PHASE IA CULTURAL RESOURCE SURVEY OF THE INDUSTRIAL TRACK GREENWAY PHASE 3 FEASIBILITY STUDY AND CHRISTINA RIVER RAILROAD BRIDGE, WILMINGTON, DELAWARE

Parent Agreement 1534, Task 11

DRAFT

by

Kerri S. Barile (Principal Investigator),
Joseph R. Blondino, and Danae A. Peckler

Prepared for

Delaware Department of Transportation

Prepared by

DOVETAIL
CULTURAL RESOURCE GROUP

November 2013

Phase IA Cultural Resource Survey of the Industrial Track Greenway Phase 3 Feasibility Study and Christina River Railroad Bridge, Wilmington, Delaware

Draft

By

Kerri S. Barile (Principal Investigator),
Joseph R. Blondino, and Danae A. Peckler

Prepared for

Delaware Department of Transportation
P.O. Box 778-800 Bay Road
Dover, Delaware 19903

Prepared by

Dovetail Cultural Resource Group
300 Central Road, Suite 200
Fredericksburg, Virginia 22401

Dovetail Job #13-036

November 2013

ABSTRACT

From August to October 2013, Dovetail Cultural Resource Group (Dovetail) conducted a Phase IA cultural resource survey at the request of the Delaware Department of Transportation (DelDOT) for the Industrial Track Greenway Phase 3 Feasibility Study and Christina River Bridge project area on the outskirts of the City of Wilmington. This project is part of a larger initiative to facilitate greater pedestrian access between eastern and southern portions of the city. The project proposes to construct a new pedestrian access path leading from the downtown area along the western banks of the Christina River to the DuPont Environmental Education Center, then turning west along the defunct Norfolk Southern Shellpot railroad corridor and south along an abandoned rail bed to cross the Christina River. A new pedestrian bridge will be constructed to cross the river, connecting the existing pathway on the south side, also known as Industrial Tract Greenway Phase 2.

Previous studies conducted in recent decades have examined other sections of the proposed pedestrian pathway and generated specific historic contexts to provide a greater understanding of the area's known resources and historic development. Goals of the current Phase IA investigation were: first, to conduct archival research and identify known cultural resources in the project vicinity; second, to document any areas with the potential to contain archaeological sites in the project area, as well as unrecorded architectural resources; and, third, to make recommendations on the need for any future studies.

The first phase of work completed during this Phase IA investigation included archival research, conducted in September and October 2013, at numerous repositories to identify historical patterns of ownership and land use within the project area. Fieldwork was conducted from September 16–18, 2013, and consisted of a pedestrian reconnaissance survey of the project corridor and surrounding land within the project area wherever possible. Access was limited by the abundance of waterways, marshland, and dense vegetation that currently fill much of the project area.

As a result of this investigation, portions of the project area are thought to have a moderate probability of containing prehistoric archaeological resources. Therefore, it is recommended that a Phase I archaeological survey be conducted on well-drained areas that exhibit no clearly visible signs of disturbance.

During the reconnaissance survey, many structures associated with the New Castle & Wilmington and the Philadelphia, Wilmington & Baltimore railroad corridors were observed in various states of decay. Both rail corridors have been examined in previous surveys. Other features of the built environment, including dykes, banks, and ditches constructed to manage the Christina River, Mill Creek, and surrounding marshland within the larger project area will not be impacted by project plans. However, as one of few commercial properties with built features in the project area, additional archival and architectural investigations are recommended for the DuPont Company's 24 acres (9.7 ha) and Christina River wharf.

This page intentionally left blank

Table of Contents

This page intentionally left blank

List of Figures

List of Photos

List of Tables

INTRODUCTION

Dovetail Cultural Resource Group (Dovetail) conducted a Phase IA cultural resource survey at the request of the Delaware Department of Transportation (DelDOT) for the Industrial Track Greenway Phase 3 Feasibility Study and Christina River Bridge project. This project is part of a larger initiative to facilitate greater pedestrian access from downtown Wilmington around the Christina River to residential areas in the southern and eastern sections of the city. As proposed, the project calls for the construction of a new pedestrian pathway along the western banks of the Christina River to the DuPont Environmental Education Center and along the defunct Norfolk Southern Shellpot Railroad and Delaware Railroad corridors before crossing the Christina River. At the river, a new pedestrian bridge will connect this phase of the Industrial Tract Greenway with the extant path built during Phase 2 of the Industrial Tract Greenway project.

The project Area of Potential Effect (APE) includes the physical footprint of the proposed pathway as depicted on mapping provided by DelDOT and Whitman, Requardt & Associates (WR&A) Engineering, as well as any surrounding areas with the potential of being indirectly impacted by project plans. Fieldwork consisted of a pedestrian survey to identify any surface features, non-testable disturbed areas, and non-testable wet or excessively sloped areas within the project area. The survey was conducted between September 16 and 18, 2013 by Project Archaeologist Joseph Blondino, and Architectural Historian Danae Peckler. Archival research and review of previously surveyed historic resources was conducted in September and October 2013 by Ms. Peckler with assistance from Mr. Blondino. Dr. Kerri Barile served as the Principal Investigator and meets or exceeds the standards established for Archaeologist, Architectural Historian, and Historian by the Secretary of the Interior.

Previous archaeological investigations, architectural surveys, and planning documents have examined sections of the proposed pedestrian pathway and work to complement available historic contexts in providing greater understanding of the area's historical development. Goals of the current Phase IA investigation were: first, to conduct archival research and identify known cultural resources in the project vicinity; second, to document any unrecorded architectural properties and areas with the potential to contain or archaeological sites in the project area for the proposed greenway project; and, third, to make recommendations on the need for any future studies.

This page intentionally left blank

PROJECT AREA DESCRIPTION

The Industrial Track Greenway Phase 3 Feasibility Study project area is located just east of Interstate 95 (I-95) and north of Interstate 495 (I-495) in southeast Wilmington. The project area is currently situated within Wilmington city limits, but was historically associated with rural farm and marshland in Christiana Hundred. The proposed greenway improvements involve construction of a pedestrian trail along the historic pathways of two nineteenth-century railroads and the construction of a pedestrian bridge over the Christina River. The project is intended to provide greater access and recreational use of the Russell W. Peterson Urban Wildlife Refuge and DuPont Environmental Education Center, and the City of Wilmington, at large, from newly constructed residential areas south of the river. However, the Industrial Track Greenway Phase 3 project area has not been impacted by this recent suburban development, as approximately 212 acres (85.8 ha) surrounding the project area have been preserved as a wildlife refuge and conservation area.

The project APE is bound on the west and north sides by two nineteenth-century railroad beds, on the east by the Christina River, and on the south by both the river and I-495 (Figure 1, p. 4). The north side of the APE extends along the now defunct railroad currently known as the Norfolk Southern Shellpot Secondary (NS Shellpot Secondary), historically the Shellpot branch of the PW&B, and stretches nearly 4,430 feet (1,350 m) from its western point, near I-95 northeast, east to the DuPont Environmental Education Center. On its west side, the APE includes the abandoned railroad bed that most recently served Conrail in the mid-1970s, but was originally constructed as part of the NC&W corridor.

Most all of the land contained within the project area is low-lying marshland filled with various grasses and shrubs. Mature trees are generally limited to the northwest and southwest corners of the APE and in areas of higher ground, particularly along the abandoned NC&W railroad corridor.

At present, one building and several structures are located within the project APE. The three-story building situated near the northeast corner of the refuge contains offices and exhibit space for the DuPont Environmental Education Center. Several structures within the parcel, including an elevated pedestrian bridge, interpretative signage, boardwalks and other paved pathways are also associated with the Center (Photo 1, p. 4). However, a number of railroad features, including graded beds, ballast, tracks, bridges, signal towers, utility structures, and other remnants are found along the northern and western boundaries of the project area. High-voltage power lines also pass through the APE, as does a sewer easement, both of which are marked by contemporary utility structures (Photo 2–Photo 4, p. 5–6). Other modern features in the project area include the elevated roadway of I-95 that marks the northwest corner of the APE and the paved walkway, recently constructed during the Industrial Track Greenway Phase 2 project, along the NC&W rail bed at the southwest corner of the APE (Photo 5 and Photo 6, p. 6). Also located on the western end of the project area, a railroad bridge is known to have once spanned the Christina River, but very little of this structure remains to be seen on the river today (Photo 7 and Photo 8, p. 7).

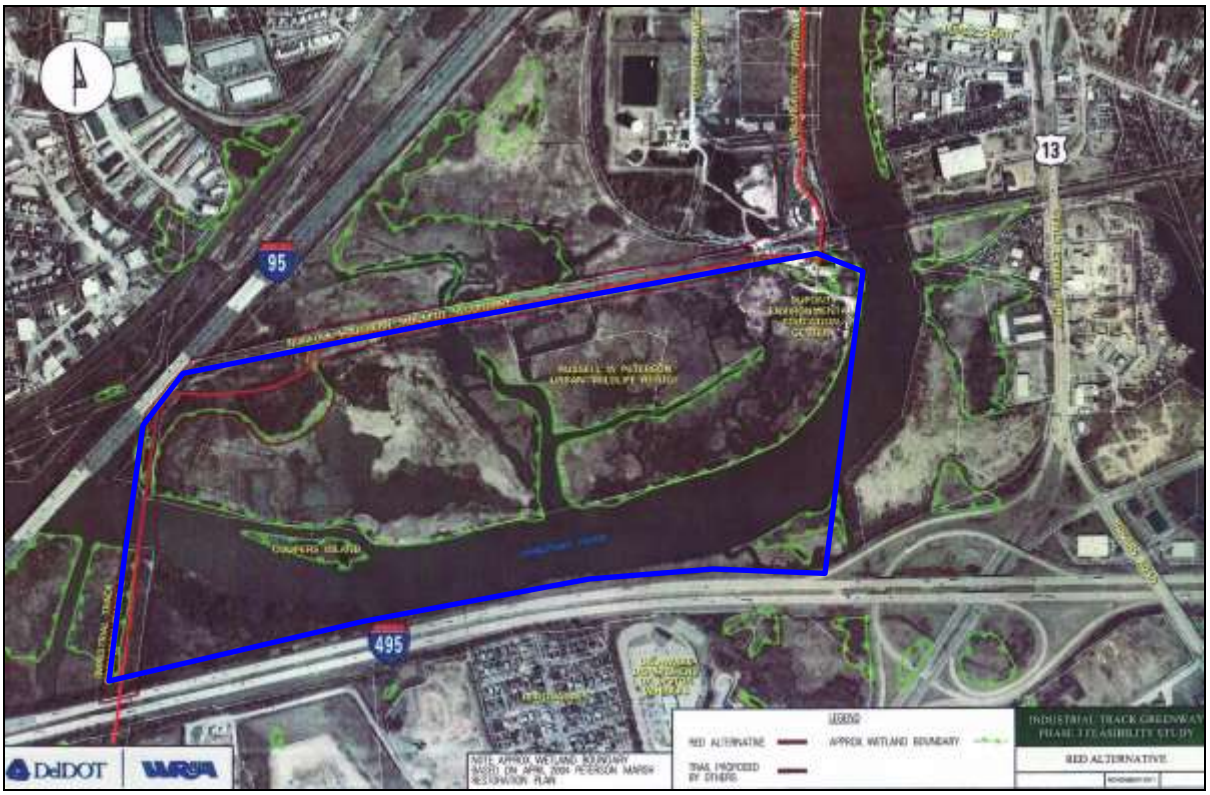

Figure 1: Location of Project APE on the Industrial Track Greenway Phase 3 Feasibility Study Map (WR&A 2013).

Photo 1: View of Eastern Half of Project Area, Looking South from DuPont Environmental Education Center.

Photo 2: View of APE Looking West from DuPont Environmental Education Center.

Photo 3: Various Railroad Features and Structures Along Shellpot Branch, View Looking East. Contemporary pedestrian bridge and DuPont Environmental Education Center building at right.

Photo 4: Shellpot Branch Railroad Corridor, View Looking West.

Photo 5: View from Northwest Corner of APE, Near I-95.

Photo 6: Existing Path Along NC&W Line South of Christina River, View Looking North.

Photo 7: View of Abandoned Railroad Bridge Abutment on South Side of Christina River, Looking South from North Abutment.

Photo 8: View of Abandoned Railroad Bridge Abutment on North Side of Christina River, Looking North from South Abutment.

This page intentionally left blank

ENVIRONMENTAL SETTING

The Industrial Track Greenway Phase 3 Feasibility Study project area is located on the southeastern side of the City of Wilmington, and is situated on the northwest side of the Christina River in New Castle County, Delaware. The project area is currently part of the City of Wilmington, but was historically rural farm and marshland in Christiana Hundred. The entire project area is situated within the Urban Geographic Zone (Zone V) as described in the *Delaware Comprehensive Historic Preservation Plan*, but also lies within the Coastal Plain that surrounds the Christina River, beginning near the community of Christiana and extending roughly 10 miles (16.1 km) east to the City of Wilmington (Ames et al. 1989; Dixon 1992).

Geology

The project area lies within the Coastal Plain physiographic province, a region underlain primarily by unconsolidated Cretaceous through Quaternary-age sediments. The Coastal Plain "…includes the land in the immediate vicinity of a river or stream up to the head of navigation. The zone is the area in which water-related activities take place," and its boundaries are subject to continual change as the processes of erosion and silting occur (Ames et al. 1989:35). The northernmost areas of the Coastal Plain are fed by fresh-water streams from the Piedmont and Upper Peninsula Zones and support an abundance of tidal marshes and wetlands with rich variety in flora and fauna.

The Upper Coastal Plain physiographic zone covers the area between the Smyrna River to the south and the Piedmont Fall Line to the north (Custer 1984; Custer and Bachman 1986; Hodny et al. 1989). The Potomac and Columbia formations characterize the sediments of the northern Delaware Coastal Plain. Potomac sediments are alluvial silts and clays deposited during the Early Cretaceous Period. They are overlain by the sediments of the Columbia formation, deposited largely as glacial outwash transported by watercourses from the north during the Quaternary Period. Sands, made up mostly of quartz and feldspar, and coarse gravels, made up of sandstone, quartz, and chert, characterize the Columbia formation (Custer 1984; Jordan 1964). The erosion-resistant glacial outwash gravels created a gently rolling topography with up to 50-foot (15.2-m) differences in elevation between floodplain marshes and headlands, thereby creating differences in plant communities.

Hydrology

The project area lies along the shores of the Christina River, a major tributary to the Delaware River. Little Mill Creek flows through the portion of the APE that lies north of the Christina. The Christina empties into the Delaware River approximately 3 miles (4.8 km) east of the project area. The Delaware River empties into the Delaware Bay, which joins the Atlantic Ocean between Cape Henlopen, Delaware, and Cape May, New Jersey.

Soils

The terrain within the project area is relatively flat with little variation in topography, especially on the north side of the Christina River. This portion of the APE is underlain primarily by Holocene marsh deposits, although sediments of the Upper Pleistocene Delaware Bay Group are located at the western edge of the landform on the north side of the river. The portion of the APE lying to the south of the Christina River is underlain by modern fill along the stream's margins and by the Middle Pleistocene Columbia Formation elsewhere. This formation consists largely of glacial outwash sediments and contains clasts of rock transported from the Piedmont physiographic province.

Fertile, well-drained soils attracted both humans and game over millennia. Moreover, the wild grasses, fruits, and seeds consumed by people both before and after the adoption of agriculture flourished in such settings. As a consequence, numerous archaeologists have cited the correlation between the distribution of level to gently sloping, well-drained, fertile soils and archaeological sites (e.g., Lukezic 1990; Potter 1993; Turner 1976; Ward 1965). Soil scientists classify soils according to natural and artificial fertility and the threat posed by erosion and flooding, among other attributes. Soil Classes 1 and 2 represent the most fertile soils, those best suited for not only agriculture but for a wide range of uses. Of course, soil productivity must be considered in relation to the productivity of the surrounding soils as well.

Within the project area, the Nanticoke and Mannington soils represent the most likely setting for short-term prehistoric sites related to extraction of wetland resources, but the frequent flooding of these soils makes long term occupation unlikely. Historic sites are also unlikely to occur on these soils, though the land may have been used for cultivation of marsh grass for hay. The udorthents located within the project area are also unlikely to contain intact archaeological resources. These soils exhibit little profile development, typically because they are composed of modern fill or displaced soils. Although these soils may contain artifacts, the context would likely be highly disturbed. Prior to the disturbance that created these soils within the project area, the portions of the APE covered by them likely contained Nanticoke and Mannington soils (Table 1) (Soil Survey Staff 2012).

Table 1: Soils in the Project Area (Soil Survey Staff 2012).

Soil Name	Class	Slope	Percentage of Project Area	Characteristics
Nanticoke and Mannington soils	8	0–1%	65%	Tidal, very frequently flooded, not prime farmland
Udorthents	2w	0–2%	35%	Wet substratum, not prime farmland

METHODOLOGY AND RESEARCH DESIGN

The purpose and goal of this Phase IA investigation was to record historical and background data on the area surrounding the proposed Industrial Tract Greenway Phase 3 project corridor and to assess the potential of this area to contain historically significant resources, either above or below the ground surface.

For the purposes of this survey, the project APE extends from the east bank of the Christina River, on the south side of the NS Shellpot Secondary and extends west to a point just east of I-95 then turns south to cross the river and the connect with the paved walkway constructed during the Green Industrial Tract Phase 2. The APE then extend south and east to run along the north side of I-495, then turns north to cross the Christina River once again and connect with Shellpot branch. This area is known to contain resources associated with two nineteenth-century railroad corridors and is largely composed of marshland.

Research Design

This cultural resource survey was conducted with the Delaware Comprehensive Historic Preservation Plan and other relevant historic contexts in mind (Ames et al. 1989; Bedell 2002; De Cunzo and Catts 1990; De Cunzo 2004; Fisher et al. 1993). The state's Historic Preservation Plan identifies six historic periods:

a. 1630–1730: Exploration and Frontier Settlement

b. 1730–1770: Intensification and Durable Occupation

c. 1770–1830: Early Industrialization

d. 1830–1880: Industrialization and Early Urbanization

e. 1880–1940: Urbanization and Early Suburbanization

f. 1940–1960: Suburbanization and Early Ex-urbanization

In addition to these significant periods of time, another influence on the methodology of this investigation is the location of the project study area along the Christina River and in close proximity to the Delaware River.

Published in 1993, *Marshland Resources in the Delaware Estuary, 1830–1950+/-: An Historic Context*, was written in response to the need for a framework to evaluate cultural historic resources associated within the Coastal Plain Zone (Fisher et al. 1993:2). This historic context identified four chronological periods of development within this particular physiographic zone:

*1600–1830 +/-: Land reclamation for agriculture; fishing on a local scale not intended for market. Fur sales are active by the late 1700s.

*1830–1850 +/-: Commercial fishing for market first appears; salt hay harvest, fur sales, and land reclamation for agriculture continue as important activities.

*1850–1910 +/-: Decline in the harvest of salt hay and marsh reclamation accompanied by an increasing emphasis on large scale harvesting of fish and game for the urbanized markets demanding exotic foods.

*1910–1950 +/-: Decline in agriculture and commercial fishing as viable sources of income; hunting and fishing gain popularity as recreational activities.

Based on these guiding documents as well as previous investigations in the project vicinity, it is anticipated that the periods dating from 1600 to around 1910 are the most relevant based on the occupation history of the area. Data from the known architectural properties and archaeological sites near the project area suggests that any historic resources identified in the area would likely date from the late-eighteenth to early-nineteenth centuries and could have the potential to yield new information on the practice of marshland reclamation and agriculture in this region of the state. More specifically, significant resources may be associated with the periods of Exploration and Frontier Settlement, Early Industrialization, Industrialization and Early Urbanization, and the Urbanization and Early Suburbanization Period, as well as the corresponding periods prescribed for significant marshland resources (De Cunzo and Catts 1990; Fisher et al. 1993).

