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Agate Ware, Coarse		Lead Glazed: Double Glazed	Brown:						Thin, slightly flared agate ware rim fragment	1750-1810	Miller et al 2000 pg. 11	0.50
198	4			68.009	41.009	5.2-5.9	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Base Sherd			White Salt Glazed		Indeterminate							Flat fragment from a base, no decoration visible	1720-1785	www.jefpat.org	2.90
198	4			68.010	41.010	5.2-5.9	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Rim Sherd			Pearlware		Painted	Blue: Other						Small curved rim fragment with blue swags along the interior and exterior rim	1775-1830	Miller et al 2000 pg. 12	1.20
198	4			68.011	41.011	5.2-5.9	2	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Rouletted	Beaded						Body and rim with rouletted dots around the rim, pieces mend	1762-1820	Miller et al 2000 pg. 12	3.70
198	4			68.012	41.012	5.2-5.9	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Body Sherd			Porcelain, Chinese Export		Indeterminate							Very small curved fragment, no decoration visible			0.20
198	4			68.013	41.013	5.2-5.9	1	Historic	Household	Ceramic: Porcelain	Hollowware: Rim Sherd			Porcelain, Chinese Export		Painted	Blue, Brown: Indeterminate						Very small rim fragment with brown painted exterior and along the top of the rim, two blue X's between horizontal lines along the interior			0.40
198	4			68.014	41.014	5.2-5.9	2	Historic	Household	Ceramic: Porcelain	Hollowware: Body Sherd			Porcelain, Chinese Export		Painted	Blue, Red: Indeterminate						Body fragments with blue and red leaves or petal visible on the exterior, pieces do not mend			4.60
198	4			68.015	41.015	5.2-5.9	2	Historic	Household	Ceramic: Porcelain	Hollowware: Body Sherd			Porcelain, Chinese Export		Painted	Blue: Indeterminate						Thin body fragments with blue painted decoration on the interior, pieces do not mend			0.70
199	4			69.001	42.001	6.0-9.0	14	Organic	Indeterminate	Fauna: Other	Coral: Fragment	Indeterminate	White										Multiple species of coral represented. Most likely used a ballast. Calcium carbonate			239.30
199	4			69.002	42.002	6.0-9.0	0	Organic	Indeterminate	Fauna: Shell	Shell Fragment	Indeterminate											Count = 1			1.50
199	4			69.003	42.003	6.0-9.0	1	Organic	Indeterminate	Fauna: Shell	Shell Hinge: Complete	Clam											Small clam hinge.			1.30
199	4			69.004	42.004	6.0-9.0	1	Organic	Indeterminate	Fauna: Shell	Shell Hinge: Complete	Oyster											Ostrea oyster. European flat oyster.			15.00
203	5			76.001	47.001	3.8-4.6	4	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Multiple bone fragments.			24.80
203	5			76.002	47.002	3.8-4.6	30	Organic	Food Related	Fauna: Bone	Bone: Fragment												Unidentified mammal w/ a butcher mark.			30.40
203	5			76.003	47.003	3.8-4.6	2	Organic	Food Related	Fauna: Shell	Shell Hinge: Complete												Two mussels represented.			19.40