Dovetail also conducted this survey in light of the Delaware Management Plan for Prehistoric Resources (Custer 1986), which created models for the likely presence of prehistoric sites from various temporal affiliations in various Delaware locations based on the results of previous work in these locations.

The project area is located within the Mid-Peninsular Drainage Divide Management Zone Unit of the Plan. The probability for finding Paleoindian and Archaic Period sites in the Mid-Peninsular Drainage Divide is medium to high based on the relatively high number of previous finds from these periods in this zone. All defined types of Woodland I Period sites have a high probability of occurrence, Woodland II Period sites have a moderate probability and European Contact Period sites have a low probability of occurrence in the Mid-Peninsular management unit. As yet unidentified Woodland I and Woodland II Period sites are considered likely to add valuable additional information (Custer 1986). Since the plan was first published in 1986, subsequent local prehistoric archaeological site information indicates that the likelihood of finding sites dating to the Woodland I Periods should be considered high.

Archival and Background Research

Archival research conducted in association with this project gathered primary and secondary sources to learn more about the history of the project area and the cultural resources within it to inform this Phase IA investigation and support recommendations for future studies. In

September and October 2013, Dovetail staff reviewed previous cultural resource survey reports and historic contexts on file at DelDOT and the University of Delaware's Center for Historic Design online (D-space), as well as relevant Cultural Resource Survey (CRS) forms and National Register of Historic Places (NRHP) nominations available from the Delaware State Historic Preservation Office (DE SHPO). Historic maps and aerial images of the project area were also consulted to locate areas with any potential to contain historic components of the built environment.

This background review is complemented by the results of archival research conducted at numerous repositories in the state, including the Delaware Public Archives (DPA), New Castle County's Recorder of Deeds office, Morris Library at the University of Delaware, and the Hagley Museum and Library. Additional online repositories were consulted, including Ancestry.com and family search.org, as well as the Library of Congress and National Archives. Primary sources reviewed during archival research include warrants and surveys, deeds, wills and probate records, Orphans Court case files, Census records, tax assessments, railroad and legislative records, as well as private correspondence. Secondary sources include transcribed materials and various books written on the area's history.

Field Methods

The field survey consisted of one Dovetail archaeologist and one Dovetail architectural historian inspecting the entire proposed project area. The survey methodology comprised field notes and photographic documentation during a pedestrian inspection of the Industrial Tract Greenway Phase 3 project corridor. Dovetail did not conduct subsurface excavations during this work, or closely survey extant above-ground resources identified within the project area at this time.

The goals of the archaeological work in the current survey were to identify areas with the potential for intact deposits and make recommendations on future archaeological work once the project plans have been refined. As such, no subsurface investigations were completed as part of the work.

The goals of the architectural investigation were to identify any above-ground, man-made resources in the project area and to make recommendations on the need for any additional surveys of any buildings, structures, or objects in the future.

This page intentionally left blank

CULTURAL CONTEXT

Prehistoric Context

There are five general, chronological periods of Native American cultures of the Delmarva Peninsula defined by Custer (1984, 1986): Paleoindian (15,000–8500 B.P.), Archaic (8500–5000 B.P.), Woodland I (5000–1000 B.P.), Woodland II (1000–300 B.P.), and the Contact Period (1650–1750).

Paleoindian Period (15,000–8500 B.P.)

The Paleoindian Period marks the retreating of glacial conditions and the beginning of a Holocene environment that is characterized by cold temperatures and alternating periods of wet and dry climate. Human adaptation to these environmental conditions developed into small groups of nomadic Native American hunters and gatherers. Although direct archaeological evidence of non-mammalian food resources consumed by Paleoindian peoples is lacking in Delaware, paleoenvironmental data suggests that the period comprised deciduous, boreal, and grassland biomes. These environs would have provided grazing, browsing, and shelter for animals and provided foraging opportunities.

Primarily, Paleoindian Period toolkits were designed for game procurement and processing. They include projectile points, hafted and unhafted knives, scrapers, and less-formalized flake tools. The fluted point is the early diagnostic hallmark of this period (Clovis, Mid-Paleo, and Dalton). Later point forms of the period were notched and often serrated (Palmer, Amos, Kirk). Toolkits often displayed high degrees of maintenance and reworking, which is consistent with nomadic lifestyles and migration between lithic raw material sources. Custer (1989) has identified Paleoindian sites along the Mid-Peninsular Drainage Divide of the Delmarva Peninsula, with the Hughes Complex in Kent County exemplifying their distributional pattern (Custer 1984).

A concentration of fluted point finds in northwestern New Castle County may be indicative of Paleoindian exploitation of high-quality cryptocrystalline lithics found in the Delaware Chalcedony complex (Custer 1989). Paleoindian sites throughout North America are characterized partially by their exhibiting a preference for high-quality lithics from which to craft fluted points and other tools used as part of a continuous curation tool-use strategy (Callahan 1979; Goodyear 1979). Other, as-yet undiscovered, Paleoindian sites are likely to be located offshore in the Delaware and Chesapeake Bays in former terrestrial landscapes which are now inundated as a result of constant sea-level rise since the onset of the Holocene (Lowery 2007; Lowery et al. 2012). In fact, it is possible that the earliest Paleoindian sites in the region, pre-dating Clovis times, are currently in locations where they are inundated or in active tidal zones (Lowery 2007, 2009).

Archaic Period (8500–5000 B.P.)

The Archaic Period is characterized by the emergence of full Holocene environmental conditions and a landscape that was dominated by mesic oak and hemlock forests. These forests attracted smaller game, such as deer and turkey, which replaced the cold-adapted grazing animal species, like bison antiquus and caribou, which became extinct (Custer 1984).

A rise in sea level caused lowland flooding and the formation of river systems and swamp areas within the Mid-Peninsular Drainage Divide. The Native American peoples shifted from a more hunting-based pattern (Paleoindian Period) to one where plants became a more important food source (Custer 1989:128). A fission-fusion model of social organization produced macro- and micro-base camps and procurement camps, with group sizes changing in response to the availability of resources each season (Custer 1989:129–130). Archaic toolkits include a number of tools indicative of plant food processing, grinding stones, netsinkers, and stone mortars. Archaic sites in the Delaware include several sites within the Churchman's Marsh vicinity, located a short distance upstream along the Christina River from the present project area.

Woodland I (5000 B.P.–1000 B.P.)

The Woodland I Period is marked by a pronounced warm and dry period, and dramatic changes in local environments and climate. Sea level rise slowed, allowing stabilization of riverine and estuarine areas, which in turn led to an increase in aquatic resources. This led to higher degree of sedentism by the Woodland I peoples who began establishing large macro-band base camps with evidence of use year-round (Custer 1989). Storage pits and evidence of house structures are found at these sites for the first time. Increased social complexity is also evident during this period in the form of grave goods indicating complex mortuary ceremonies beginning around 2500 B.P.

The Woodland I Period is also marked by stemmed, broad-bladed, and fishtail points, as well as an increased use of rhyolite and argillite. Ceramics replaced steatite bowls around 3000 B.P. (Custer 1984). The Delmarva Adena Complex appeared in central Delaware while the Black Rock Complex (formerly the Wolfe Neck) was present in New Castle County. Components from the Black Rock/Wolfe Neck Complex are found at Clyde Farm Complex sites. These Black Rock and Delmarva Adena complexes seem to have ended by 2000 B.P., and the Carey Complex appears followed by the Delaware Park Complex by 1500 B.P. (Custer 1989:253).

The Woodland I period is particularly relevant to the present discussion because it is during this time period that large archaeological sites begin to appear in landscapes similar to that in which the current project area is located. The type site for the Clyde Farm Complex is located a short distance upstream from the current project area along the Christina River in a similar environmental setting, being associated with the extensive wetlands of Churchmans Marsh. Such wetlands are among the most productive environments in the world in terms of the availability of naturally occurring food resources. Location near extensive wetland areas became the core of local native peoples' settlement patterns for the remainder of the Woodland period in the area around what it now Wilmington (Custer 1984, 1989).

Woodland II (1000 B.P.–350 B.P.)

The Woodland II Period is generally marked by more intensive use of plant foods in the Middle Atlantic region and a shift to a more sedentary lifestyle and the development of an agricultural system. However, this shift to more of an agricultural system is absent in the Delmarva Peninsula (Custer 1989). There are two Woodland II complexes identified in Delaware: the Slaughter Creek Complex and Minguannan Complex. Artifacts include thin-walled Minguannan ceramics and triangular projectile points. The sites of the complexes are in the same environmental contexts as those of the Woodland I Period, oriented in marshes and wetland areas. This indicates that there were no major changes in the lifestyles of the peoples in Delaware during this time period (Custer 1989:314), although ceramics become more refined and are presumably used with greater and greater frequency for everyday cooking tasks.

Contact Period (AD 1650–1750)

The Contact Period is marked by the initial contact between the Native American peoples of Delaware and European colonists. This was followed by the collapse of traditional native lifeways, as European goods and practices were adopted, and disease and conflict over the fur trade caused a severe loss of life among native groups. Evidence indicates that resident native populations in Delaware had minimal interaction with European settlers and were prevented from interacting with them by the Susquehannocks of southern Lancaster County, Pennsylvania, who dominated the fur trade. The Susquehannocks were exterminated by the Europeans by 1763, and the groups of refugees formed what Custer calls "Refugee Complexes" (Custer 1986:315; Kent 1989).

Historic Context

In accordance with Delaware Comprehensive Preservation Plan (Ames et al. 1989), the history of Delaware is generally divided into five time periods beginning with the exploration of the area by numerous European peoples in North America and extending more than three centuries to encompass recent development trends in suburbanization and the policies that have shaped the landscape during the latter-half of the twentieth century. These periods are: Exploration and Frontier Settlement (1630–1730), Intensified and Durable Occupation (1730–1770), Transformation from Colony to State (1770–1830), Industrialization and Capitalization (1830–1880), Urbanization and Early Suburbanization (1880–1940), and Suburbanization and Ex-Urbanization (1940–1960).

Exploration and Frontier Settlement (1630–1730)

The first European to explore the Delaware River was Henry Hudson in 1609, yet it was the Dutch West India Company who sent the first settlers to the area, established settlements at High Island in 1624 and Lewes in 1631, and opened the region for colonization (Weslager 1961:11). By 1632, conflict with the Native American population forced the settlements to be abandoned. In 1638, after "purchasing" land from the Native Americans, Swedish colonists established settlements on the banks of the Delaware River from Cape Henlopen to

modern Trenton with the center of the colony being Fort Christiana. Fort Christiana, was located near present day Wilmington and was the first permanent settlement in the state (Rummel, Klepper, & Kahl [RK&K] 1993:IV-8). Also known as Christianaham, this colony is originally contained 25 Swedish and Finnish settlers who built a small fort with a cluster of houses and cultivated fields along the Christina River (LeeDecker et al. 2011:17).

Though Swedish and Finnish immigrants settled much of the region, the Dutch West India Company laid claim to the entire coastline from New York to the Chesapeake Bay and, in 1651, they established Fort Casimir at the site of present-day New Castle. After a military struggle, the Dutch captured Fort Christina in 1655 and allowed it to fall into ruin, but encouraged continued settlement of the region by Dutch, Swedish, and Finnish colonists (LeeDecker et al. 2011:17). In 1664, Sir Robert Carr, acting on behalf of the Duke of York and Albany, confiscated the lands, houses, and property of Dutch officials in the Delaware Valley region and transferred authority of the Dutch colonies to England.

Soon after England obtained possession of the country, political officials sought to develop it by awarding a number of land grants in the area is now Christiana Hundred. Settlement patterns shifted from closely spaced Dutch and Swedish villages along the Delaware River and its estuaries to scattered farmsteads along internal drainages and emerging roadways. Around the confluence of the Christina and Brandywine Rivers, much of the land was owned by relatively few farmers.

Transportation routes in this era were dictated by natural waterways, as water transportation provided a cheaper, more efficient method of transporting goods (DeCunzo and Catts 1990:30–35). Few overland paths and roadways connected villages along the waterways. European settlers valued the marshlands around the Delaware Bay for the access they provided to navigable waters, but also for the wildlife they harbored including fowl, fish, and small game (Fisher et al. 193:2). Although trade limitations prevented the commercial, fur trading and fishing for domestic trade occurred regularly.

The ports of Philadelphia, Wilmington, and New Castle grew steadily and had a large commercial role in the growth of Delaware. Early records from this period indicate that a sawmill cut lumber along the Christina River in 1677 and three grist mills were in operation along Shellpot Creek by 1679; however, the most common activities in the area remained clearing forest, cultivating land, along with hunting, trapping, and trading (Dixon 1992:13).

Continued settlement and population growth in northeastern Maryland, southeastern Pennsylvania, and northern Delaware fueled agricultural activities and development of the hinterlands, and reinforced the economic growth of the region's ports. In 1692, William Penn received title to the three "Lower Counties" of Delaware: New Castle, Kent, and Sussex. Shortly after this exchange, colonists in Delaware found themselves in disagreement with those in the Pennsylvania colony over matters of governance, voting power, appropriations, and religious character. This led to the counties breaking away and the creation of the new colony of Delaware in 1704 (Munroe 1984).

Intensified and Durable Occupation (1730–1770)

In 1731, the first permanent settlement of Wilmington began when Thomas Willing bought land between the Christina and Brandywine Rivers and laid out the town's grid. By 1736, 30 houses reportedly occupied this high ground around the Fall Zone between Piedmont and Coastal Plain zones (LeeDecker et al. 2011:17). Initially known as "Willingtown," the town's location on a natural harbor, navigable waterways, and established overland transportation routes supported its commercial growth.

Most of the state's residents were farmers with 80 to 90 percent reported to be engaged in agriculture (Egnal 1975:201). Many large estates and land grant parcels were divided, creating new farm properties centered on supplying the market-driven agricultural economy (Frederick et al. 2006:56). In the marshland areas around the Delaware Bay, farmers grazed cattle and harvested salt hay and other marsh grasses. Throughout the year, they "ditched and banked the marshy areas to utilize the fertile organic soil of the lowlands" (Fisher et al. 1993:2). Lands reserved as forests or marshes were cleared and incorporated into the crop cycle as the need for more cropland increased. Wheat was the primary crop produced by area farmers, followed by rye, corn, barley, oats, and a variety of vegetables (Main 1973). Livestock supplemented farmers' income from surplus crops as an increased need for labor was filled by indentured servants and slaves (Frederick et al. 2006:56).

Milling operations prospered in response to the abundance of wheat produced in the area and led to the establishment of other industries in the City, including shipbuilding, coopering, and import-export trading. "The processing of grains by merchant millers gave tremendous impetus to Wilmington's growth as a regional port…" with many of the area's mills situated along the Brandywine and most of its wharves and shipyards dotting the Christina (Dixon 1992:16).

Increased commercial activity fostered the growth of port towns along the region's waterways. These communities "housed ship builders, captains and their crew members, fishermen, trappers, hunters and various occupations associated with a prosperous town," including merchants, store keepers, physicians, cobblers, and others in consumer goods (Fisher et al. 1993:2). The river town of Newport emerged in the 1730s as one of the earliest villages established in Christiana Hundred (Kurtze 1992:2). In addition to its location along the Christina River, Newport was at the crossroads of two early overland transportation routes, making it "…an important trans-shipment point for land and waterborne commerce" (Kurtze 1992:4). As place of both receiving and shipping goods, river towns also became centers for processing, exchange, and storage (RK&K 1993:IV-11). Wharves and store houses were increasingly common in Newport and along navigable portions of the Christina River in the latter half of the eighteenth century. In 1772, a local law was passed to establish specific dimensions for wharf construction and curtail the growing number of long wharves that impeded navigation (Weslager 1947:58).

Early Industrialization/Transformation from Colony to State (1770–1830)

By the late-eighteenth century, area farmers began to suffer the effects of exhaustive agriculture with decreased soil fertility and erosion in northern Delaware. Virgin soils and

large land grants on the nation's frontier challenged the region's agricultural economy. To fight these problems and improve area agriculture, the farmers of New Castle County established the state's first agricultural society in 1804 (Frederick et al. 2006:59). Marshland areas were increasingly reclaimed by farmers for use as cropland as ditches helped to drain the marsh and often doubled as property boundaries (Fisher e al. 1993:86). As the reclamation process became more routine, farmers collaborated to make improvements:

> Individuals or groups applied to the General Assembly for permission to ditch and bank certain areas… The legislature granted permission in almost every case, often allowing marsh companies to levy taxes for the improvement on any landholder whose marsh land benefitted from the work (Fisher et al. 1993:87).

Though smaller landowners and tenant farmers initially fought these developments, marsh companies were eventually accepted as beneficial to farmers and were seen to improve land values (Fisher et al. 1993:87).

Throughout this period, improved milling technology and increased diversity of manufacturing operations around Wilmington characterized the region's industrial development (Dixon 1992:18). Oliver Evans, a wheelwright by trade, invented the "automatic foul mill" when he compiled a number of machines to automate the grinding process, enabling a significant expansion in its production (Dixon 1992:21). Born in Newport, Evans' invention was soon picked up by prominent millers in the region, and adapted to suit other areas of industry.

The American Revolution brought disarray to the region, and social and political unrest in Delaware further heightened an already tense atmosphere. Strong family and political ties to Pennsylvania and a mercantile economic system resulted in support for the Revolutionaries (Hunter et al. 1995:4-7). Though only one Revolutionary War battle was fought in Delaware at Cooch's Bridge in 1777, British troops occupied Wilmington after the Battle of Brandywine for a time, and threatened the state capital at New Castle. The capital was soon transferred to Dover—a move that became permanent in 1781.

The War of 1812 similarly avoided the state, but its economic impacts were felt in a series of embargoes negatively affecting trade and increased economic competition from new lands in the West. Meanwhile, manufacturing and commerce prospered as the state's population increased. Textiles, paper, snuff, rope, gunpowder, and iron were all produced in New Castle County (Coxe 1814).

Overland transportation routes were also constructed at this time and improved to accommodate increased numbers of travelers and trade. The economic depression of 1819, brought on by low prices for wheat and other grains, further decreased the value of agricultural land and crops across the state. During this period, the most successful agrarians became part of central Delaware's rural elite farming class, and diversified their interests by purchasing urban properties, investing in banks and manufacturing facilities, and supporting the growth of transportation networks (Siders et al. 1991).

One new type of transportation network developed in America during this era was the canal. Plans to construct a canal through central Delaware were initiated in the late-eighteenth century, though construction did not begin until the early 1820s. The Chesapeake and Delaware Canal (C&D Canal) opened to traffic in 1829 and connected the Chesapeake Bay with the Delaware River to provide improved market access for the region's farmers (Frederick et al. 2006:62). However, the new canal also got the attention of industrialists and companies looking to expanded steamboat service in the area.

Industrialization and Capitalization (1830–1880)

In northern Delaware, the Industrial Revolution led to significant advances in transportation, urbanization, and industrialization. The state's first railroad, the New Castle and Frenchtown, was completed in the early 1830s and was soon followed by the PW&B in 1837. Although the New Castle and Wilmington Railroad Company was charted in 1839, construction did not begin until 1852 (Coverdale and Colpitts 1946:324). Funding for this smaller rail line was secured from the PW&B, and was sold to the latter company in the 1880s (Pennsylvania Rail Road Company Corporate Records [PRRCCR]).

These railroads, the newly constructed C&D Canal, and the continued construction of turnpikes and overland transportation routes allowed farmers and merchants increased opportunity to ship their products to markets in the eastern urban areas and abroad. As eastern urban centers grew and farming techniques improved, agriculture in Delaware expanded to include the production of perishable dairy goods, fruits, and vegetables for these markets.

Wilmington remained an important commercial and manufacturing hub for the state. The industrialization of area factories grew rapidly in the city as steam-powered machinery took hold of various manufacturing concerns. Between 1850 and 1860, "steam-powered factories increased over 240 %, from 15 to 51 establishments... and the total number of works rose nearly 120%, from 1,745 to 3,826" (Dixon 1992:28). Work drew people to the city and Wilmington's population grew from over 8,000 residents in 1840 to 21,258 in 1860, and reached 42,478 by 1880 (Dixon 1992:29). Shipbuilding and associated mercantile trades remained an important sector of area industry, with numerous firms locating and expanding operations along the Christina River waterfront (Dixon 1992:32).

Throughout the Delaware River estuaries, shad, oyster, and sturgeon fishing were lucrative endeavors for residents in the marshlands and river towns, aided by technological improvements and machinery, commercial fishing operations began to emerge (Fisher et al. 1993:3). Salt hay grown in area marshlands was used for packing and insulating these products, particularly caviar (sturgeon roe), for shipment to overseas markets where they commanded high prices (Fisher et al. 1993:2). Marsh companies continued to support agriculture along the Christina River, while the Christiana River Improvement Company conducting widespread filing of some marshes in the mid-180s (Bromberg 1988).

Delaware was not physically impacted by military conflict during the Civil War, but played an important role in the effort for the Union. As a strong industrial center, Wilmington's economy flourished in the production of railroad cars, ships, gunpowder, tents, clothing,

shoes and other materials for the war (City of Wilmington 2003:1). This prosperity continued after the conflict, and "By 1868, Wilmington was producing more iron ships than the rest of the country combined and rated first in the production of gunpowder and second in carriages and leather" (City of Wilmington 2003:2).

Urbanization and Suburbanization (1880–1940)

The state's industrialization, post-war prosperity, and increasing population in the late-nineteenth and early-twentieth century led to an urban expansion as immigrants from Eastern and Central Europe settled in Delaware cities and towns. Nearly 70 percent of New Castle County's population in the early 1900s lived in Wilmington (Kellogg 1990:32). Beginning in last quarter of the century, suburban neighborhoods emerged as a fashionable alternative to the busy streets and industrial activities at the City's core. Common problems in the urban environment resulting from a lack of sewer and water facilities plagued city residents, including a series of viral outbreaks. Wilmington's board of trade worked to improve living conditions in the city promote the dredging of the silted Christina River, the establishment of freight service throughout south Wilmington, and the construction of new Port facilities between the 1880s and 1920s (Dixon 1992:35).

Railroads continued to have a significant influence on the city, as several companies expanded operations or re-constructed existing lines to accommodate increasing freight and passenger traffic. Twice during this period, the PW&B, along with the Pennsylvania Rail Road (PRR), is successor, "undertook building programs that transformed the Christiana riverfront" (Dixon 1992:34). One such program was the construction of the Shellpot Cut-off branch, a 5.3-mile (8.53-km) stretch of double-track railroad built in 1888 to divert commercial freight traffic around the city (CRS Form N-14118).

Manufacturing in the state remained highly concentrated in the northern portion of the state around Wilmington in this period, an continued to play an important role in the country's industrial economy—ranking seventh in leading manufacturing centers by 1907 (RK&K 1993:IV-17). However, despite economic growth in the first decades of the twentieth century, "some of Wilmington's largest and oldest industries, especially those involved in railroad car and shipbuilding, experienced downturns causing some to close operations or become part of national corporations" (Dixon 1992:36). Though government contracts aided many in manufacturing during the First World War, after it was over, a decline persisted throughout the Great Depression.

Reflecting a larger trend in population across the country, more people resided in the cities than ever, aided by increased transportation opportunities and the automobile age. Construction of T. Colman DuPont's concrete highway in 1923, also known as US Route 13, allowed residents and visitors to traverse the state more easily. Open to traffic by 1924, this roadway stretched from Wilmington, at the north end of the state, to the Delaware-Maryland state line at the south (Frederick et al. 2006:79).

Urban growth spread out from Wilmington, encroaching on surrounding farmland. By the end of this period, the pattern and density of settlement in Delaware had developed into suburban clusters at the edges of urban communities and in close proximity to highways

(Frederick et al. 2006:80). Scattered commercial development grew in response to residents' increased reliance on the automobile, particularly along well-traveled highways, resulting in the construction of gas stations, motels, diners, and roadside stands across the state.

Transportation improvements and manufacturing growth during this period encouraged farmers to industrialize as increased mechanization began to fill a growing labor shortage. Agriculture in the state continued to be diverse, though rising urban populations fostered growth in the number of dairy, poultry, and truck farming operations (Frederick et al. 2006:77). By the end of the period, large farms had become corporations producing goods specifically for markets in Philadelphia, New York, Baltimore, and other urban areas.

Beginning in the 1870s, intensive agricultural use of marshland areas throughout the state started to decline as agricultural markets began to shift to the Midwest (Fisher et al. 1993:90). After a series of financial crisis in the last quarter of the nineteenth century and a few devastating hurricanes in the early-twentieth century, many owners abandoned reclamation and farming activities in the coastal plains areas.

Suburbanization and Early Ex-urbanization Period (1940–1960)

Efforts to improve the country's economy during World War II aided ailing commercial and industrial operations in the state, and revived a number of Wilmington's shipbuilding firms (LeeDecker et al. 2011:27). However, the City's industrial resurgence was short lived, as many of the most-active wartime producers permanently closed after the conflict ended. Industry shifted to the production of chemicals and automobiles, but the new factories were constructed outside the City center; DuPont constructing plants at Newport and Edgemoor, while General Motors built a factory near Elsmere (LeeDecker et al. 2011:28).

After World War II, suburban and commercial development spread across New Castle County, altering the land use patterns and landscape of the region. Though technological improvements and increased use of pesticides and chemical fertilizers increased farmers' production levels, les land was required to meet demand and fewer people returned to work in the state's agricultural sector. Suburban growth and increasing operational costs encouraged many farmers to sell their land to development companies (Frederick et al. 2006:85).

Recent History (1960–present)

Planned suburban communities spread as improved roadways and an increase in employment brought more traffic into the state's rural areas. Significant transportation developments include the improvement of existing transportation corridors as well as the construction of I-95 and I-495 providing faster travel routes across the state. During this period the nation's railroads entered into a steep decline. Many companies merged and consolidated their holdings, and abandoned underused rail lines. In 1968, the Pennsylvania Railroad Company merged with New York Central to create Penn Central, but continued economic issues forced the company to declare bankruptcy.

In the 1980s, the state legislature passed laws to encourage international finance corporations to relocate to Delaware. Wilmington soon became known as the "Corporate Capital of the World" as 60 percent of Fortune 500 companies established their headquarters in the city (LeeDecker et al. 2011:28). This economic resurgence impacted Wilmington's waterfront in the 1990s and redeveloped the abandoned manufacturing centers along the Christina River.

BACKGROUND RESEARCH

Prior to conducting fieldwork, the potential of the project area to contain archaeological resources and architectural properties eligible for listing on the NRHP was assessed by reviewing previous research, cultural resource surveys, and CRS forms of known historic properties previously documented in the DE SHPO site and survey file records. This background review indicated that more than a dozen studies have recorded and analyzed the industrial history of Wilmington and the cultural resources along its waterfront—most recently, an investigation by the Louis Berger Group (LeeDecker et al. 2011). Three additional surveys conducted within 0.5-miles (0.8-km) radius of the project area are also discussed in further detail below.

Previous Investigations

Published in October 2011, data gathered during the Louis Berger Group's (Berger) *Phase IA Archaeological Investigation of the Christina River Bridge* detailed historic patterns of land use at an industrial site located just north of the current project area (LeeDecker et al. 2011). Berger's report examined primary sources such as historic maps, city directories, and dredging records, along with more than a dozen secondary sources, including previous cultural resource surveys and planning documents, related to the area's history and industrial development along both sides of the Christina River in south Wilmington. No subsurface testing was conducted during this investigation, but a pedestrian survey was undertaken to note areas of modern disturbance as well as those areas "with evidence of historical land use patterns" (LeeDecker et al. 2011:7). The historic context prepared in this report relied primarily on a book published in 1974 by Carol Hoffecker, entitled *Wilmington, Delaware: Portrait of an Industrial City, 1830–1910,* and a detailed study conducted by Stuart Paul Dixon, entitled *The Wilmington Waterfront Analysis Area Intensive Level Architectural Survey* (1992).

Similar to Berger's Phase IA survey, Dixon's intensive investigation of the Wilmington Waterfront examined areas on both sides of the Christina River on the south side of the city that are historically associated with industrial concerns. This study followed a 1989 reconnaissance survey that identified a total of 129 above-ground resources built pre-1945 within 16 industrial complexes (Dixon 1992:i). The intensive survey produced a large amount of contextual data regarding south Wilmington's industrial history. It also further examined those resources identified during the reconnaissance survey and found seven of the industrial complexes, and 52 architectural resources within them, to be eligible for the NRHP (Dixon 1992:i). None of the resources recommended eligible during this study are located within 0.5 miles (0.8 km) of the current project APE.

From 1993 to 1995, Hunter Research conducted a cultural resource survey on behalf of the New Castle Soil Conservation District and Army Core of Engineers, and produced a report entitled *A Phase IA and IB Cultural Resources Survey Little Mill Creek Drainage the Amtrak Railroad Bridge to Robert Kirkwood Highway, City of Elsmere and Christina Hundred, New Castle County, Delaware* (Hunter et al. 1995). This investigation examined a 3.8-mile (6.12-km) section of the Little Mill Creek drainage area between the Amtrak railroad bridge and

State Highway 2, and identified sensitive areas associated with two eighteenth-century properties listed on the NRHP (Brick Mill House [N-361] and Glynrich [N-360]) and two, circa-1930s, concrete bridges recommended eligible for the NRHP during the state's historic bridges survey (Maryland Avenue Bridge over Little Creek and Kirkwood Highway Bridge over Little Mill Creek [CRS numbers not provided]). Areas surrounding Brick Mill House and Glynrich properties were also noted as having potential to contain archaeological deposits associated with early English and Swedish settlement patterns. Limited subsurface testing was also conducted during this investigation; however, no significant archaeological sites were encountered (Hunter et al. 1995). None of the historically significant resources identified in this study are located within 0.5 miles (0.8 km) of the current project study area.

A cultural resource survey conducted in 1993 and entitled *Delaware Turnpike Improvements Project Phase I Analysis: Historical and Archaeological Resources Technical Study*, examined an area surrounding an 11-mile (17.7-km) stretch of the roadway extending from the Turnpike Service Area to the Christiana I-95 Interchange (RK&K 1993). This investigation identified 30 architectural resources over 50 years in age, eight of which were either listed on the NRHP or were recommended eligible for the NRHP as a result of this study. Five archaeological sites were identified within the Turnpike project corridor; however, fieldwork was limited to a vehicular survey with no subsurface investigations at that time. Only a small portion of the far eastern end of the project area is located within 0.5 miles (0.8 km) of the current project area; no cultural historic resources were identified within this section of the areas examined during the survey.

Previously Recorded Cultural Resources

In total, 14 cultural historic resources have been previously recorded within 0.5 miles (0.8 km) of the project APE (Table 2, p. 27). One of these is an historic archaeological site (7NC-E-130 [the Hessler Site]). Located within the Hessler Industrial Park, just south of I-495 in Wilmington, this site yielded largely historic artifacts, dating between 1830 and 1880, but also had a prehistoric component. Following a Phase I archaeological survey, this site was determined not eligible for listing on the NRHP (Bedell 1995).

Thirteen architectural resources over 50 years in age have been previously surveyed within 0.5 miles (0.8 km) of the project APE. A majority of these properties are located northeast of project area, closer to Wilmington's downtown core. Five of the 12 are commercial properties and contain utilitarian warehouse buildings built between the 1930s and 1960s. Two frame dwellings were previously recorded within the project vicinity (N-352 and N-366). The residence at Long Hook Farm is said to date from the eighteenth century and functioned as a restaurant in a 1975 survey (CRS form, N-352). Minimal information was noted in the 1976 survey of the House at 120 Middleboro Road, but a note suggests that is was associated with "The Richardsons of Delaware" (CRS form, N-366).

Six of these resources are structures associated with area railroads, and five of them are bridges. One bridge, a concrete and steel structure originally built in 1938, was determined eligible for the NRHP in 1992 (State Bridge 686/Conrail Bridge No. 55 over U.S. 13 [N-12602]). Four of the other structures are steel railroad bridges, two of which remain extant

near the northeast corner of the APE (N-4318 and N-4323). Both of these bridges were constructed in 1888 as part of the Shellpot Cut-off railroad corridor (N-14118).

Another NRHP-listed architectural resources is located approximately 0.75 miles (1.2 km) southwest of the current project area, and is therefore, not included in the table below (Woodstock [N-1423]). Addressed at 102 Middleboro Road, a portion of this two-story brick residence dates to around 1743, with a larger addition dating from 1833, and is associated with John Richardson and his descendants, including Dr. Henry Latimer, a surgeon who served in the Revolutionary War (May 1969). Members of the Latimer family continued to own the property into the latter half of the twentieth century.

Table 2: Previously Surveyed Cultural Historic Resources Within 0.5 Miles (0.8 km) of the Project APE.

CRS #	Name and Address	Date	NRHP-Status
N-352	Long Hook Farm, 1501 S. Market Street	18th c.	Not Eligible
N-366	Dwelling Complex, 120 (or 215?) Middleboro Road	n/a	Not Eligible
N-4318	Bridge (Steel, Railroad), Shellpot Cutoff, Christiana River	1888	Not Eligible
N-4323	Bridge (Railroad), Reading RR over Christiana River		Not Eligible
N-4352	Auto Parts, Garage, and Salvage Yard, 603 S. Market Street	1942	Not Eligible
N-4353	Joseph B. Beste Co., 701 S. Market Street	1935	Not Eligible
N-4354	Wilson & Floyd Auto Salvage and Repair, 800 S. Market Street	1960	Not Eligible
N-4355	Jacob Rosenblatt, Junk and Auto Salvage, 800 S. Walnut Street	1956	Not Eligible
N-12419	Manufactory/Hub Marine Industrial Park, 570 Madison Street	1930s	Not Eligible
N-12602	State Bridge 686 (Concrete and Steel), Conrail Bridge No. 55, over US 13	1938; 1978	Determined Eligible: 1992
N-13261	Amtrak Bridge (Railroad), south end of Meco Street	1914; 1929	Not Eligible
N-13262	Bridge (Railroad), New Castle & Wilmington RR over Little Mill Creek		
N-13400 (7NC-E-130)	Hessler Site, Hessler Industrial Park, US 13 just south of I-495	Pre-historic; 1830–1880	Not Eligible
N-14118	Shellpot Cutoff Rail Line, Philadelphia, Wilmington & Baltimore Railroad	1888	Not Eligible

This page intentionally left blank

RESULTS OF INVESTIGATION

Previous investigations of the Wilmington waterfront and Christina River have established considerable context for the area's historic industrial properties as well as its marshland resources (Clarke 2012; Dixon 1992; Fisher et al. 1993; LeeDecker et al. 2011). This section of the report builds upon those studies and presents the results of archival research conducted during the current investigation in association with contextual data where relevant. Following the archival summary and contextual analysis, are the results of the reconnaissance survey.

Archival Research

In close proximity to the Delaware River, the 148.6-acre (60.1-ha) tract that comprises the project APE and much of the Peterson Urban Wildlife Refuge was thoroughly investigated during the early exploration efforts of European settlers. The earliest records available for this area suggest that land within the project area was part of a 1200-acre (485.6-ha) grant awarded to "Andries Anderson, Seneca Broor, and Gysbert Walraven" (Scharf 1888:880). Alternative spellings of these names include Andries Andriessen and Sinnex Broor (Hunter et al. 1995:4-2; New Castle County [NCC] Warrants and Surveys).

In the 1680s, descendants of the original grantees in the project area erected a grist mill along Mill Creek, at a point near the place where it crosses Maryland Avenue today. The creek was known as "Andries, the Finn's Creek" in this period, referencing Anderson's Finnish heritage (Hunter et al. 1995:4-2). In 1683, descendants and property owners Arnoldus De Lagrange, Broor Sinnexson, and Gysbert Walraven divided the majority of their holdings, but retained joint ownership of the 18-acre (7.3-ha) mill property (Scharf 1888:880). A survey of Broor Sinnexson's share of the division was made in 1686 by Thomas Pierson and referred to the nearly 376-acre (152.2-ha) tract as "Middleburgh" (NCC Warrants and Surveys, S2#12) (Figure 2, p. 30). This survey depicts three dwellings located close to "Christiana Creek," each attributed to one of the three landowners (Figure 3, p. 30). Broor Sinnexson's tract is also said to have contained "a landing place…that provided access to the Christina, and the road leading down to a quay and bog called "Middleburgh Marsh" (Weslager 1947:220).

The name "Middleburgh" was reportedly associated with a village in Amsterdam and was transferred to the new world with Dutch settlers. As early as 1769, the name "Middleborough Marsh" appears in the legislative record, when an act was passed to "keep the banks, dams, and sluices" of Middleborough Marsh in good order (Laws of Delaware, Enrolled Bills). Described in the Marshland Resources context, the formation of marsh companies allowed groups of farmers to work together in reclaiming marshy areas for crops by levying taxes to support the maintenance of ditches and banks (Fisher et al. 1993:87). Supplemental acts outlining methods for taxation and representation within the Middleborough Marsh continued as late as 1883 (Laws of Delaware, Enrolled Bills). Given the duration of reclamation efforts in Middleborough Marsh, additional information on the area may have been filed after 1816

with the Court of Common Pleas, as oversight and regulation of marsh companies fell to this branch of government and often required land surveys and assessment (Fisher et al. 1993:90).