203	5			76.004	47.004	3.8-4.6	1	Historic	Architectural	Ceramic: Coarse Earthenware	Brick, Fragment					Colored Glaze	Gray:						Glazed brick w/ a gray/clear glaze.			67.20
203	5			76.005	47.005	3.8-4.6	1	Historic	Indeterminate	Flora: Wood	Indeterminate: Fragment												Circular handle shaped wood fragment.			10.30
203	5			76.006	47.006	3.8-4.6	1	Historic	Indeterminate	Flora: Wood	Indeterminate: Fragment												Flat wood fragment.			2.90
203	5			76.007	47.007	3.8-4.6	1	Historic	Household	Glass: Lead	Stemware: Baluster		Colorless		Free Blown								Baluster stem w/ tear drop. Engish lead glass.	1690-1730	Charleston, 1984 pg. 98-99	50.20
203	5			76.008	47.008	3.8-4.6	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Body Sherd			White Salt Glazed		Indeterminate								1720-1785	www.jefpat.org	0.60
203	5			76.009	47.009	3.8-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Multiple vessels represented.			10.70
203	5			76.010	47.010	3.8-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Handle			Redware		Molded Pattern: Double Glazed	Brown, Dark:						Molded handle fragment w/ ridges.			7.80
203	5			76.011	47.011	3.8-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Pan: Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown:			Guttered			Incised line on exterior. Drip of glaze on exterior.			23.50
203	5			76.012	47.012	3.8-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Pan: Rim Sherd			Redware		Slip Decorated: Dark Patches in Glaze	Brown, Dark: Trailed & Combed Slip			Guttered			Light brown glaze on interior w/ yellowed spalled slip decoration w/ Dark patches in glaze. Engine turned lines on exterior rim.	1870		9.30
203	5			76.013	47.013	3.8-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Pan: Rim Sherd			Redware		Slip Decorated: Copper Highlights	Brown, Dark: Indeterminate			Guttered			Brown glaze on interior w/ Dark brown slip deocration w/ dark green copper highlights.	1870		10.80
203	5			76.014	47.014	3.8-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Pan: Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip						Trailed slip on interior is mostly spalled.	1870		11.00
203	5			76.015	47.015	3.8-4.6	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Rim Sherd			Redware		Lead Glazed: Single Glazed	Brown:				Obvious Use Wear		From a large hollowware. Thick body. Light use wear on rim.			62.30
205	5			77.001	46.001	6.7-7.2	1	Historic	Architectural	Ceramic: Coarse Earthenware	Brick, Fragment		Red													14.70
205	5			77.002	46.002	6.7-7.2	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body/Rim Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:			Everted			Everted rim.			38.40
205	5			77.003	46.003	6.7-7.2	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Double Glazed	Black:		Pedestaled Foot		Obvious Use Wear		Light use wear on ext. base.			19.70
205	5			77.004	46.004	6.7-7.2	220	Historic	Architectural	Ceramic: Coarse Earthenware	Tile: Fragment			Redware									Terra-cotta roofing tile fragments.			23110.00

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
224	5			78.001	50.001	5.1	12	Organic	Indeterminate	Fauna: Wood	Wood Fragment	Quercus (White Oak)											Wood sample. White Oak Type. Quercus Species.			5.70
113 S1/2	3			51.001	34.001	3.35	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Unidentified Mammal											Bone fragment, no cut or butcher marks visible			25.70
113 S1/2	3			51.002	34.002	3.35	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body/Rim Sherd			Nottingham Type		Rouletted	Brown:			Flare			Hollowware with small flared rim the body starts to taper outwards, curved, dark brown at the rim and becomes lighter brown towards the body, ombre, rouletted with a zig-zag patter around the body	1690-1800	www.jefpat.org	16.70
113 S1/2	3			51.003	34.003	3.35	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Iberian Coarse Earthenware		Lead Glazed: Single Glazed	Green:					X	Body fragment with green glazed interior, unglazed exterior, cord-made vessel with lines still visible, probably North Devon			35.50
113 S1/2	3			51.004	34.004	3.35	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Double Glazed	Brown:		Pedestaled Foot		Stained		Round body and base fragment, small tooled flat pedestal base, interior and exterior glazed, gray/black staining on interior			17.70
113 S1/2	3			51.005	34.005	3.35	1	Historic	Household	Ceramic: Coarse Earthenware	Pan: Body/Rim Sherd			Red Bodied		Dark Patches in Glaze: Single Glazed	Brown: Speckled						Body tapers inward slightly, glazed interior with dark speckles in glaze, unglazed exterior			42.10
GC	3			61.002	19.002	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Teaware, General: Base Sherd			Pearlware		Painted	Earth Tone Colors: Floral		Footring, Free-Standing Wedge				Likely a saucer or tea cup.	1795-1830	Miller et al 2000 pg. 12	4.70
GC	3			61.003	19.003	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body/Rim Sherd			Creamware		Indeterminate							Possibly a breakfast cup but not enough of the vessel remains to definitively identify form. No decoration visible.	1762-1820	Miller et al 2000 pg. 12	8.60
GC	3			61.004	19.004	general collection	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Bowl			White Ball Clay							Charred		Partial pipe bowl with heel present. Slight charring on the interior of the bowl. (6/64 dia.)			5.50
GC	5			80.001	23.001	general collection	3	Historic	Household	Ceramic: Stoneware	Bottle: Base/Body Sherd		Buff	Salt Glazed, Gray/Buff Bodied				w/ self					Light tan salt glazed on interior and exterior. Not Bristol slip. Two sherds mend but all three likely belong to the same bottle.			225.50
GC	5			80.004	23.004	general collection	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Interior glazed; exterior unglazed.			11.70
GC	5			80.002	23.002	general collection	1	Historic	Household	Ceramic: Stoneware	Indeterminate: Rim Sherd			White Salt Glazed		Indeterminate							Small sherd with no decoration visible.	1720-1785	www.jefpat.org	0.50
GC	5			80.003	23.003	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Rim Sherd			Tin Glazed		Painted	Blue: Banded						Two blue bands visible.	1682-1800	http://www.city-data.com/world-cities/Philadelphia-History.html, Azizi et al 1996	2.80
GC	5			80.005	23.005	general collection	1	Historic	Household	Ceramic: Porcelain	Hollowware: Base Sherd			Porcelain, Chinese Export		Indeterminate			Footring, Free-Standing Round				Large free standing base. Likely belonging to a medium/large-sized hollowware.			4.30
GC	5			80.006	23.006	general collection	3	Historic	Architectural	Glass: Common Glass	Window Glass: Fragment		Aqua												1.00
GC	5			80.007	23.007	general collection	0	Organic	Food Related	Fauna: Shell	Shell Fragment	Oyster											N = 1			3.00
GC	2			44.001	6.001	general collection	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Femur bone of a medium sized mammal.			39.50
GC	2			44.002	6.002	general collection	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Large bone fragment of a medium sized animal, possibly part of the scapula or pelvis.			64.20
GC	2			44.003	6.003	general collection	1	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Large mammal bone, possibly a carpal.			63.00
GC	2			44.004	6.004	general collection	2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment	Indeterminate											Small bone fragments from a mammal.			9.80
GC	2			44.005	6.005	general collection	1	Organic	Food Related	Fauna: Shell	Shell Hinge: Complete	Clam, Quahog														61.50
GC	2			44.005	6.005	general collection	2	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Base/Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:	w/ self					Interior glazed.			72.90
GC	2			44.006	6.006	general collection	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Base Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Interior glaze.			20.00
GC	2			44.007	6.007	general collection	1	Historic	Manufacturing	Ceramic: Coarse Earthenware	Kiln, Furniture: Fragment					Lead Glazed: Single Glazed					Burned		Thick, flat redware sherd of kiln furniture.			156.90
GC	2			44.008	6.008	general collection	1	Historic	Household	Ceramic: Porcelain	Saucer: Base/Body Sherd			Porcelain, Hard Paste		Molded Pattern	Ribbed	Footring, Free-Standing Round					Faint molded ribs on interior body.			11.40