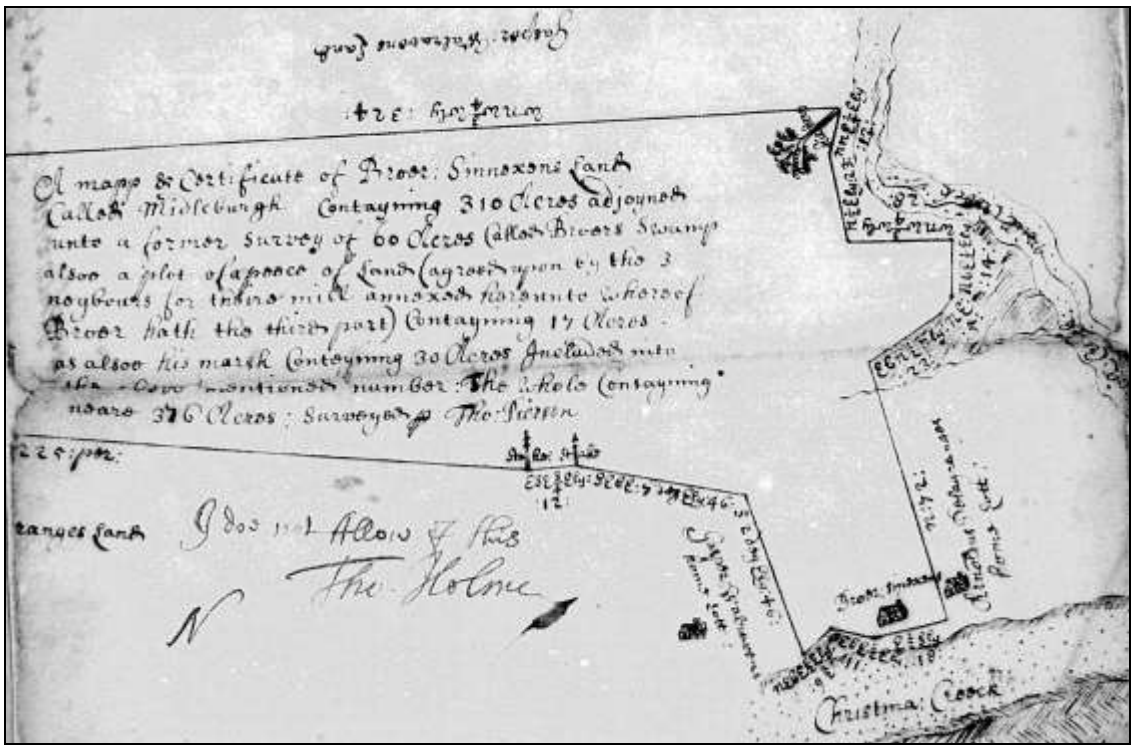

Figure 2: 1686 Survey of "Middleburgh" for Broor Sinnexson (NCC Warrants and Surveys, S2#12, on file at DPA). No reference was given to North in this document.

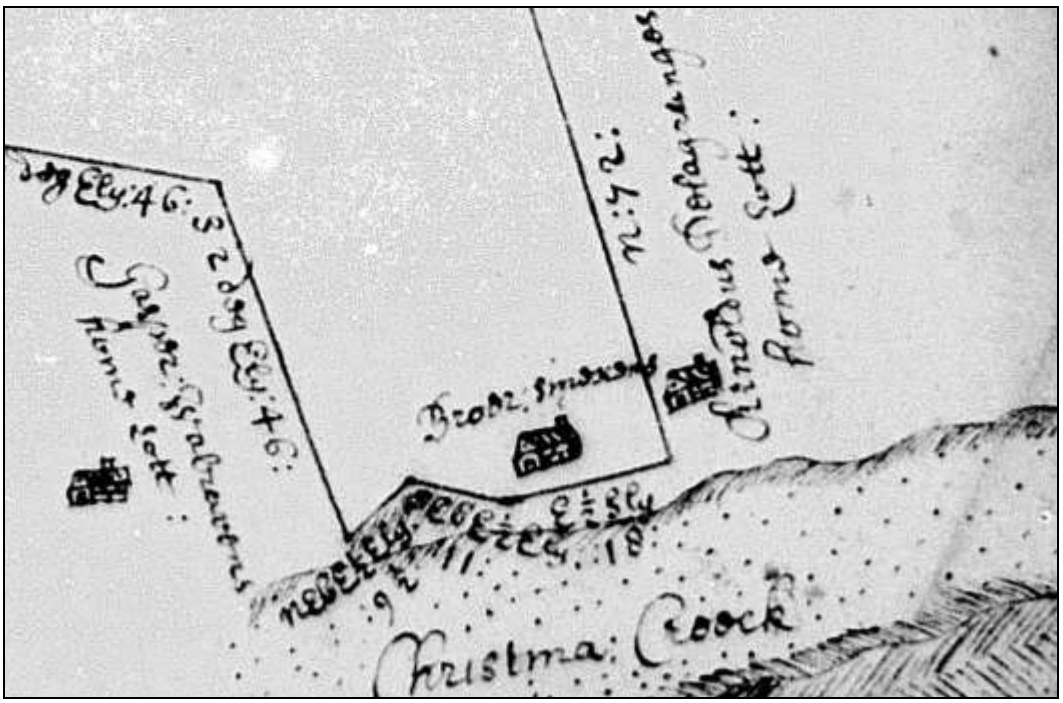

Figure 3: Detail of 1686 Survey for Broor Sinnexson (NCC Warrants and Surveys S2#12).

Beginning in the late-seventeenth century, a Quaker merchant named John Richardson bought land in the project vicinity, including a 195-acre (78.9-ha) tract from Walraven and two plantations from LaGrange containing around 400 acres (161.9 ha) (Scharf 1888:880; Weslager 1947:206). After 1710, much of this property passed to his son, John Jr., who continued in the mercantile business, shipping grain, lumber, and flour to foreign markets. John Richardson is said to have constructed wharves and storehouses at the landing place where Middleborough Rad met the river with the intention of developing a town; however, these plans did not materialize (Weslager 1947:221). John Richardson, Jr. married Ann Ashton and the couple had 12 children, eight daughters and four sons. At the time of his death in 1755, John Richardson was said have to owned between 600–800 acres (242.8–323.7 ha) of farm and woodland, more than 12 houses, wharves, storehouse, and a gristmill (Weslager 1947:222).

Richardson divided much of his property, along with "all the marsh which layeth down Mill Creek and joyning James Sinex's and Gisbert Walraven's marsh" to his grandson, Richard Richardson (Weslager 1947:206). In 1760, Richard Richardson and Henry Sinnex, a descendant of Broor Sinnexson (also spelled Sinnex, Sinex, and Sonix), settled upon a division of land resulting in a survey of the project vicinity. This plat depicts land along Mill Creek, but it also contains surrounding marshland and shows ditches serving as boundary lines and neighboring property owners on the north side of the Christina (Figure 4). Though difficult to read, land owners on the north side of the river appear to be labeled Bromberry, J. Lynam, and H. Sinnex, with two "other marsh" lots of R. Richardson, (Figure 5, p. 32).

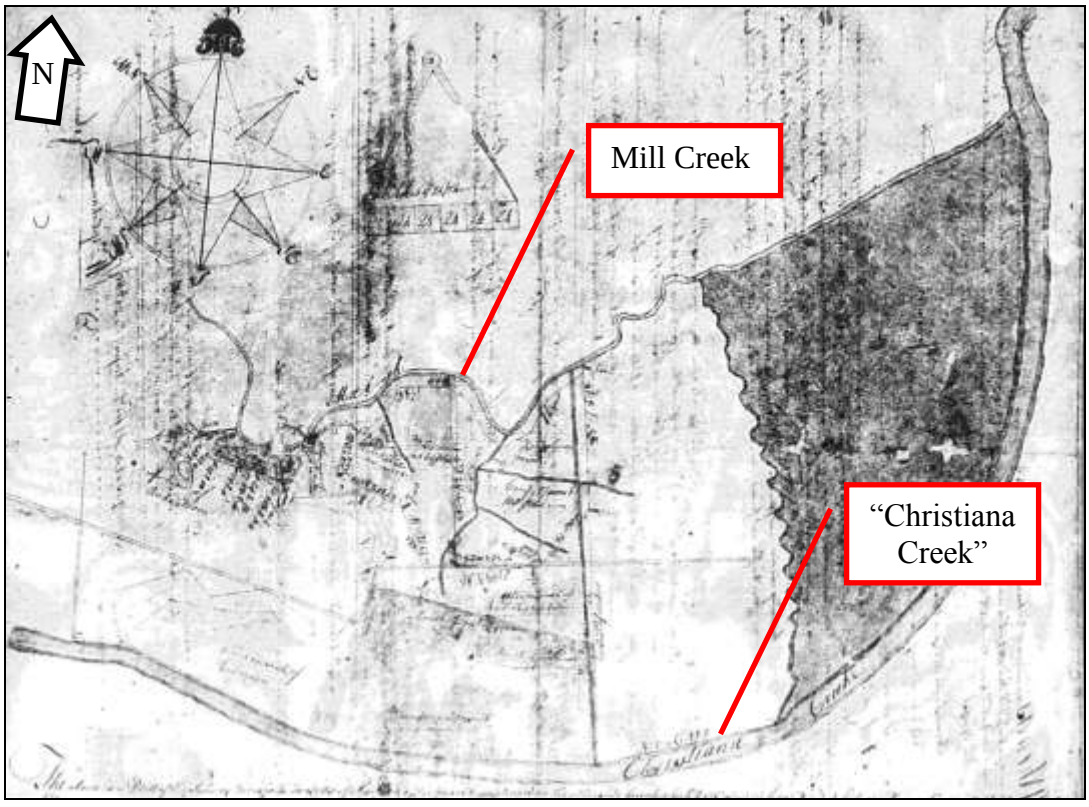

Figure 4: Circa-1760 Division of Marshland Between Richard Richardson and Henry Sinnex, Along Mill Creek (NCC Warrants and Surveys, S2#15b, on file at DPA).

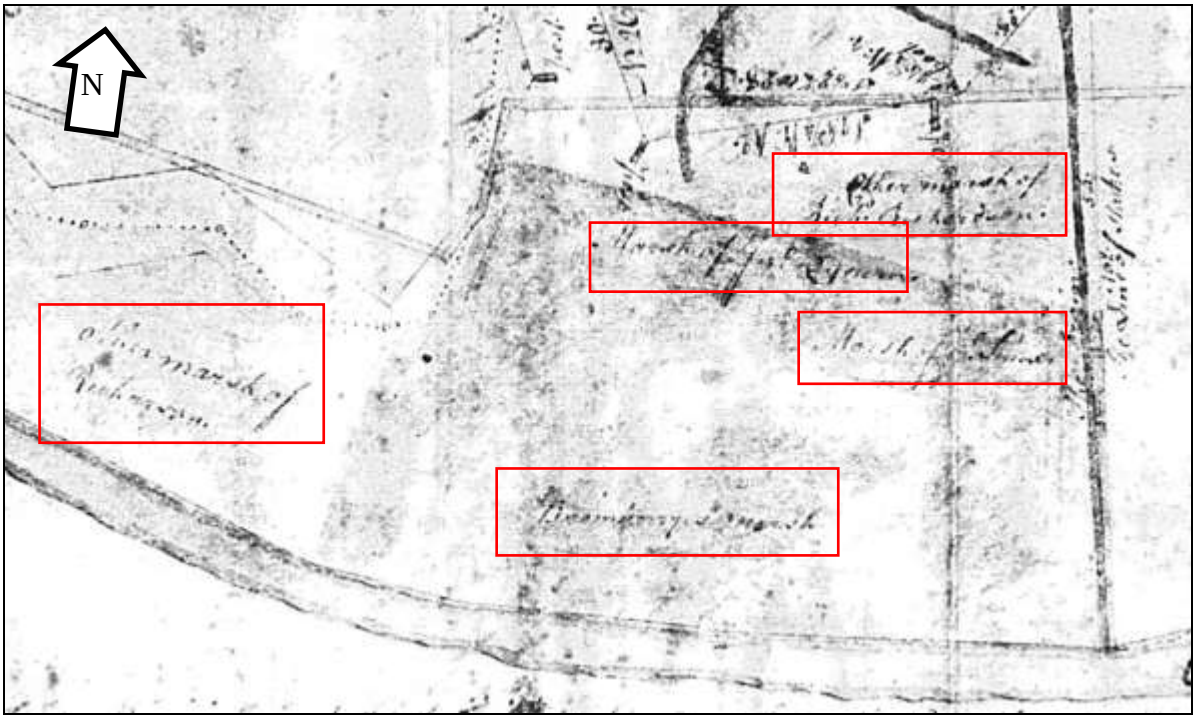

Figure 5: Detail of Circa-1760 Division of Marshland Showing Land on North Side of Christina River with "Line of Markers" at Far Right (NCC Warrants and Surveys, S2#15b).

John, James, and Broor (Jr.) were the three sons of James and Sophia Sinnexson. James inherited land in the project vicinity from his father, Broor Sinnexson, and died in 1708 (Scharf 1888:881). Henry Sinnex later sold 30 acres (12.1 ha) that he inherited from his father, James Sinnex's estate to John Lynam in 1785 (NCC Archived Deeds S6#112). Decades prior to this transaction, John Lynam purchased a 125-acre (50.6-ha) parcel from James' brother, John Sinnexson in 1754 (NCC Archived Deeds S6#113). The Lynam family owned land in Newport and remained in the area for generations.

Another family of lasting influence in the project area during the eighteenth and nineteenth century descended from James Latimer. James moved to Newport in 1752 and worked as a storekeeper before purchasing Jones and Sutton's wharf and starting to ship grain as far as the West Indies. Latimer soon became one of the area's more prominent merchants and got involved in state politics, serving as President of the convention that framed Delaware's constitution (Weslager 1947:114, 151). His son, Henry, studied medicine at the College of Edinburgh and served as a volunteer surgeon in the Continental Army during the Revolutionary War. After the war, Dr. Henry Latimer returned to Delaware and served as one of the state's senators. He married Ann Richardson, daughter of Robert Richardson, and had five children (Weslager 1947:151). In 1755, Ann's father inherited a considerable amount of marshland in the area from her grandfather, John. A few years later, in 1757, Robert Richardson died, leaving a widow and four children, and willing his estate to his only son, John (NCC Probate Records, Robert Richardson, 1757). John died in 1800 having never married, and left his entire estate to his only surviving sister, Ann Latimer. The land that Ann inherited from her brother was later divided among her surviving children: John R., Mary R, and Henry Latimer (Jr.).

At this time, the term "unimproved" land was used in local tax records to describe swamp, marsh, and woodlands. At the turn of the nineteenth century, Henry Latimer was assessed with 439 acres (177.7 ha) of land in Christiana Hundred, 235 acres (95.1 ha) of which was unimproved, while James Latimer's Estate was assessed with another 420 acres (170 ha), 100 acres (40.5 ha) of which was unimproved (NCC Tax Assessments, 1801–1804). These holdings did not include the brick house, wharf and storehouse belonging James Latimer & Co. that were valued at $1800 (NCC Tax Assessments, 1801–1804). Other prominent property owners in the marshy areas along Christina River and Mill Creek also reported large amounts of unimproved acreage, including 105 of the 211 acres (42.5 of 85.4 ha) owned by John Richardson's Estate, 132 of the 209.5 acres (53.4 of 84.8 ha) owned by Ashton Richardson, and 47 unimproved acres (19 ha) of John Lynam's property (NCC Tax Assessments, 1801–1804).

Some of the area's earliest maps indicate that overland transportation routes connected Newport, Wilmington, and New Castle in the eighteenth century, with others providing access to various area creeks around the project area. Though late-eighteenth century deeds reference a "Marsh Road," little evidence was found to depict its exact location (see NCC Archived Deeds S6#112 and Warrants and Surveys S2#15b). Henry Heald's 1820 map of New Castle County roads does not depict Mill Creek, the Middleboro Marsh Road, or any other built feature in the project vicinity (Figure 6).

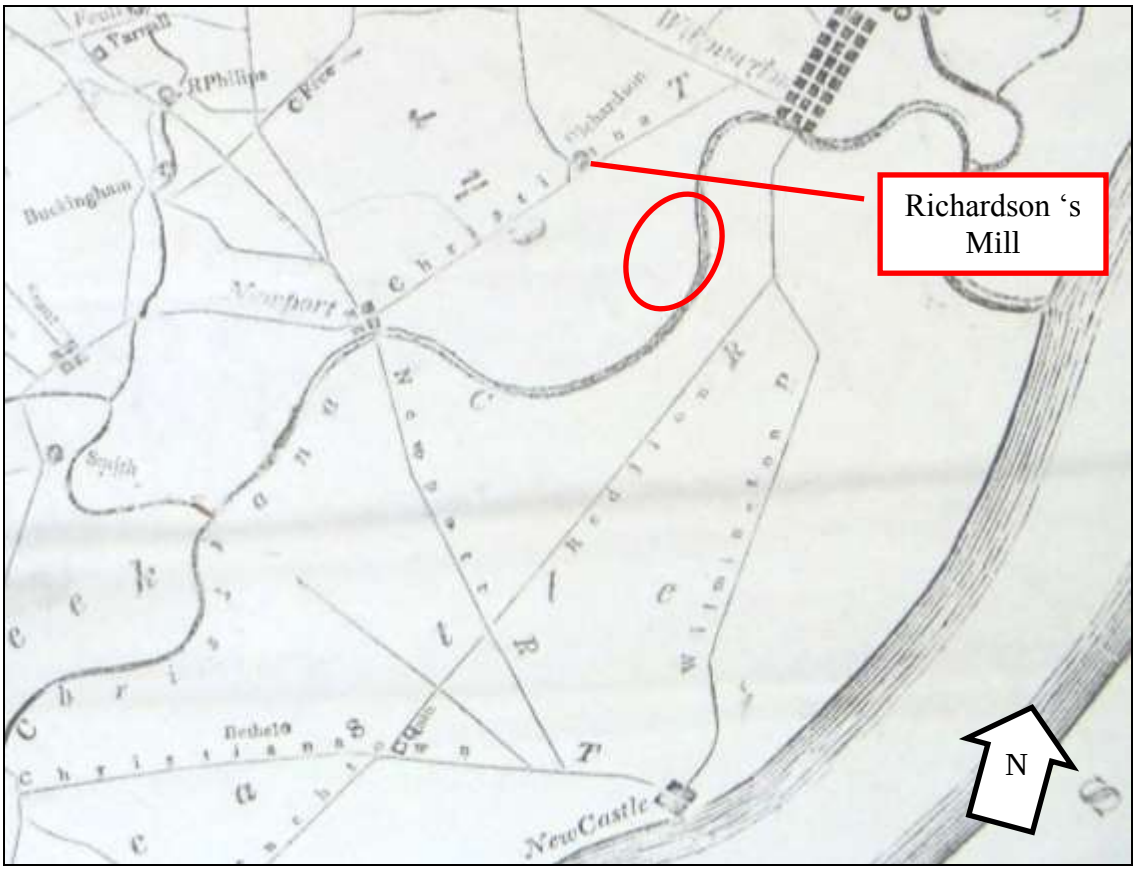

Figure 6: 1820 Heald Map of New Castle County Roads (Copy on File at Historical Society of Delaware). Red circle highlights project vicinity; course of the river is uncertain.

Price and Rea's 1849 map of New Castle County labels the project area as "Middleburg Marsh Company," and the residence of Mary Latimer nearby, but does not illustrate any roadways leading into the marsh (Figure 7). However, the path of various roads into the marshland may have been somewhat temporary and even impassable at certain times of the year. A lack of more permanent materials, such as macadam or other road features, likely made this Marsh Road into more of a driveway or internal farm path traversed by property owners and not regularly used by the travelling public.

Figure 7: 1849 Price and Rea Map, Project Area Highlighted in Red (On File at DPA).

One important new transportation corridor, the PW&B, is included on Price and Rea's 1849 map of the area. Completed in 1837, no stop or station is depicted within the vicinity of south Wilmington, perhaps reflecting the initial freight and commercial use of this railroad, as well as the lack of development in the area. Although the original PW&B corridor lies just outside the project area, the NC&W, later known as the Delaware Division of the PW&B, passed through its western end.

Constructed between May and December of 1852, the NC&W line crossed a considerable amount of marshland to connect the town of New Castle with the PW&B at a point southwest of Wilmington. Deeds with the property owners stated that the railroad company would maintain good fences and maintain convenient wagon ways across the line, suggesting that the line was to be constructed at grade (New Castle County Deed Book [NCCDB] Q6:335–352). Though a contract was made with George A. Parker, Civil Engineer, no record of track

construction has been found (Coverdale and Colpitts 1946:324). Small sketches of surveys were filed with the company's initial land purchases, but few, if any, landscape features are depicted within these plats. Only one survey denotes the Christina River, seen at the north end of the land purchased from William Tatnall (NCCDB Q6:352). This railroad is seen in Pomeroy and Beers 1868 map of the Christiana Hundred (Figure 8)

Figure 8: 1868 Pomeroy and Beers Map, Christiana Hundred, Project APE Highlighted in Red (On File at DPA).