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
GC	2			44.009	6.009	general collection	1	Historic	Household	Ceramic: Porcelain	Hollowware: Body/Rim Sherd			Porcelain, Hard Paste		Molded Pattern: Painted	Blue, Brown: Other			Scalloped			Nanking shaded trellis, spearhead, and dumbbell rim pattern on interior. There is a painted pattern on the exterior but it is unidentified. There is a brown/yellow overglazed painted line on top of the rim. Body is molded with light ribs. The painted pattern on exterior includes two extra birds. Dates are based on the dates for the Naking shaded trellis, spearhead, and dumbbell rim form.	1765-1820	Madsen & White 1999 pg. 102	3.10
GC	1			39.001	15.001	general collection	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Pipe Stem			White Ball Clay		Molded Pattern	Other				Stained		Pipe stem fragment with small section of the pipe bowl also visible with two vertical molded lines and two horizontal molded band around the bowl, small black stain on the stem (5/64 dia.)			4.00
GC	1			39.002	15.002	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Whiteware		Indeterminate							Slightly curved body fragment, no decoration visible	1815		2.20
GC	1			39.003	15.003	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Body Sherd			Whiteware		Molded Pattern	Other						Curved body fragment with one thin molded band around the exterior	1815		2.40
GC	1			39.004	15.004	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Hollowware: Rim Sherd			Whiteware		Dipt	Brown, Blue: Banded						Small curved rim fragment with two thin brown bands with two shades of brown visible on exterior rim with light blue dipt band below them, no decoraiton visible on interior	1815-1920	Azizi et al 1996, www.jefpat.org	2.90
GC	1			39.005	15.005	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Plate: Rim Sherd			Pearlware		Molded Pattern: Painted	Green: Fish Scale and Feathers			Scalloped			Scalloped rim fragment with green painted feathers around the rim with several rows of fish scales below the line of feathers, Fish Scale & Feathers pattern, no enough to determine diameter	1820-1835	Miller et al 2000 pg. 13	6.90
GC	3			61.001	19.001	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Saucer: Base/Body Sherd			Pearlware		Painted	Blue: China Glaze		Footring, Free-Standing Wedge			X	Part of a pagoda visible.	1775-1810	www.jefpat.org	24.00
GC	4			70.009	48.009	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Tableware, General			Creamware		Indeterminate				Bath			Most likely a plate. Bath style rim w/ largely spaced scallops.	1762-1820	Miller et al 2000 pg. 12	6.50
GC	4			70.010	48.010	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Tableware, General			Creamware		Molded Pattern	Paneled						Molded panels on interior.	1762-1820	Miller et al 2000 pg. 12	3.60
GC	4			70.011	48.011	general collection	1	Historic	Household	Ceramic: Stoneware	Hollowware: Body Sherd			White Salt Glazed		Molded Pattern	Floral						Sherds mend. Molded floral decoratoin on exterior.	1740-1770	www.jefpat.org	1.40
GC	5			79.001	33.001	general collection	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown, Dark:						Interior glazed; exterior unglazed. Tie-down line visible on exterior.			50.60
GC	5			79.002	33.002	general collection	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			British Buff-Bodied Slipware		Slip Decorated: Double Glazed	Brown: Trailed Slip						4 wavy slip lines visible on the exterior of the sherd.	1670-1795	Azizi et al 1996	4.70
GC	4			70.001	48.001	general collection	1	Organic	Indeterminate	Fauna: Other	Coral: Fragment												Coral fragment. Indeterminate species.			11.70
GC	4			70.002	48.002	general collection	2	Organic	Indeterminate	Fauna: Bone	Bone: Fragment										Burned		Unidentified bird bone fragments. Burned.			15.70
GC	4			70.003	48.003	general collection	1	Historic	Personal	Ceramic: Refined Earthenware	Smoking Pipe: Stem		White	White Ball Clay									Broken on both ends. (3/32 dia.)			2.20
GC	4			70.004	48.004	general collection	1	Historic	Architectural	Metal: Iron	Nail: Complete				Cut						Rusted			1790-1890	Wells 2000 pg. 323-325	14.40
GC	4			70.005	48.005	general collection	1	Historic	Indeterminate	Flora: Wood	Wood Fragment										Burned		Wood fragment. Cut on both ends. Burned.			25.70
GC	4			70.006	48.006	general collection	1	Historic	Household	Ceramic: Porcelain	Indeterminate: Rim Sherd			Porcelain, Hard Paste		Indeterminate										0.30
GC	4			70.007	48.007	general collection	2	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Body Sherd			Whiteware		Indeterminate							Two vessels represented.	1815		4.30
GC	4			70.008	48.008	general collection	1	Historic	Household	Ceramic: Refined Earthenware	Indeterminate: Base/Body Sherd			Pearlware		Painted	Green: Floral		Footring, Free-Standing Wedge				Painted green leaves on interior.	1795-1830	Miller et al 2000 pg. 12	6.40
GC	4			70.012	48.012	general collection	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Brown:									18.50
GC	4			70.013	48.013	general collection	1	Historic	Household	Ceramic: Coarse Earthenware	Indeterminate: Body Sherd			Redware		Lead Glazed: Single Glazed	Black:									9.20
GC	4			70.014	48.014	general collection	1	Historic	Household	Ceramic: Coarse Earthenware	Hollowware: Body Sherd			Redware		Lead Glazed: Double Glazed	Brown, Dark:									2.70

Context	Trench	Unit	Fea	Catalog	FS	Depth (ft)	Count	H/P	Group	Class and Material	Object and Part	Species	Object Color	Ware	Manufacturing Technique	Decoration	Decoration Color and Motif	Mends	Base	Rim/Finish	Condition	Artifact of Note	Comments	Date Range	References	Weight (g)
GC	4			70.015	48.015	general collection	1	Historic	Household	Ceramic: Coarse Earthenware	Dish: Body/Rim Sherd			Redware		Slip Decorated: Single Glazed	Yellow: Trailed Slip			Coggled	Obvious Use Wear		Use wear on rim. Coggled rim. Yellow trailed slip running perpendicular to rim.	1870		97.40

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Appendix E. Qualifications of Authors

Joel Dworsky

Archaeologist/Geospatial Analyst

Areas of Expertise

Historic Archaeology

Geographic Information Systems (GIS)

GPS Systems

Database Management

Section 106 of the National Historic Preservation Act/NEPA

Phase I, II, & III Archaeological Surveys and Excavations and analysis

Artifact Analysis

Background/Historical Research

Human Osteology

Education

M.A./Anthropology, Archaeology/College of William and Mary/2010

B.A./2005/Millersville University/Archaeology, Anthropology

Licenses/Registrations

Register of Professional Archaeologists

Years of Experience

With AECOM	5
With URS	3
With Other Firms	6

Professional Associations

Council for Northeast Historical Archaeology, 2009-Present

Philadelphia Archaeological Forum, 2009-Present

Summary

Mr. Dworsky joined AECOM in 2012 and has 14 years of experience in archaeology and cultural resources management. He has participated in the excavation of sites throughout New England, the Mid-Atlantic, and Bermuda. As an archaeological principal investigator at AECOM, his responsibilities include overseeing fieldwork, client consultation, and report preparation. Mr. Dworsky also works as a GIS specialist wherein he conducts a variety of spatial analyses (predictive modeling, cut/fill, landscape reconstruction, as-built road analysis, GIS palimpsest analysis) as well as collecting and preparing GPS data, and managing GIS databases. Mr. Dworsky is responsible for ensuring the accurate integration of field and laboratory data into a cohesive and comprehensive GIS database to facilitate spatial analysis. Mr. Dworsky's experience encompasses pre-contact, historic, and industrial archaeology.

Selected Project Specific Experience

Pennsylvania Turnpike Commission NE Ext. MP 37-44 - Principal Investigator, Archaeologist, GIS Analyst, Author – Work consisted two Phase III archaeological investigations at sties along the Pennsylvania Turnpike in Buck County, PA near Quakertown. Excavations produced more than 30,000 precontact artifacts and more than 60 features. Field excavation (Phase III), artifact analysis, spatial analysis and report preparation.

Hagerstown Regional Airport - Principal Investigator, Archaeologist, GIS Analyst, Author – Phase I-III archaeological investigations at the Brumbaugh Kendall Grove Farmstead in Washington County Maryland. Excavations were performed in advance the demolition of a historic structure. Field Excavation (Phase I-III), GIS Palimpsest analysis, Background Research, Archaeological Monitoring and Report Preparation.

I-84 Hartford - Archaeologist, GIS Analyst, Author – Conducted a cultural resource assessment of the archaeological rescores which was utilized as part of an alternatives analysis. Conducted and As-built road analysis, GIS palimpsest analysis, Cut/Fill analysis in order to derive an archaeological sensitivity and Archaeological potential designation for properties within the proposed APE. Made recommendations about the need for future cultural resources work associated with the undertaking.

New Haven Downtown Crossing – Principal Investigator, Archaeologist, GIS Analyst, Primary Author – Phase IB archaeological survey of a proposed realignment and expansion of I-34 in downtown New Haven Connecticut performed on behalf of the Connecticut DOT. Drafted report containing archaeological and historical background, results of exploratory testing as well as recommendations about the need for future cultural resource work.

Archaeological Investigations of the I-95/Girard Ave. Improvements Project, Philadelphia, Pennsylvania - GIS Lead, Archaeologist - Study conducted for the Pennsylvania Department of Transportation, Engineering District 6-0. Manages the database which contains all of the plotted excavation data for the ongoing Phase IB, II, and III archaeological investigations along a three-mile long portion of the Interstate 95 highway corridor. Have also overseen the creation the 3-D reconstruction of historic landscape and built environment to aid in interpretation and spatial analysis.

Bartram's Mile Monitoring Project - Archaeologist, Field Archaeologist, GIS analyst & Author – Oversaw the mechanical stripping of areas along the western bank of the Schuylkill River in Philadelphia, PA in advance of the construction of a recreational trail. Discovered intact historic railroad buildings and registered a site. Worked with the PA SHPO to preserve the resource and incorporate it into the project design.

Training and Certifications

Advisory Council on Historic Preservation - Section 106 Essentials Training, 2016

OSHA 29 CFR 1910.120 HAZWOPER 40-Hour Certification Course, 2009

8-Hour Annual HAZWOPER Refresher Course (AECOM Corporation, 2014)

Williams Pipeline Safety Training
Shell Safety Training

Consol Energy Safety Training
PEC- Safe Gulf/ Safe Land USA Training

U.S. Coastguard Station Shinnecock - Principal Investigator, Archaeologist, GIS Analyst, Author – Phase IA/B archaeological survey for the proposed construction of a new facility at U.S. Coastguard Station Shinnecock. Field Survey, GIS Palimpsest analysis, Background Research, Archaeological Monitoring and Report Preparation.