It is unclear as to what type of bridge the NC&W originally constructed to traverse the Christina River in 1852, but given the navigability of the waterway below, it is believed that this bridge would have been designed as a moveable feature. After the NC&W merged with the PW&B in 1877, and in February 1891, a letter sent to Chief Engineer, William H. Brown reported on the condition of Christiana Bridge #1 plan and profile of "…the existing draw over the Christiana Creek immediately south of Wilmington on the main line of the Delaware Division" (PRRCCR).

> This draw is a wooden Howe truss structure about seven years old, and will necessitate renewal sometime during the year. It has been patched up temporarily, and will be serviceable for the next six to eight months. Will you be good enough to have plans prepared and forwarded, to replace this structure with a single track iron draw bridge, similar to that furnished for Bush and Gunpowders Rivers. It will not be necessary to put a double track structures at this point… The draw span will have to be of sufficient width to accommodate a clear span of about thirty six (36) feet. The scow E.V. White frequently passes through the existing draw, and measures 32 feet, 4 inches in width, out to out.

No plans or profile were filed with this correspondence to illustrate construction of the existing bridge or its proposed replacement, but may exist elsewhere in company records. Draw bridges in this period required a lift mechanism, a trunnion, and a counterweight at one or both ends of the structure. Additional limits may have been placed on its construction by law, so as not to disrupt traffic on the river.

In addition to railroad lines, land in the project area was also marked by features related to water transportation in the mid-nineteenth century. Following a disastrous explosion of gunpowder carried by E. I. DuPont's wagons on May 31, 1854 in downtown Wilmington, the City passed legislation that banned shipment of any explosive material through city limits. "Cut off from their routes to the city's docks, DuPont decided to build its own wharf on an isolated section of the Christina River. The Company also built its own road to the Christina wharf, called the DuPont Road…" (Hagley Museum and Library) (Figure 9, p. 37). This roadway is depicted in Pomeroy and Beers 1868 map of New Castle County, but does not stop at what is labeled as "DuPont's Landing." The road splits into two pieces after entering Middleborough marsh—one section leads south to the river and another turns north, crossing Mill Creek, through the growing industrial area to connect with the south side of the city.

Though E. I. DuPont and Company makes a significant impact on the project area, they did not buy a lot of the land within it. In August 1854, the company purchased 10 acres (4.1 ha) of marshland from J.P. Hilyard from the estate of Joseph Beate (also spelled Beaty, Beatty, and Bestly), which local tax records reported the value of this land to be $200 (NCC Tax Assessment, 1854–56; Weslager 1947:225). The DuPont Company bought two neighboring tracts in March 1856, about 12 acres (4.9 ha) altogether, from John W. Tatum, a local manufacturer of sails (Dixon 1992:32; NCCDB U6:536). The value of this additional purchase is not immediately reflected in the tax record, but by 1869, DuPont was levied with 24 acres (9.7 ha) of "Middleborough Marsh & wharf," valued at $1,400 (NCC Tax Assessment, 1869–72, Item 16 of 32).

One account estimated that construction of the Christina River wharf cost the DuPont Company $6,385.69 to complete, and was followed by improvements to an existing roadway into the marsh (Weslager 1947:225).

> After the wharf was finished, the road leading from the powder mil to the river was paved with crushed stone… and became known as DuPont Road… [it] cut diagonally from the lower yards on the Brandywine across the countryside, bisecting the Newport Pike and up Red Hill to intersect with Middleboro Road at Swedes' Hill… then turned sharply down to the River. At the foot of Middleboro Road was a short stretch of corduroy made with hemlock logs.

No archival records or photographs have been found which depict DuPont's wharf, but a Company brochure described the point of shipping at "Christiana Creek" as having "ample wharfage for coasters, and for landing coal, wood, etc." (Weslager 1947:226). Another Company publication, likely published in the late-nineteenth century, on file at the Hagley Museum and Library entitled "Brush, Stubble and Marsh," makes recommendations for hunting in marshy areas. John C. Macklem recalled activity along the wharf, noting that the

Company "sent workmen regularly to clean the Middleburgh marshes, raking off the marsh grass in the fall, using it as packing for the powder kegs, and also for bedding the mules" (Weslager 1947:226).

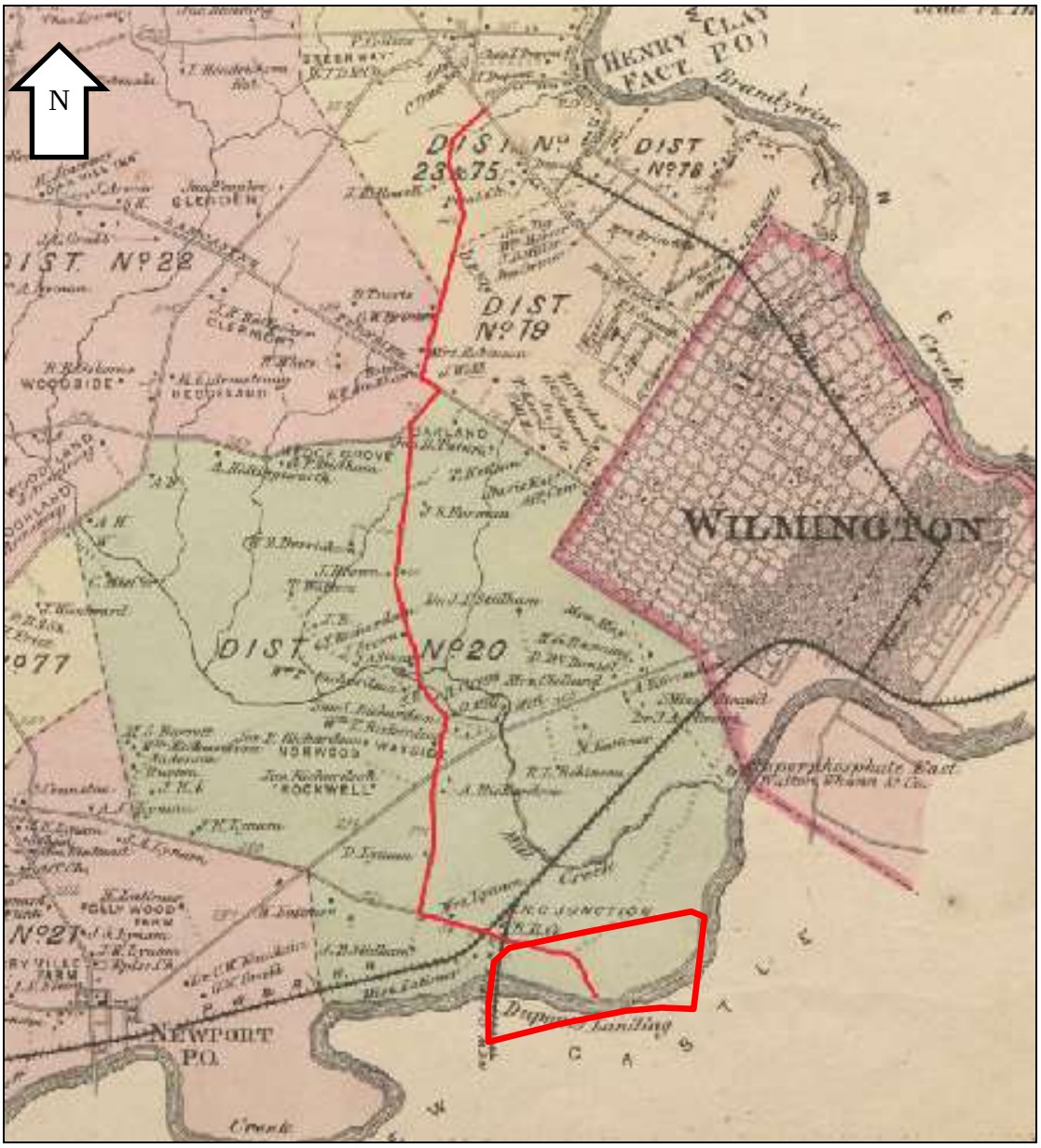

Figure 9: "Map of Wilmington indicating the location of DuPont Road (in orange)…" Showing Pomeroy and Beers Map of 1868 (Hagley Museum and Library). Project Area highlighted in red.

An 1887 railroad condemnation petition, taking land from the Estate of Henry Latimer, illustrates the point at which the proposed Shellpot branch would cross the old NC&W track and also depicts the location of DuPont Road (Figure 10, p. 38). During construction of the Shellpot branch in 1888, the old NC&W line was referred to as the "Delaware Division of the PW&B" (Rail Road Condemnation Petitions 1887–1937). Another condemnation plat

for the Shellpot branch shows a couple of railroad buildings that appear to have been positioned at the "New Castle Junction," indicating that the point of intersection between the NC&W had grown into a stop or station of sorts by the late 1860s, along with two lots of land to be taken from Mary R. and Annie Latimer (Figure 11). Reflecting a change in ownership, the New Castle Junction is depicted as "Delaware Junction" in Hopkins map of 1881 (Figure 12, p. 39).

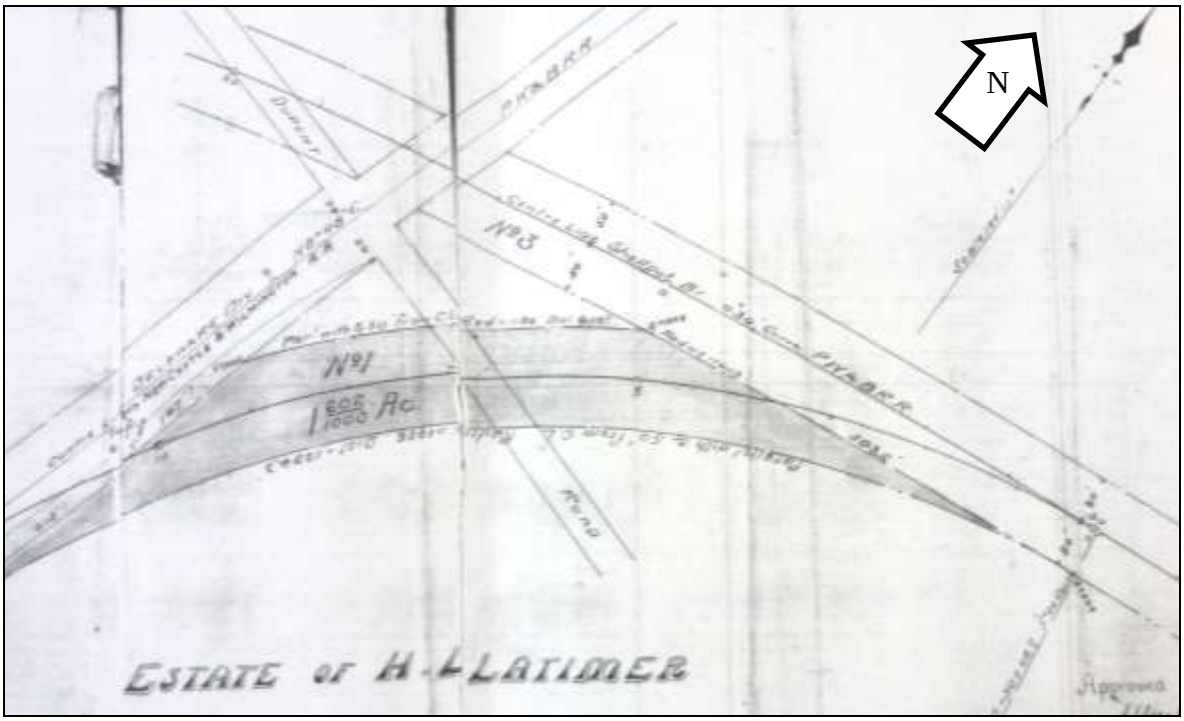

Figure 10: Rail Road Petition of 1887, PW&B vs. Estate of Henry Latimer (Rail Road Condemnation Petitions 1887–1937, On File at DPA).

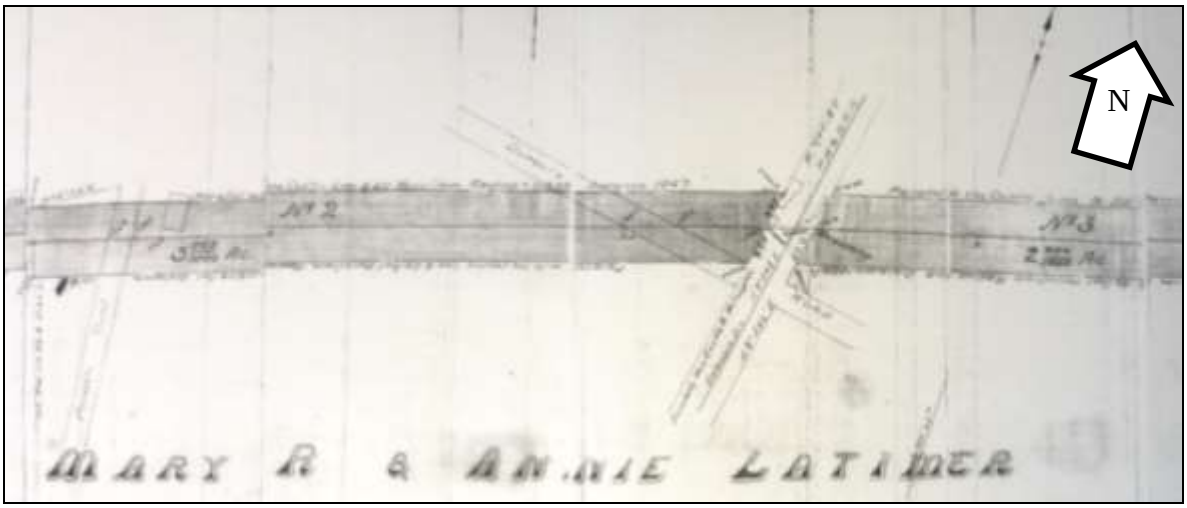

Figure 11: Rail Road Petition of 1887, PW&B vs. Mary R. & Annie Latimer (Rail Road Condemnation Petitions 1887–1937, On File at DPA).

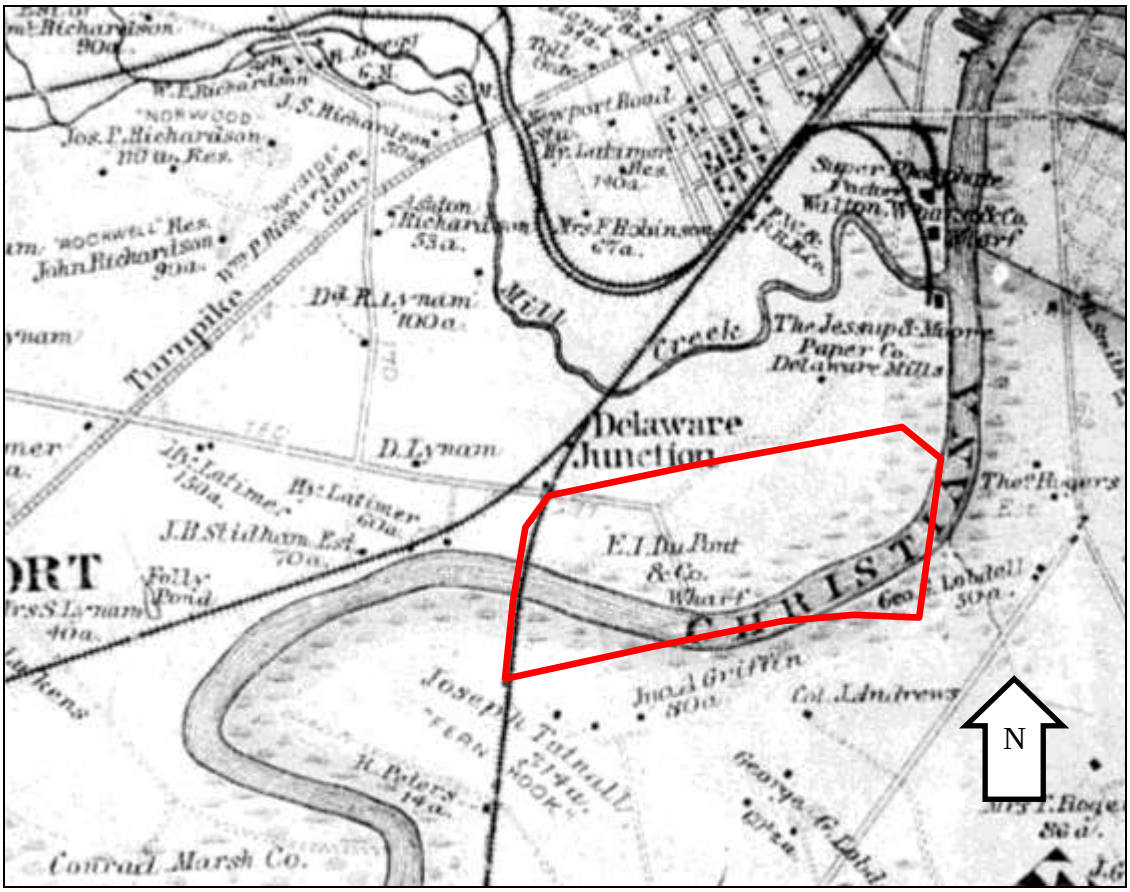

Figure 12: 1881 Hopkins Map with Project APE Highlighted in Red (On file at DPA).

At the far eastern end of the project area, two iron swing bridges were constructed to carry the Shellpot branch across the Christina, both being examples of pin-connected Pratt through trusses built by the Philadelphia Bridge Works in 1888 (CRS forms N-4317 and N-4318). After these bridges were in place the line was complete, "extending from Delaware Junction [present-day Ragan Interlocking] to Edgemoor…," at a cost of $307,975.53 (Black 2002).

While the PW&B was developing plans for the Shellpot branch, a letter to H. W. Webber, Assistant Engineer, and William Brown, Chief Engineer, dated June 14, 1887, suggested that the railroad company purchase marshland in the project area to lessen costs of construction by filling ditches. Alfred D. Vanderer, the letter's author, also indicated that DuPont and other marsh owners were willing to sell their properties, and noted that additional land for the branch "…will be required from the Jessup & Moore Paper Company and the Middleborough Marsh Company, whose President is William Richardson" (PRRCCR,, Engineering Department, Chief Engineer Correspondence 1883–1906). Although DuPont still owned the marshland and wharf in 1893, Baist's detailed map of the area depicts this land as the property of William Richardson (Figure 13, p. 40). This suggests that the Company no longer relied on the Christina wharf to transport their products around the city. A considerable drop in the land's value is also seen in local tax records. In an assessment dating from 1881–1885, DuPont's "wharf and marshland" is valued at $1,500, while records from 1901–1903 report a value of just $300 (NCC Tax Assessments).