Wyck house – Principal Investigator, Archaeologist, GIS Analyst, Author – Archaeological Monitoring for the historic fence restoration effort as the Wyck House in Germantown, Philadelphia, Pa. Background Research, Archaeological Monitoring and Report Preparation.

NPS 2nd Bank Block – Principal Investigator, Archaeologist, GIS Analyst, Author – Archaeological Monitoring of storm water drainage system upgrade at the NPS 2nd Bank historic park. GIS Palimpsest analysis, Background Research, Archaeological Monitoring and Report Preparation.

Japanese Bazaar – Archaeologist/Primary Author – Compiled the report on the excavation at the site of the Japanese Bazaar which was part of the 1876 Centennial Exhibition in Fairmount park, Philadelphia. The report described the findings of the GPR survey, shovel testing survey and test unit excavations conducted during the summer of 2015 and provided options for future work and site interpretation.

Carr Garden Phase IB & II Investigation – Archaeologist/Primary Author - Compiled a unified report for two surveys conducted at Bartram's Garden Park, Philadelphia, Pennsylvania. The report described shovel testing conducted in advance of geothermal well boring and the Phase II effort focused on a historic garden restoration.

Lake Lenape Dam – Principal Investigator, Archaeologist, GIS Analyst, Author – Phase Ia and Monitoring of the Lake Lenape Dam West Embankment repair effort on behalf of Atlantic County, NJ. Field Survey, GIS Palimpsest analysis, Background Research, Archaeological Monitoring and Report Preparation.

ACE PHI Churchtown/Deepwater – Principal Investigator, GIS Analyst, Primary Author - Phase 1b survey of a power line corridor for Atlantic City Electric in advance of the installation of new high voltage monopole electrical towers in Salem County, NJ.

Penn East Pipeline – Archaeologist/GIS Analyst - Designed and help to implement a shovel testing strategy for the Phase 1 testing of miles of pipeline ROW that comprise the project APE. Managed and updated the GIS with data coming in from the field and generated new route recommendations based on that data. FERC compelled the section 106 survey of this area in advance of the construction of a gas pipeline proposed by UGI Company.

New Haven CATEX – Principal Investigator, Archaeologist, GIS Analyst, Primary Author - Archaeological assessment of a proposed realignment and expansion of I-34 in downtown New Haven Connecticut performed on behalf of the Connecticut DOT. Drafted report containing archaeological and historical background and archaeological sensitivity assessments, GIS palimpsest analysis, as well as recommendations about the need for future cultural resource work.

Capitol Corridor Rail Transit Study – Principal Investigator, Archaeologist, GIS Analyst, and Primary Author - Tier 1 NEPA study of a rail transportation corridor for and proposed commuter rail station locations performed on behalf of the NHDOT and MASS DOT. Drafted report containing archaeological and historical background, GIS palimpsest analysis, and archaeological sensitivity assessments for a roughly 70-mile project corridor as well as recommendations about the need for future cultural resource work.

New Jersey American Water Raritan-Millstone Flood Wall Control Project – Archaeologist, GIS Analyst, Principal Author - Phase 1a Archaeological Survey. Conducted archaeological/historical background research, literature survey, GIS palimpsest analysis, and field reconnaissance to assess the potential impact of the proposed modification and expansion the flood control walls at New Jersey American Water's wastewater treatment plant located at the confluence of the Millstone and Raritan Rivers in Somerset County, NJ.

Pennsylvania Turnpike Commission – Archaeologist, Author - Phase IB Archaeological Survey for the PTC Turnpike Total Milepost 312 To 31. Co-authored and prepared the addendum report to the initial Phase IB archaeological assessment which included the identification analysis of two sites in Chester County, PA, one prehistoric and the other 19th century historic.

Sunbury Transmission Line Project, Sunbury, Pennsylvania. – Archaeologist/GIS Analyst - Designed and help to implement a shovel testing strategy for the Phase 1 testing of 33 miles of pipeline ROW that comprise the project APE. Managed and updated the GIS with data coming in from the field and generated new route recommendations based on that data. FERC compelled the section 106 survey of this area in advance of the construction of a gas pipeline proposed by UGI Company.

Bartram's Garden Monitoring Project - Archaeologist, Field Archaeologist, GIS analyst & Author - Oversaw the mechanical stripping of areas adjacent to a known prehistoric site along the Schuylkill River in Philadelphia, PA. Discovered new components to the known site. Excavated, mapped and reported new findings in a report addendum.

ANF Survey SWEPI LP WT 3801 Well – Archaeological Crew Chief – Conducted a Phase I archaeological survey of a proposed well pad location in Allegheny National Forest. Conducted shovel testing across nearly a mile of woodland and recorded data using GPS handset.

Constitution Pipeline Project, New York and Pennsylvania. - Field Archaeologist and GIS Specialist, Principal Data Manager - Phase I survey of a more than 200 mile stretch of northern PA and central NY. FERC conducted the Section 106 survey of this area in advance of the construction of a gas pipeline proposed by Williams Gas Company. The survey uncovered many prehistoric and historic sites many of which are awaiting Phase II investigation. Designed and help to implement a shovel testing strategy for the Phase 1 testing of the pipeline ROW that comprised the project APE. Managed and updated the GIS with data coming in from the field and generated new route recommendations based on that data.

General Electric Hudson River Project, Fort Edward, New York - Field archaeologist and GIS specialist – Conducted a Phase Ib survey of the Hudson River in the advance of dredging by General Electric. This shore survey was conducted to insure no sites were adversely affected by potential slumping of the riverbank if undermined by dredging activity in the river channel. In addition to the Phase I work, a Phase II study was conducted at Fort Miller, a French and Indian War era fort, located near Lock 5 on the Hudson River. This site was first investigated during the Phase I survey and received further testing because of a proposed processing plant for the decontamination of dredged soils. This Phase II investigation revealed the remains of the builder's trench and posts that comprised two palisade walls, as well as several pit features that contained military artifacts, burnt timbers, and period ceramics. This site is of importance because it was a small provisioning fort for the larger forts upstream and no fort of its kind from this period has been studied. At the present it is unknown if the client will push for a Phase III data collection.

Richard Grubb and Associates

Archaeological Investigations at French Town, New Jersey - Field Technician - The work was done for the ACOE and preceded the expansion of an existing sewage treatment plant adjacent to the Delaware River. This Phase II investigation consisted of two deep 2x2 meter test units in deep flood plain soil terminating nearly 2 meters below ground surface. One test unit revealed evidence of Early Archaic occupations in one of the deepest buried "A" horizons.

College of William and Mary

Archaeological Investigations at Whitehall/The John Trimmingham Site, St. Georges, Bermuda - Field Foreman/Teaching Assistant - Performed for the Bermuda National Trust, National Museum of Bermuda, and the St. George Foundation. The work was done as a Phase II investigation of some foundation deposits discovered during the resurfacing of a road in the historic downtown district of St. Georges. The subsequent

Phase II testing project undertaken by the College of William and Mary revealed a partial foundation dating to the 17th century. Documentary research revealed the owner of the parcel as one John Trimmingham, a prominent member of colonial St. Georges. One of the most interesting discoveries was two fully articulated bovine carcasses that had been buried beneath a collapsed wall of the house. It turns out that these bovines had suffered from hoof and mouth and were unceremoniously slaughtered and the walls of a ruin push on top of them. This is the only know instance of a livestock burial ever found on the island.

Millersville University

Millersville University Atlantic World Project, Southampton Parish, Bermuda. – Archaeological Field foreman, Instructor, Research Director, Lab Director. - This work was done for the National Museum of Bermuda and the Bermuda National Trust as well as the DuPont Foundation. The project consisted of the Phase I & II survey of Dickinson Store site (c. 1730-1800), SN Bermuda, the Phase I survey of the Rectory site (c. 1760-present), SN, Bermuda and the Phase I survey of the Perot Site, Bermuda. The purpose of this project was to examine the homes and store houses of Bermudian merchants known to have ties with Philadelphia merchants. The goal was to seek out evidence of smuggled non-English materials at these sites and/or material links back to Philadelphia. This was part of a larger effort to examine colonial Atlantic trade both legal and illicit from all its aspects including: the nodes of production, distribution and terminal markets. Archaeological evidence corroborated the documentary accounts of Bermudian smuggling recorded by various government officials both Bermudian and foreign. This archaeological survey laid the groundwork for a subsequent Phase II research project.