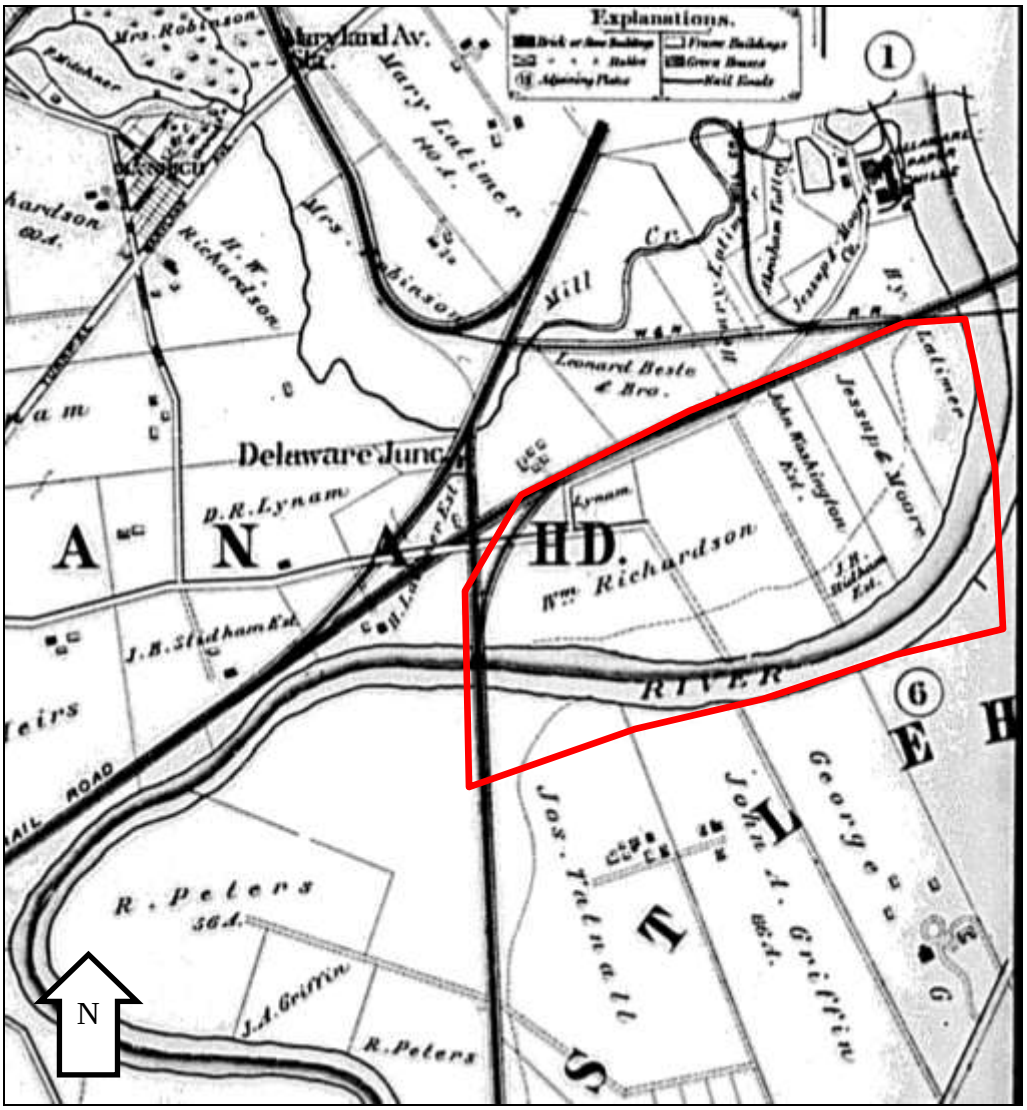

Figure 13: 1893 Baist Map of Christiana Hundred, Project Area Highlighted in Red (On File at DPA).

In 1903, the DuPont Company sold the 24 acres (9.7 ha) of marsh, along with much of their holdings on the south side of Wilmington to the Brandywine Realty Company for $200,000 (NCCDB L19:493). Identified as a real estate company based out of Pennsylvania, Brandywine Realty appears to have intended to develop this land for residential use. However, DuPont continued to pay taxes on the marsh property years after this sale which might suggest that the realty company was operating under an agreement with the Company (NCC Tax Assessments, 1905–1908).

In the first decade of 1900, several landowners in the project area began selling tracts of marshland to the PW&B. These purchases coincided with a number of improvements designed to expand its freight service in and around Wilmington, both before and after is consolidation with the Baltimore and Potomac Railroad in July 1902 (Coverdale and Colpitts 1946:285). Much of this land was purchased from members of the Latimer family, the heirs

of J. B. Stidham, and the Manor Real Estate & Trust Company, another development firm that had bought land in the area around the turn of the century (various deeds, see Appendix A). By 1927, the company owned nearly all of the land contained within the current project area, with a sizable tract being purchased from Joseph and Annie Beste. This last transaction included approximately 90 acres (36.4 ha) compiled from four tracts purchased by Joseph and his brother, Bernard Beste in the late 1880s. The Beste brothers reportedly operated a pork packing business (The Beste Provision Company) in the first half of the twentieth century (Dixon 1992:37). Bernard Beste is listed in the 1880 Census as a 35-year-old "pork butcher," living on West Eighth Street with wife, Lizzie, a native of Prussia (Ancestry 2009). The 1920 Census identifies his brother, Joseph Beste, as a 60-year-old German immigrant who became a naturalized citizen in 1875, just two years after his arrival. At that time, he was reported as a manufacturer of "Tallow and Hide," living with his wife, Anna, and owning another house nearby that was rented to boarders (Ancestry 2009). Their son, Joseph B. Beste, ventured into the rendering business, disposing of animal by-products and producing fertilizers at a plant on South Market Street in the 1930s and 40s (Clarke 2012; CRS form N-4353).

Historic topographic maps of the area produced in the first decades of the twentieth century continue to reflect a lack of development in the project area (Figure 14; Figure 15, p. 42). A few structures around the railroad appear to have been demolished in the 1910s, likely a result of improvements made to the lines around Wilmington after the PRR consolidated its Delaware holdings.

Figure 14: 1904 Wilmington Topographic Map, Revised to 1915, USGS Historical Topographic Map Collection (USGS 1915). Project area highlighted in red.

Figure 15: Detail of 1904 Wilmington Topographic Map, Revised to 1919, USGS Historical Topographic Map Collection (USGS 1919). Project APE highlighted in red.

Freight and commercial traffic along the Christina remained an important sector of the area's economy well into the first half of twentieth century. An aerial image compiled from photographs taken by the U.S. Army Air Service in 1913 shows the project area as having largely returned to marsh (Figure 16, p. 43). This survey was filed during a study of south Wilmington for the pupose of constructing a Marine Terminal, now known as the Port of Wilmington (Price and Price Land Surveys, Map #1146). In 1913, the citizens of Wilmington voted in favor of constructing a deep-water port to aid industrial commerce in the region. In 1920, a $2.5-million-dollar bond was issued that enabled the City to buy 101 acres (40.9 ha) from the Lobdell Car Wheel Company and build the port near the confluence of the Christina and Delaware Rivers (Port of Wilmington Delaware).

At the time of the 1913 photograph, the project area was marked by a formal grid of ditches as well as a series of natural channels, all of which appear to have contained an abundance of water. A dyke or artificial bank appears to extend along the north side of the river. A part of DuPont's Christina River wharf remains visible on what is now called Cooper's Island near the southwest corner of the project area, as does a portion of the DuPont Road (Figure 17, p. 43). This 1913 aerial image also provides information about the Delaware Division's railroad bridge over the Christina River at the west end of the project area. One bridge pier with rounded edges is clearly visible in the middle of the waterway, along with a second, less

formal feature below the bridge deck. In 1946, this bridge was described as having "six spans of girders, one of which is a draw bridge. Total length 441'44" (Coverdale and Colpitts 1946:366).

Figure 16: Detail of 1913 Aerial Survey Showing Project Area, Taken from "Mosaic of Composed Aerial Photographs, Wilmington Delaware," U.S. Army Air Service (Marine Terminal, Price and Price Land Surveys, DPA).

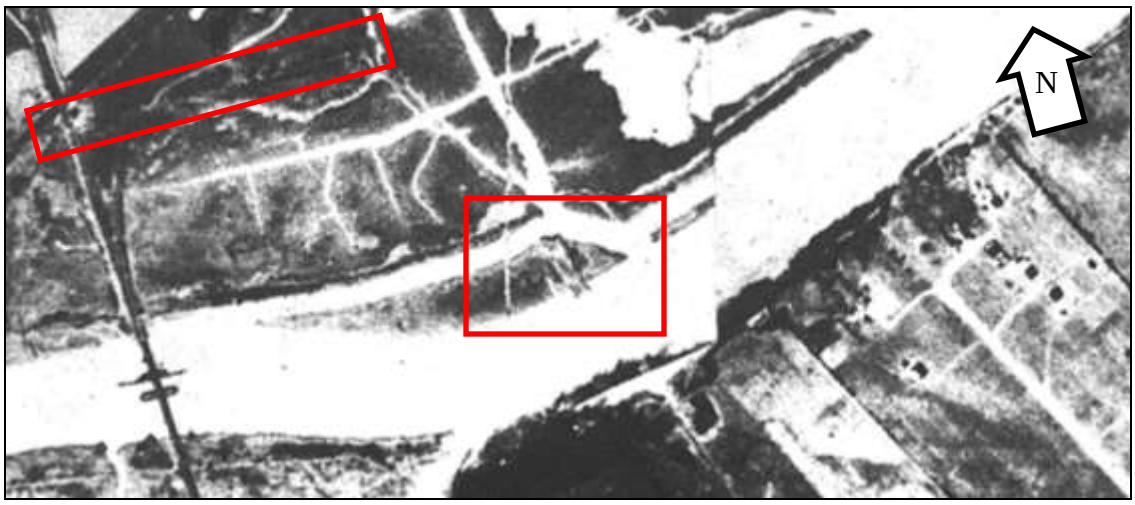

Figure 17: Detail of 1913 Aerial Survey Showing Part of DuPont Road and Wharf Highlighted in Red (Marine Terminal, Price and Price Land Surveys, DPA).

The Delaware Division of the PW&B, previously the NC&W, was sold to the Delaware Railroad Company in 1891 and later leased back to the PW&B and its successors from 1899 into the latter half of the twentieth century (Coverdale and Colpitts 1946:362). A topographic map published in 1948 indicates that this line, then operated by the PRR, had expanded to four tracks between the south side of the Christina River and the town of New Castle; however, north of the river, the rail line remained a single track with connections to both the Shellpot branch and mainline of the PRR (Figure 18). This map also depicts the location of a "bank tower" adjoining the northeast corner of the Christina bridge and a large piling situated in the middle of the project area along the river—both of which were not illustrated in earlier USGS maps dating from the 1910s and 1920s. At the southwest corner of the project area, a dyke is shown running along the south bank of the Christina River that extends east-west from either side of the railroad bridge. Further, no graphic evidence is provided to indicate the location of the DuPont Road or any other traces of the Marsh Road within the project area.

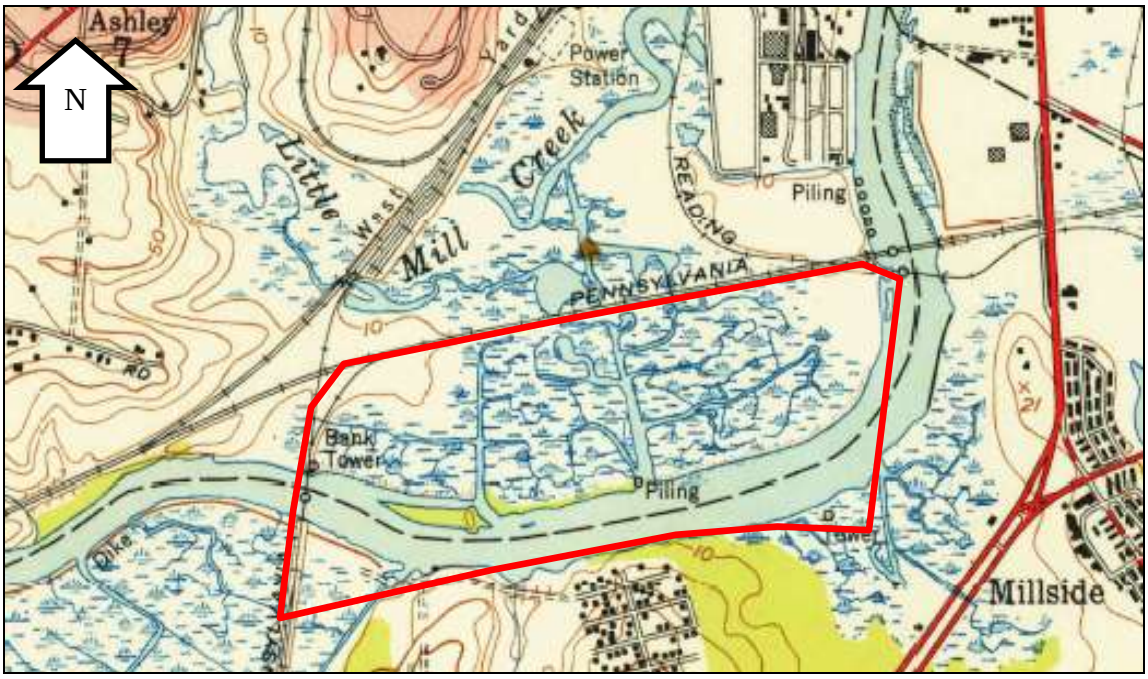

Figure 18: 1948 Wilmington South 15-Minute Topographic Quadrangle, USGS Historical Topographic Map Collection (USGS 1948). Project area highlighted in red.

A 1954 aerial photograph provides a glimpse of the remaining marsh features at that time, including a section of DuPont's wharf and a long ditch that extended north from it (Figure 19, p. 45). By 1992, both the wharf and ditch appear to have been filled with vegetation (Figure 20, p. 45). The Shellpot Branch was reduced from a double track to just a single line of track sometime in the late 1960s or early 70s (Black 2002). Penn Central retained ownership of the both the Shellpot Branch and Delaware Railroad lines until it was forced into bankruptcy. Following its collapse in June of 1976, Penn Central sold the 148.6-acre (60.1-ha) parcel that contains much of the Industrial Greenway Tract Phase 3 project APE to New Castle County (NCCDB S93:274). This parcel remained subject to a number of rail-related easements after this transaction. The rail line originally constructed by NC&W was

removed shortly thereafter the collapse of Penn Central in 1976. The bridge associated with this line was not recorded during the 1982 survey that documented the two swing bridges that cross the Christina just northeast of the project area.

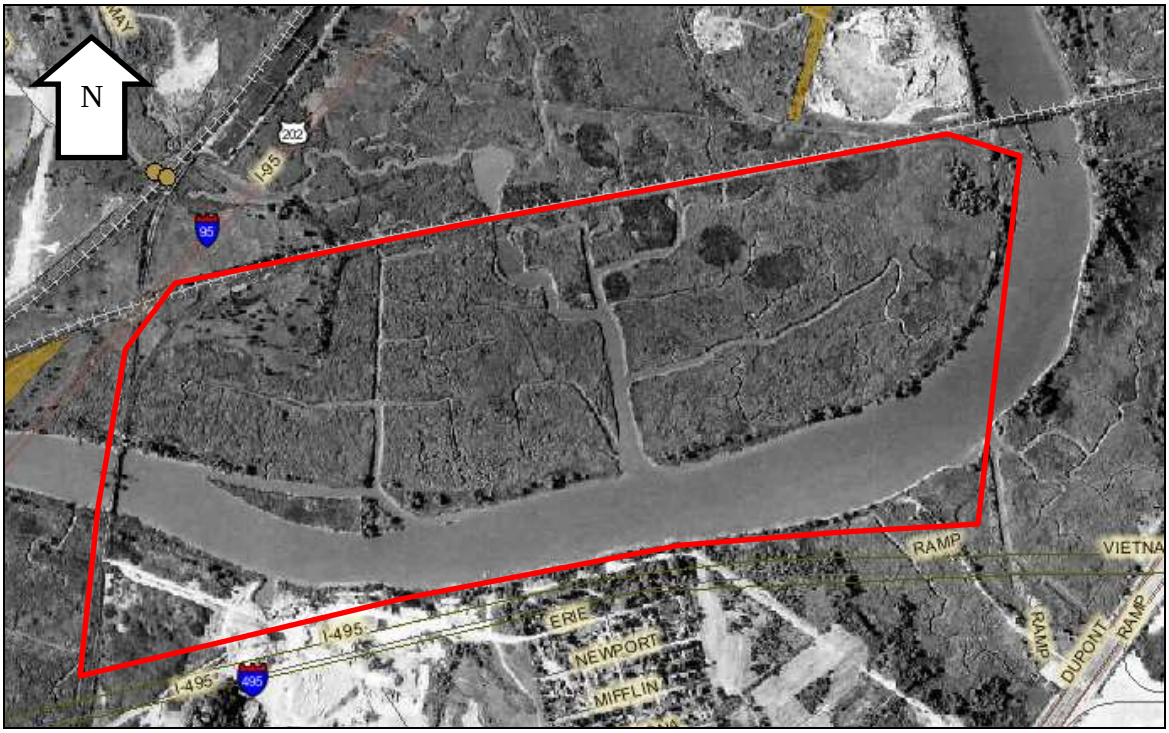

Figure 19: Crica-1954 Aerial Image of Project Area (CHRIS 2013). Project APE in red.

Figure 20: Circa-1992 Aerial Image of Project Area (CHRIS 2013). Project APE in red.

Reconnaissance Survey

The entire project area was walked over by a Dovetail archaeologist as well as an architectural historian in order to determine if any architectural resources or surface deposits were present, as well as to assess the possibility that subsurface archaeological resources might be located within the project's APE. All man-made structures and landscape modifications were noted and photographed.

Potential for Prehistoric Archaeological Resources

Based on location, soils, and topography of the project area, as well as information on the locations or previously recorded archaeological sites in the region and predictive models for prehistoric site location, the project area is considered to have a moderate probability of containing prehistoric archaeological resources. Because the project area is located in a marshy location which is frequently flooded or covered with pools of standing water, it is unlikely that long-term habitation sites would be located here. However, such environments can be particularly productive in terms of food resources, and it is possible that short-term resource exploitation sites may be found within the landscape containing the project APE.

Large stands of arrow arum (*Peltandra virginica*) were noted in the wetland environs surrounding the project area. The starchy rhizomes of his plant, also known as tuckahoe, were used extensively by native peoples in the Middle Atlantic region as a staple food source (Densmore 1928; Rountree et al. 2007). Although they were not specifically noted during the field reconnaissance, wild rice (*Zizania aquatic*) has been noted in the freshwater tidal marshes of the Lower Delaware River estuarine zone, and arrowhead/duck potato (*Sagittaria latifolia*) and pickerelweed (*Pontderia cordata*), other edible plants used by native Americans (Densmore 1928; Rountree, Clark, and Mountford 2007), are also found in this region. Additionally, cattail (*Typha* spp.), which has both food and non-food uses, is found in wetlands in the Lower Delaware marshes. Some of the largest and most significant prehistoric sites in the Delaware River estuary, those of the Abbott Farm/"Trenton Complex," have been interpreted as being largely related to the exploitation of these types of wetland resources (Louis Berger and Associates, 1987, 1996a, 1996b). Additionally, these locations provide access to opportunities to catch fish in the nearby rivers, and fishing can be especially productive during the seasonal runs of anadromous species such as shad. Deer, turtle, muskrat, and waterfowl would have also been plentiful in the area.

Archaeological research in the region shows that native peoples in the region began regularly visiting and using localities similar to the current project area and adjacent landscapes beginning circa 8500 BP (URS 2010). The most intensive use of such landscapes appears to have begun in the Woodland I period defined by Custer (1984, 1989), with many large sites belonging to the Clyde Farm Complex located near the current project area. Several Clyde Farm Complex sites, including the Clyde Farm site itself, are located around Churchmans Marsh, a large wetland at the confluence of White Clay Creek and the Christina River, approximately 3.5 miles (5.6 km) from the present APE (Custer 1989). Custer (1984, 1989) used the Clyde Farm Complex sites to develop a settlement model for the Woodland I period which posited that native peoples in the northern Delmarva Peninsula established large

macroband base camps centrally located within reach of multiple resource procurement locations and smaller microband base camp sites. This settlement system revolved around locating the macroband group within resource-rich regions where multiple environments could be exploited. Although the land encompassed by the APE of the current project is unlikely to have been used as a base camps because of its swampy nature, it is likely that this location was part of a Woodland I settlement system in which the area was frequently visited for collection of various resources. Woodland II period settlement patterns largely followed those established during the Woodland I and focused on utilization of the same landscapes. This is particularly true of sites belonging to the Minguannan Complex, which continued to focus on highly productive areas such as those associated with swamps, marshes, and other wetland areas (Custer 1989).