Millersville University Lancaster Colonial Settlement Project, Lancaster PA. – Archaeological Field Foreman, Instructor, Research Director, Lab Director. This was done on behalf of Millersville University and the DuPont Foundation. The purpose of this project was to demonstrate the importance of Lancaster County, PA as a culture hearth for the western settlement of the nation. To that end a variety of sites were investigated to illuminate the settlement history of Lancaster County. A series of three locations underwent Phase I survey.

Mylin Gun shop - the alleged birth place of the Pennsylvania Long Rifle and the homestead of one of Lancaster original settlers, was the initial focus of the project. This survey tested the area surrounding a small building currently hailed as the Mylin gun shop. The survey demonstrated that despite the popular perception, the building was in reality an 18th century blacksmith shop and was not used for gunsmithing. The original homestead of Martin Mylin, the long rifles alleged creator and one of the first settlers in Lancaster, was not discovered during survey.

Logan Trading Post - The Phase I survey upstream of the confluence of the Big and Little Conestoga Rivers. This was the supposed location of James Logan trading post (Logan was William Penn's principal Indian agent). The survey revealed several areas of historic activity but nothing dating to that early 17th century period. The search zone was narrowed to just a few small acres, but due to lack of landowner permission the project proceeded no further.

Elizabeth Furnace Plantation – Archaeological Field Supervisor, Historian, Instructor, Lab-Director, Conservationist - Conducted Phase I-III archaeological survey at Elizabeth Furnace Iron Plantation, in Lancaster County, Pennsylvania. The survey revealed the presence of more than 13 standing early and mid-18th century structures as well as a variety of subsurface features including a furnace race and the blast furnace. The subsurface feature that was eventually identified as a furnace race after Phase III excavation was initially identified utilizing a soil resistivity meter operated by Mr. Dworsky whereas the location of the blast furnace was identified with the aid of GPR. This furnace race adjacent to the Huber House, c. 1742, became the focus of a Phase II and Phase III investigation which yielded a variety of sealed 18th century strata. The artifacts recovered during the Phase III data collection enabled the discussion of enculturation in the mid-18th century display a shift in immigrant identity from a mostly Germanic identity to a more Anglicized outlook, which was accompanied by a corresponding shift in the preference of material goods.

Subsequent Phase II & Phase III testing of a barracks and adjoining summer kitchen revealed a massive bone midden which housed the remains of the meals from the 75 Hessian prisoners of war that were housed and worked at the furnace after the battle of Trenton. This bone midden revealed the use of primarily communal/yeoman food ways (i.e. Stews, soups) and a mixed diet including all kind of meat from pig, cow, horse, and deer to poultry. This season also saw the excavation of well associated with the ironmaster's house, an excavation which provided many well-preserved examples of the furnace's castings in addition to an array of organic artifacts.

Selected Papers and Presentations

Dworsky, Joel G.
2005 "Pennsylvania Colonial Iron Production at Elizabeth Furnace: An Archaeological and Historical Analysis" Middle Atlantic Archaeological Conference. Virginia Beach, Virginia.

Trussell, Timothy and Joel Dworsky.
2007 Deep-Well Excavation: An Archaeological Case Study. *Journal of Middle Atlantic Archaeology* Volume 23:61-72.

Dworsky, Joel G.
2011 *Ghosts on the coast of paradise: Identifying and interpreting the ephemeral remains of Bermuda's 18th century shipyards*. Master's Thesis: College of William and Mary, Williamsburg, VA.

Dworsky, Joel G.
2015 *Washington Stepped Here.* Philadelphia Archaeological Forum, Philadelphia, Pennsylvania.

Dworsky, Joel G.
2015 *Working on the Railroad: The Enigma of a Late 19th Century Railroads Bunkhouse.* Philadelphia Archaeological Forum, Philadelphia, Pennsylvania.

Chronology

2015-Present - Archaeologist and Geospatial Analyst, AECOM Corporation Burlington, New Jersey.

2012-2015 – Archaeologist and Geospatial Analyst, URS Corporation Burlington, New Jersey.

2010-2011: Field Technician, Richard Grubb and Associates, Cranbury, New Jersey

2010 – Field Supervisor, College of William and Mary, Williamsburg, Virginia

2005-2009 - Field Supervisor and Lab Manager, Millersville University, Millersville, Pennsylvania.

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