Potential for Historic Archaeological and Architectural Resources

Based on the archival research conducted for this investigation and the marshy nature of the landscape within and surrounding the project area, domestic and manufacturing archaeological sites are unlikely to exist within the APE. Architectural or above-ground resources with the potential to be historically significant are also unlikely. Research suggests that minimally intrusive farming practices, geared around the production of marsh grasses for hay and shipping material occurred within this area, but such activities leave little trace except through landscape modification for the construction of drainages ditches, sluice gates, dykes, and canals. Very few of these resources remain visible, but even fewer are located within the proposed trail corridor. Two landscape features that might be impacted by the new walkway include a small segment of both the impermanent Marsh Road and more formal roadway known as DuPont Road (Photo 9). A large channel in the center of the project area might also be impacted by the proposed trail (Photo 10, p. 48).

Photo 9: Old Road Trace, Likely Northeastern Leg of the Marsh Road, Looking South.

Photo 10: View of Large Channel in Center of APE, Looking South from Railroad Bridge.

The railroads that crossed this landscape represent the historic use of the area that is most likely to be archaeologically recoverable as these resources date from the late-nineteenth and early-twentieth century and were constructed on ground that was likely artificially made higher than the surrounding marshland. However, the NS Shellpot Secondary rail line was previously determined not eligible for the NRHP (Black 2002, see CRS form N-14118), and the NC&W railroad bed has already been examined in previous phases of work associated with this project.

Extant railroad features associated with the Shellpot branch includes the single track that defines the northern boundary of the APE, as well as an open-deck bridge over the large channel that drains from the marshland north of the project area south into the Christina River, and numerous features related to the electrical operations of the railroad, such as steel posts, insulators, electrical boxes and other elements, that came after the PRR began electrifying its lines in 1913 (Railfan 2013) (Photo 11–Photo 14, p. 49–50).

Other railroad features within the proposed walkway appear to have supported the abandoned NC&W line that defines the western edge of the APE (Photo 15, p. 51). The construction methods, materials, and contents employed in these elements suggest origins in second and third quarter of the twentieth century, when the track was operated by the PRR and Penn Central. A few subterranean concrete boxes are located on either side of the abandoned line likely housed wiring, signage, and other components related to the connection and switches between this line and the Shellpot branch (Photo 16, p. 51). A sizable concrete foundation is located on the east side of the rail bed near the Christina River and appears to be the remains of what was described as a "bank tower" in the 1948 USGS topographic map (Photo 18–Photo 20, p. 52–53).

Photo 11: Railroad Bridge Over Channel with Open Wooden Deck, Steel Girders, and Poured-Concrete Abutments, Looking East. Riprap and steel wing walls visible at south side.

Photo 12: View of Shellpot Branch Showing Extant Track and North Side of Bridge Over Channel, Looking Northeast. Bridge may have historically functioned as a sluice gate.

Photo 13: View of Shellpot Branch Position Signal Bridge, Looking Northeast. DuPont Environmental Center building and pedestrian bridge over railroad in background.

Photo 14: At Left, Railroad-Related Electrical Feature on South Side of Track, and at Right, View of Existing Shellpot Branch Track and Signal Tower, Looking Northeast. View of contemporary pedestrian bridge to DuPont Environmental Center in middle of image, with circa-1888 swing bridge over Christina River in background.

Photo 15: View of Abandoned NC&W Railroad Corridor, Looking South From Below I-95.

Photo 16: At Left, Subterranean Railroad-Related Feature on West Side of Abandoned NC&W Line, and at Right, Detail of Same Feature, Showing Current Contents.

Photo 17: At Left, Concrete Feature in Center of Abandoned NC&W Line Near North Bank of Christina River, View Looking North. At right, above-ground steel box situated near north bank of river, view looking east.

Photo 18: Railroad-Related Feature (Likely the Concrete Foundation of the Bank Tower Associated With Bridge over Christina River), Looking West.

Photo 19: Detail, West Elevation of Concrete Foundation, Showing Small Window Opening.

Photo 20: Detail of Foundation Showing Doorway on East Elevation, Opposite the Railroad Track, View Looking Southeast.

Physical remnants of the railroad bridge over the Christina River on the old NC&W line are difficult to discern (Photo 21–Photo 25, p. 54–55). The foundation of the two piers that once supported the draw bridge in the center of the waterway may remain below the surface, while bridge abutments are obscured by vegetation. Pieces of wooden railroad ties, poured concrete, and riprap are visible, but the composition of the bridge abutments is difficult to identify (Photo 23, p. 55).

Photo 21: View of Conditions at South Abutment of Former Railroad Bridge Over Christina River, Looking South from Opposite Side.

Photo 22: Close View of South Side Abutment. Riprap visible at bottom left and a poured-concrete component visible at right.

Photo 23: At Left, Remnants of Poured Concrete, and at Right, Wooden Railroad Tie. Both images taken on south side of Christina River.

Photo 24: View of Conditions at North Side Abutment of Former Railroad Bridge Over Christina River, Looking North from Opposite Side.

Photo 25: Closer View of North Side Abutment, Looking North.

This page intentionally left blank

SUMMARY AND RECOMMENDATIONS

Dovetail conducted a Phase IA cultural resource survey at the request of the DelDOT for the Industrial Track Greenway Phase 3 Feasibility Study and Christina River Bridge project. This project is part of a larger initiative to facilitate greater pedestrian access from downtown Wilmington around the Christina River to residential areas in the southern and eastern sections of the city. As proposed, the project calls for the construction of a new pedestrian pathway along the western banks of the Christina River to the DuPont Environmental Education Center and along the defunct Norfolk Southern Shellpot Railroad and Delaware Railroad corridors before crossing the Christina River. At the river, a new pedestrian bridge will connect this phase of the Industrial Tract Greenway with the extant path built during Phase 2 of the Industrial Tract Greenway project.

Goals of the current Phase IA investigation were, first, to conduct archival research and identify known cultural resources in the project vicinity; second, to document any areas with the potential to contain archaeological sites as well as unrecorded architectural properties in the project area for the proposed greenway project; and, third, to make recommendations on the need for any future studies.

The first phase of work conducted during this Phase IA investigation included archival research, conducted in September and October 2013, at numerous repositories to identify historical patterns of ownership and land use within the project area. Fieldwork was conducted on September 16–18, 2013 by a Dovetail archaeologist as well as an architectural historian. The fieldwork consisted of a pedestrian reconnaissance survey of the proposed project corridor and surrounding land within the project area wherever possible. Access was somewhat limited by the abundance of waterways, marshland, and dense vegetation that currently fills much of the project area, but the majority of the project area was at least visible, if not accessible for pedestrian reconnaissance.

The project area possesses a moderate probability of containing prehistoric archaeological resources. The location of the present APE within a marsh and wetland-dominated landscape makes it a potential prime resource procurement area for prehistoric inhabitants of the area, especially during the Woodland Period when settlement patterns and subsistence practices were tied to exploitation of such environments (Custer 1989). Additionally, the project area's proximity to large Woodland site complexes in the nearby Churchmans Marsh area increases the possibility that native populations, perhaps even those inhabiting base camps at the Churchmans Marsh sites, were making periodic resource procurement forays into the project area vicinity. Though the archaeological signature of such activities may be ephemeral compared to habitation sites, intensive resource collection and pre-processing prior to transport back to base camp locations may certainly leave detectable archaeological residues, especially if those activities involved processing with heat (fire) or manufacture or maintenance of stone tools. With regard to the potential for the project area to contain archaeological resources dating to the historic period, there is a low probability of finding intact deposits given the results of archival research and the marshy, frequently flooded nature of the landscape and the construction of the railroad in the mid- to late-nineteenth century.

It is recommended that a Phase I archaeological survey be conducted of portions of the project area that are considered to have moderate potential for containing archaeological deposits. This includes areas that are well-drained and exhibit no clearly visible signs of disturbance. The principal area within the project's APE that should be subjected to subsurface testing is along what appears to have been the Marsh Road (Figure 21, p. 59). While it is unlikely that long-term occupation will be represented here and that construction of the railroad entailed landscape disturbance, archaeological deposits may reveal information regarding the usage of the marsh and what may have been an early transportation route through it. While much of the project area has only a moderate potential for containing prehistoric resources due to its marshy nature, the likelihood that any precontact sites in the area would have only been ephemeral occupations, and the disturbance of much of the project corridor during construction of the railroad lines and installation of buried utilities, some judgmental shovel testing may be required to confirm subsurface disturbance in certain areas.

It is recommended that these areas be investigated through standard shovel-testing methods in accordance with DE SHPO standards. No more than 50 shovel test pits (STPs) may be required to adequately test the project area, and it is likely that far fewer will be necessary. All other areas should be subjected to additional pedestrian reconnaissance for foundation ruins, depressions and other surface features, and artifacts visible on the ground surface. Areas immediately adjacent to the road trace and bridge abutments observed during the pedestrian reconnaissance are recommended for survey to note archaeological traces of activities taking place on and near these transportation corridors.

In previous studies of architectural resources located within the APE, the circa-1888 Shellpot Cut-off branch (N-14118) was evaluated for the NRHP as an individual resource and found to be not eligible for listing. Though no CRS form was found on file at the DE SHPO, a portion of the old NC&W railroad line has been previously studied in earlier phases of the Greenway Industrial Tract Project Phase 2, and currently contains a newly paved walkway. Extant railroad features observed during the pedestrian reconnaissance and located within the APE largely appear to date from the late-nineteenth to the mid-twentieth century. Many of these rail-related elements have been abandoned and are in poor condition. Aerial photographs of the project area indicate that some landscape modification has taken place over the past century, including the modification of existing channels to facilitate drainage and construction of I-95 and I-495.

Other features of the built environment, including dykes, banks, and ditches constructed to manage the Christina River, Mill Creek, and surrounding marshland within the larger project area will not be impacted by project plans. Additional architectural and archival study is recommended to determine what physical remnants of the Marsh Road, DuPont Road, wharf, and associated features on the Company's 24-acre (9.7-ha) parcel remain, and if these built features possess cultural significance in a subsequent investigation.

Figure 21: Map of Project APE With Recommended Testable Areas Shaded in Blue.

REFERENCES

Ames, David L., Mary Helen Callahan, Bernard L. Herman, and Rebecca J. Siders
1989 *Delaware Comprehensive Historic Preservation Plan.* Center for Historic Architecture and Engineering, College of Urban Affairs and Public Policy, University of Delaware, Newark, Delaware.

Ancestry.com (Ancestry)
2009 *United States Federal Census, 1800−1930* [database on-line]. Provo, UT, USA: Ancestry.com Operations. Electronic document, http://www.ancestry.com, accessed July 2013.

Baist, G. William
1893 *Atlas of the State of Delaware*. Philadelphia. Copy on file at Delaware Public Archives, Dover, Delaware.

Bedell, John
2002 *Historic Context: The Archaeology of Farm and Rural Dwelling Sites in New Castle and Kent Counties, Delaware, 1730-1770 and 1770-1830.* Delaware State Historic Preservation Office, Division of Historical and Cultural Affairs, Dover.

Bedell, John C.
1995 *Phase I Archaeological Survey of the Proposed IM 240 Site, Hessler Industrial Park, New Castle County, Delaware*. Louis Berger & Associates. CRS form (7NC-E-130). Copy on file at Delaware State Historic Preservation Office, Dover.

Black, Laura S.
2002 "Shellpot Cut-Off of the Philadelphia, Wilmington & Baltimore Railroad." CHRS, Inc. North Wales, Pennsylvania. CRS form (N-14118). Copy on file at Delaware State Historic Preservation Office, Dover.

Bromberg, Francine W.
1988 *Archaeological Resources Management Plan, Volume II: Block-by-Block Archaeological Analysis of the Waterfront Management Unit*. Wilmington Department of Planning, Wilmington DE.

Callahan, Errett
1979 The Basics of Biface Knapping in the Eastern Fluted Point Tradition. *Archaeology of Eastern North America* 7:1-180.

CHRIS, Division of Historical and Cultural Affairs
2013 New Castle County aerial photographs (1937, 1954, 1961, and 1992). Electronic database, http://chris.delaware.gov/CHRIS/faces/main.html, accessed August 2013.

City of Wilmington
2003 *A City-Wide Plan of Land Use: A Component of the Comprehensive Development Plan for Wilmington, Delaware*. Department of Planning. Electronic document, http://www.wilmingtonde.gov/docs/171/Citywide-Plan-of-Land-Use.pdf, accessed September 2013.

Clarke, David S.
2012 "Addendum to the Phase IA Archaeological Investigation, Christina River Bridge, New Castle County, Delaware." May 16. Unpublished manuscript on file at DelDOT.

Coverdale and Colpitts
1946 *The Pennsylvania Railroad Company: Corporate, Financial and Construction History of Lines Owned, Operated and Controlled To December 31, 1945*. Pennsylvania Railroad Company. Copy on file at Hagley Museum and Library. Electronic document, http://digital.hagley.org/cdm/about/collection/p16038coll12, accessed September 2013.

Coxe, Tench
1814 *A Statement of the Arts and Manufactures of the United States for the Year 1810*. A Cornman, Philadelphia, Pennsylvania.

Custer, Jay F.
1984 *Delaware Prehistoric Archaeology*. University of Delaware Press, Newark, Delaware.

1986 A Management Plan for the Prehistoric Archaeological Resources of Delaware. *University of Delaware Center for Archaeological Research Monograph No. 2*. Newark, Delaware.

1989 *Prehistoric Cultures of the Delmarva Peninsula: An Archaeological Study*. University of Delaware Press, Newark, Delaware.

Custer, Jay F., and David C. Bachman
1986 *An Archaeological Planning Survey of Selected Portions of the Proposed Route 13 Corridor, New Castle County, Delaware*. Delaware Department of Transportation Archaeology Series No. 44, Dover, Delaware.

De Cunzo, Lu Ann
2004 *A Historical Archaeology of Delaware: People, Contexts, and the Cultures of Agriculture*. The University of Tennessee Press, Knoxville, Tennessee.

De Cunzo, Lu Ann, and Wade P. Catts
1990 *Management Plan for Delaware's Historical Archaeological Resources.* University of Delaware Center for Archaeological Research, Newark, Delaware.

Delaware State Historic Preservation Office (DE SHPO)
1993 *Guidelines for Architectural and Archaeological Surveys in Delaware*. Electronic document, http://history.delaware.gov/pdfs/1993%20HP%20Survey%20Manual%20(redacted).pdf, accessed June 2012.

Densmore, Frances
1928 Uses of Plants by the Chippewa Indians, pages 275-397, In *Forty-fourth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, 1926-1927*. United States Government Printing Office, Washington, D.C.

Dixon, Stuart Paul
1992 *The Wilmington Waterfront Analysis Area Intensive Level Architectural Survey*. Copy on file at City of Wilmington Office of Planning and DelDOT. Electronic document, http://www.deldot.gov/archaeology/wilm_waterfront/index.shtml, accessed September 2013.

Egnal, Marc
1975 The Economic Development of the Thirteen Continental Colonies, 1720–1775. *William and Mary Quarterly* 32(2):191–222.

Fisher, Caroline C., Allison W. Elterich, Bernard L. Herman, and Rebecca J. Siders
1993 *Marshland Resources in the Delaware Estuary, 1830–1950: An Historic Context.* Center for Historic Architecture and Engineering, College of Urban Affairs and Public Policy. Newark.

Frederick, Barbara, Catherine Dluzak, Emma Young, Lauren Archibald, Elizabeth Amisson, Paul Schopp, Daniel Bailey, and Christine Tate
2006 *US 301 Project Development Historic Context and Reconnaissance Survey Report, St. Georges, Pencader, and Appoquinimink Hundreds, New Castle County, Delaware*. July. A. D. Marble & Company, Conshohocken, Pennsylvania.

Goodyear, Albert C.
1979 *A Hypothesis for the Use of Cryptocrystalline Raw Materials among Paleoindian Groups of North America*. Research Manuscript Series, University of South Carolina, Institute of Archaeology and Anthropology, Columbia, South Carolina.

Hagley Museum and Library
n.d. "The Difficulties and Dangers of Transporting Gunpowder," Online Exhibit. Electronic document, http://www.hagley.org/online_exhibits/bw/dangers.html, accessed Septermber 2013.

Heald, Henry
1820 *Roads of New Castle County*. Copy on file at Historical Society of Delaware, Wilmington.

Hodny, Jay, David C. Bachman, and Jay F. Custer
1989 *Phase I Archaeological Survey of the Chesapeake and Delaware Canal Section, Odessa Segment, of the US Route 13 Corridor, New Castle County, Delaware*. Delaware Department of Transportation Archaeology Series No. 73, Dover, Delaware.

Hopkins, G. M. and Company
1881 *Map of New Castle County, Delaware. Philadelphia*. Copy on file at Delaware Public Archives, Dover, Delaware.

Hunter, Richard, Brooke Blades, Michael Tomkins, Ernest Bower, and Patricia Madrigal
1995 *A Phase IA and IB Cultural Resources Survey Little Mill Creek Drainage, The Amtrak Railroad Bridge to Rbert Kirkwood Highway (State Highway 2), city of Elsmere and Christina Hundred, New Castle County, Delaware.* Hunter Research, July 1993, September 1994, and March 1995. Copy on file at Delaware State Historic Preservation Office, Dover.

Jordan, Robert. R.
1964 *Columbia (Pleistocene) Sediments of Delaware*. Delaware Geological Survey Bulletin No. 12.

Kent, Barry C.
1989 *Susquehanna's Indians*. Anthropological Series No. 6, Pennsylvania historical and Museum Commission, Harrisburg, Pennsylvania.

Kellogg, Douglas C.
1990 *Guide to Archaeological Site Prediction Using Landsat Satellite Data and Logistic Regression*. Manuscript on file, University of Delaware Center for Archaeological Research, Newark, Delaware.

Kurtze, Peter E.
1992 *Survey Report: Historic and Architectural Resources of Newport, Delaware*. July. Town of Newport. Copy on file at Delaware State Historic Preservation Office, Dover.

Laws of Delaware
n.d. Enrolled Bills. Misc. years. Microfilm edition, Delaware Public Archives, Dover.

LeeDecker, Charles, Patti Kuhn, and Gregory Katz
2011 *Phase IA Archaeological Investigation of the Christina River Bridge, New Castle County, Delaware*. October. Louis Berger Group, Washington, D.C. Copy on file at DelDOT.

Louis Berger and Associates

1987 *Area B Site (28Me1-B), Data Recovery*. Trenton Complex Archaeology: Report 8. Revised edition 1996. The Cultural Resource Group, Louis Berger & Associates, Inc., East Orange, New Jersey. Prepared for the Federal Highway administration and the New Jersey Department of Transportation, Bureau of Environmental Analysis, Trenton.

1996a *Sturgeon Pond Site (28Me114), Data Recovery*. Trenton Complex Archaeology: Report 10. The Cultural Resource Group, Louis Berger & Associates, Inc., East Orange, New Jersey. Prepared for the Federal Highway administration and the New Jersey Department of Transportation, Bureau of Environmental Analysis, Trenton.

1996b *Area D Site (28Me1-D), Data Recovery*. Trenton Complex Archaeology: Report 9. The Cultural Resource Group, Louis Berger & Associates, Inc., East Orange, New Jersey. Prepared for the Federal Highway administration and the New Jersey Department of Transportation, Bureau of Environmental Analysis, Trenton.

Lowery, Darrin

2007 *Phase I Archaeological Investigations at Miles Point in Talbot County, Maryland*. Chesapeake Watershed Archaeological Research Foundation, Inc., Easton, Maryland.

2009 *Geoarchaeological Investigations at Selected Coastal Archaeological Sites on the Delmarva Peninsula: The Long Term Interrelationship between Climate, Geology, and Culture*. A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Geology.

Lowery, Darrin, Margaret Jodry, and Dennis Stanford

2012 Clovis Coastal Zone Width Variation: A Possible Solution for Early Paleoindian Population Disparity along the Mid-Atlantic Coast, USA. *Journal of Island & Coastal Archaeology* 7:53–63.

Lukezic, Craig

1990 Soils and Settlement Location in 18th Century Colonial Tidewater Virginia. *Historical Archaeology* 24(1):1–17.

Main, Jackson T.

1973 *The Social Structure of Revolutionary America.* Princeton University Press, Princeton, New Jersey.

May, Richard E.

1969 "Banning Park/ Woodstock," National Register of Historic Places Nomination Form. Copy on file at Delaware State Historic Preservation Office, Dover.

Munroe, John A.
1984 *History of Delaware* (2nd edition). University of Delaware Press, Newark, Delaware.

New Castle County Archived Deeds
n.d. New Castle County Archived Deeds. Misc. years. Microfilm edition, Delaware Public Archives, Dover.

New Castle County Deed Book (NCCDB)
n.d. New Castle County Deed Books. Misc. years. On file at New Castle County Recorder of Deeds Office, Wilmington. Microfilm edition, Delaware Public Archives, Dover.

New Castle County Tax Assessments
n.d. New Castle County Tax Assessments. Misc. years. Microfilm edition, Delaware Public Archives, Dover.

New Castle County Probate Records
n.d. New Castle County Probate Records. Misc. years. Microfilm edition, Delaware Public Archives, Dover.

New Castle County Warrants and Surveys
n.d. New Castle County Warrants and Surveys. Misc. years. Microfilm edition, Delaware Public Archives, Dover.

Pennsylvania Railroad Company Corporate Records (PRRCCR)
n.d. Corporate records (1828–1968), Pennsylvania Railroad Company. Misc. years. Hagley Museum and Library, Manuscript and Archives Department. Greenville, Delaware.

Pomeroy and Beers
1868 *Atlas of the State of Delaware*. Philadelphia. Copy on file at Delaware Public Archives, Dover, Delaware.

Port of Wilmington Delaware
n.d. "Port History." Electronic document, http://www.portofwilmington.com/, accessed October 2013.

Price and Price Land Surveys
n.d. Price and Price Land Surveys, New Castle Department of Planning. Misc. years. Microfilm edition, Delaware Public Archives, Dover.

Price, Jacob, and Samuel Rea
1849 *A Map of New Castle County, Delaware, from Original Surveys.* Smith and Wister, Philadelphia. Copy on file at Delaware Public Archives, Dover, Delaware.

Potter, Stephen R.
1993 *Commoners, Tribute, and Chiefs: The Development of Algonquian Culture in the Potomac Valley*. University of Virginia Press, Charlottesville.

Railfan
2013 "Railroad Signals in the U.S.: Background" Electronic document, http://www.railroadsignals.us/signals/pl/pl.htm#A_Little_Background, accessed October 2013.

Rail Road Condemnation Petitions
n.d. Rail Road Condemnations, Superior Court , New Castle County. Misc. years. Delaware Public Archives, Dover.

Rountree, Helen C., Wayne E. Clark, and Kent Mountford
2007 *John Smith's Chesapeake Voyages: 1607–1609*. University of Virginia Press, Charlottesville.

Rummel, Klepper, & Kahl (RK&K)
1993 *Delaware Turnpike Improvements Project Phase I Analysis: Historical and Archaeological Resources Technical Study, Delaware Turnpike Service Area to the Christiana Interchange, New Castle County, Delaware*. Louis Berger & Associates and Kise Franks & Straw. Copy on file at DelDOT. Electronic document, http://www.deldot.gov/archaeology/historic_pres/turnpike/series121/index.shtml, accessed September 2013.

Scharf, John Thomas
1888 *History of Delaware, 1609–1888*. L. J. Richards & Company, Philadelphia.

Siders, Rebecca. J., Bernard L. Herman, David L. Ames, Andrea L. Marth, Gabrielle M. Lanier, Margret H. Watson, Elizabeth M. Bellingrath, Nancy I. Van Dolsen, Leslie D. Bashman, and Susan M. Chase
1991 *Agricultural Tenancy in Central Delaware 1770–1990: A Historic Context.* Center for Historic Architecture and Engineering, College of Urban Affairs and Public Policy. University of Delaware, Newark.

Soil Survey Staff
2012 Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Electronic document, http://websoilsurvey.nrcs.usda.gov/, accessed September 2013.

Turner, E. Randolph
1976 *An Archaeological and Ethnohistorical Study on the Evolution of Rank Societies in the Virginia Coastal Plain*. Ph.D. dissertation, Pennsylvania State University, State College, University Park.

United States Geological Survey (USGS)

1915 Wilmington, Delaware Topographic Quadrangle Map. US Historic Topo and Historical Topographic Map Collection. Electronic document, http://geonames.usgs.gov/pls/topomaps/f?p=262:1:2493359415578496, accessed September 2013.

1919 Wilmington, Delaware Topographic Quadrangle Map. US Historic Topo and Historical Topographic Map Collection. Electronic document, http://geonames.usgs.gov/pls/topomaps/f?p=262:1:2493359415578496, accessed September 2013.

1948 Wilmington South, Delaware Topographic Quadrangle Map. US Historic Topo and Historical Topographic Map Collection. Electronic document, http://geonames.usgs.gov/pls/topomaps/f?p=262:1:2493359415578496, accessed September 2013.

URS Corporation

2010 *Native Americans at Churchmans Marsh: Archaeological Investigations at Site 7NC-E-152*. Booklet produced for the Federal Highway Administration and Delaware Department of Transportation.

Ward, H. Trawick

1965 Correlation of Mississippian Sites and Soil Types. *Southeastern Archaeological Conference Bulletin* 3:42–48.

Weslager, C. A.

1947 *Delaware's Forgotten River: The Story of the Christiana*. Hambleton Company, Inc., Wilmington.

1961 *Dutch Explorers. Traders and Settlers in the Delaware Valley, 1609–1664.* University of Pennsylvania Press, Philadelphia, Pennsylvania.

APPENDIX A: CHAIN OF TITLE

This chain of title is separated by current parcel identification numbers and traces the ownership history of five tracts of land. Select rows in the following tables are grouped by Parcel Division to aid the reader in calling attention to certain tracts that share a common origin or owner.

1400 Delmarva Lane - Parcel ID# 704340055									
Parcel Divisions	**INST. TYPE**	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
	DEED			16 Mar 2004	Riverfront Development	State of Delaware	3 tracts (148.6 A)	Instrument #200104200028427	Addressed at 1400 Delmarva Lane. This parcel includes 704340055 and 70430003.
	SW DEED			16 Mar 2004	New Castle County	Riverfront Development Corporation of Delaware	3 tracts (148.6 A)	Instrument #20040318 0030763. For $10.00… Parcels No. 3, 4, and 5 on an unrecorded Record Minor Subdivision Plan for Philadelphia, Baltimore, and Washington RR, prepared by Mann-Talley Inc. on Sept. 12, 1975.	"Special Warranty Deed." This parcel includes 704340055 and 70430003.
	DEED	S93	274	30 June 1976	Blanchette, Bond & McArthur, Trustees for Penn Central Transportation Co., Debtor	County of New Castle	3 tracts (148.6 A)	In consideration of $230,230… Three parcels (31.016 A, 0.501 A, and 117.077A, respectively). All are subject to numerous easements rail-related to and a few have exemptions.	Parcel 1 (31.016A) stems from 3 transactions: T19:359, Q18:303, D19:170 (see Parcel1: A, B, and C). Parcel 2 (0.501A) from a single deed: T19:39. Parcel 3 (117.077A) from 3 transactions T19:359, V21:467, V34:562 (see Parcel 3: A, B, and C).
Parcel 1:A (704340055)	DEED	T19	359	24 Mar 1904	James L. Stewart (acting as agent for Railroad)	Philadelphia, Baltimore, and Washington Railroad	?	For $19,000… "contents be what they may," being land Stewart purchased from Mary Latimer on this same day and "intended to be recorded herewith" (deed date or location unmentioned).	
Parcel 1:A	DEED	T19	357	24 Mar 1904	Mary R. & Anna R. Latimer (single women)	James L. Stewart (acting as agent for Railroad)	?	For $14,900… all that lot of land with buildings and improvements thereon in Christiana Hd, bounded by PBW and Marsh Rd, extending to X River and W with it to DE RR… to DuPont Rd…Contents be what they may."	
Parcel 1:B	DEED	D19	170	8 Sept 1902	Mary R. & Anna R. Latimer (single women)	Philadelphia, Wilmington, and Baltimore Railroad	30.935	For $7,200… Parcel in Christiana Hundred on NE side of Marsh Lane, adjoining land formerly belonging to Thos. Lewis, the Christiana River, and land of M. K. Keller. Containing approximately 30.935A	Mary R. & Anna R. Latimer were the surviving heirs of Henry Latimer (Jr.) and inherited a sizable estate from their family. Neither married. Mary was the last (d. 1929).

1400 Delmarva Lane - Parcel ID# 704340055									
Parcel Divisions	**INST. TYPE**	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
Parcel 1:C	DEED	Q18	303	1 May 1901	Thomas B. & Margaret A. Lewis	Philadelphia, Wilmington, and Baltimore Railroad	4.52	For $651… A certain lot in Christiana Hundred, bounded by said Railroad Company, lands of Mary Latimer, and the Christiana River. Containing approximately 4.52A and being part of land conveyed to Lewis by heirs of J. B. Stidham (Sept 1897, see L17:458).	This small tract came from the division of J. B. Stidham's estate by his heirs.
Parcel 1:C	DEED	L17	458	24 Sep 1897	Elizabeth R. Brown, et ux. (heirs of J. Stidham)	Thomas B. & Margaret A. Lewis	14	For $4,000… land on E side of Marsh Rd, N side of RR, adjoining Henry Latimer Est. Containing approximately 14A, excepting a strip of land sold to the Railroad Co. Being part of land sold to Jonas B. Stidham in Dec 1859 (see H7:113).	J. B. Stidham died intestate on 29 Nov 1876, leaving widow, Ellen, now deceased, and 3 children: Elizabeth Brown, Anna B. Stidham, and Sarah R. Stidham (grantors herein)
Parcel 1:C	DEED	H7	113	15 Dec 1859	John P. Hilyard, Exec. Of Rebeka Miller Estate	Jonas B. Stidham	4 tracts (82 A)	For $9,000... Heirs of Rebeka Miller convey unto Jonas B. Stidham 4 tracts of land, considered to be R.Miller's farm, on 24 Feb 1859: Tract 1 - 45A adj Henry and Mary Latimer, Mary and David Lynam, and the Christiana River; Tract 2 - 16A adj Newport & Christiana Turnpike, David and Mary Lynam, and new road; Tract 3 - 16A adj Thos Lynam, Thos Derrickson, and afsd road; Tract 4 - 5A marsh land adj John Richardson, Henry Latimer, Robt Robinson, and J.B. Stidham.	Hilyard, Exec of Last Will & Test of Rebeka Miller… Rebeka Miler's will was dated 16 Oct 1854 with codicil of 1858, indicated that her property should be sold to highest bidder. Her heirs: Sarah Rice, Joseph & Rebecca A. Lynam, John P. & Rebecca Hilyard, all of Christiana Hd
Parcel 2 (704340055)	DEED	T19	359	24 Mar 1904	James L. Stewart (agent of Philadelphia, Wilmington & Baltimore R)	Philadelphia, Baltimore, and Washington Railroad	0.501	This half-acre tract cites the aforementioned deed between James L. Stewart & the Philadelphia, Baltimore, and Washington Railroad as its source, suggesting that this tract was separated from land the Railroad purchased from Mary & Anna Latimer (see D19:170).	
Parcel 3:A (704340055)	DEED	T19	359	24 Mar 1904	James L. Stewart (agent of Philadelphia, Wilmington & Baltimore R)	Philadelphia, Baltimore, and Washington Railroad	117.077	Same as above (see D19:170).	

1400 Delmarva Lane - Parcel ID# 704340055									
Parcel Divisions	**INST. TYPE**	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
Parcel 3:B	DEED	V21	467	28 Jul 1908	Manor Real Estate & Trust Co.	Philadelphia, Baltimore, and Washington Railroad	4 tracts (36.53 A)	For $10,703.80… four tracts (12.038A, 4.5A, 22.76A, and 1.2A). Tract 1 borders DuPont land and W bank of Christiana River, and tract 2 lies adjacent. Tract 3 borders land of Jessup & Moore Paper Co.	Tracts 1, 2, and part of 3 stem from B21:252 (see Parcel 3:B1). Part of Tract 3 and all of 4 are from W20:194 (see Parcel 3:B2).
Parcel 3:B1	DEED	B21	252	5 Nov 1906	Samuel & Martha McDaniel	Manor Real Estate & Trust Co.	3 tracts (27 A)	For $7,063…Three tracts of land in Christiana Hd: Tract 1 - N side of River and on E line of DuPont, containing 12A 6P. Tract 2 - 4.5 A (1 & 2 being same land John Brown et ux. Sold to Charles Jester and Sam'l McDaniel on 3 Mar 1885 (E13:273). Tract 3 - 9 A (sold by Eliz Brown et ex on 13 Dec 1892 (Y15:499). Charles Jester & wife by two separate deeds in 1903 (Q19:419 and 421) granted to Sam'l McDaniel.	
Parcel 3:B2	DEED	W20	194	5 July 1906	Mary Latimer	Manor Real Estate & Trust Co.	2 tracts (14.9 A)	For $3,600…Two tracts in Christiana Hd: Tract 1 - NE side of Wilm & Northern R and N of Shellpot Br… containing 1.199A. Tract 2 - adj PBW and Jessup & Moore Co…containing 13.762A	Land Mary R. Latimer likely inherited from her father's side of the family
Parcel 3:C	DEED	V34	562	16 May 1927	Joseph & Annie A. Beste	Philadelphia, Baltimore, and Washington Railroad	11 tracts (90 +/- A)	For $26,000… Various tracts of land in Christiana Hundred (11 tracts from 5 different transactions).	Tracts 1-4 stem from H16:206 (see Parcel 3:C1). Tract 5 is from L20:132 (see Parcel 3:C2). Tracts 6 and 7 are from M20:55 (see Parcel 3:C3). Tracts 8-10 from M20:52 (see Parcel 3:C4). Tract 11 is from an un-cited deed (see Parcel 3:C5).
Parcel 3:C1	DEED	H16	206	3 Nov 1893	Bernard Beste	Joseph & Annie A. Beste	4 tracts (27 A)	For $5.00… All their right and title in 4 tracts: 1) 7.7A in Middleburgh Marsh from Carpenter (1886); 2) 5A 3R land along RR from Latimer sisters (1887); 3) 6A 34P land on E side of Mill Creek from Sheriff (1887); 4) 8A on N side of Marsh Rd from Sheriff (1887).	Tract 1 from S13:512 (see Parcel 3:C1.1); Tract 2 from X13:531 (see Parcel 3:C1.2); tract 3 from D14:148 (see Parcel 3:C1.3); tract 4 from D14:132 (see Parcel 3:C1.4)
Parcel 3:C1.1	DEED	S13	512	23 Oct 1886	Joseph L. Carpenter, Jr.	Bernard & Joseph Beste	7.5	For $600… lot in Middleborough Marsh adj. farmland of Springer & Robinson.	Same land sold by Thos & Levi Bird, Execs of James T. Bird Estate on 24 Oct 1885 (see L13:31)

1400 Delmarva Lane - Parcel ID# 704340055									
Parcel Divisions	**INST. TYPE**	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
Parcel 3:C1.2	DEED	X13	531	25 Jul 1887	Mary R. & Anna Latimer	Bernard & Joseph Beste	5A 3R 12P	For $1,456.25… part of land conveyed to Mary Latimer on 7 July 1840 (F5:130) in the division of their grandfather's estate.	Mary R. and Anna R. Latimer are surviving children of Henry & Sarah Latimer, and inherit much of their aunt Mary's estate
Parcel 3:C1.2	DEED	F5	130	7 Jul 1840	John R. & Elizabeth, Mary R., and Henry & Sarah Latimer	Mary R. Latimer	2 tracts (103+ A)	1) 53A 1Q 30P of upland and marsh; 2) 50A 1Q 39P on SE side of Wilmington & Christiana Turnpike	John, Henry, and Mary are the surviving children of Dr. Henry & Ann Richardson Latimer, and inherit a sizable estate
Parcel 3:C1.3 & Parcel 3:C1.4	DEED	D14	132 & 148	7 Nov 1887	Sheriff's Sale, land of Karl Specht & wife	Bernard & Joseph Beste	2 tracts (14+ A)	1) 8+/- A sold by Hannah W. Richardson to Specht on 1 Apr 1886 P13:319); 2) 6A 3Q 23P on E side Mill Creek sold by Joseph S. Richardson to Specht on 22 Apr 1886 (P13:307)	
Parcel 3:C2	DEED	L20	132	28 Aug 1905	Thomas D. & Elizabeth E. Lynam	Joseph & Annie A. Beste	2 +/- A	Adjoining the Marsh Road, land of Richardson's Estate, and the E.I. DuPont Co. (now Brandywine Realty Company)… containing 2A more or less.	Thomas D. Lynam (b. 1855) likely inherited this land from his father, James Lynam, the son of Thomas Lynam.
Parcel 3:C3	DEED	M20	55	18 Aug 1905	Alfred Warner, Exec of Wm. P. Richardson Estate	Joseph & Annie A. Beste	2 tracts (14.25 A)	For $795…Two tracts (7A and 6.25A) being the same land sold to Richardson by Joseph & Anna R. Bringhurst (see June 1860, J7:387). First tract - no courses - bounded on NW by Middleborough Marsh Rd; on SW by land of Thos Derrickson; on SE by E.I. DuPont & of John Tatum; on NE by private Rd leading from Marsh Rd to Christiana Creek	Wm. P. Richardson inherited "Walraven Farm" with part of land contained with adjoining "Rockwell Farm" (accord to survey by Albert Smith), and a small parcel of less than two acres that John Richardson (II) purchased from Samuel Richardson adj. Walraven Farm… (see will of John Richardson (II) filed in 1859.
Parcel 3:C4	DEED	M20	52	18 Mar 1905	Brandywine Realty Co.	Joseph & Annie A. Beste	3 tracts (24 A)		
Parcel 3:C4.1	DEED	L19	493	12 May 1903	E. I. DuPont & Co.	Brandywine Realty Co.	Multiple tracts	For $200,000… Numerous tracts, including 3 tracts of marsh: 6.131A, 5A 100P, and 10.75A in Middleburgh Marsh	The 10.75 A tract likely comes from J. P. Hilyard (Est of Beaty) purchased by DuPont in 1854.
Parcel 3:C4.1	DEED			1854	J. P. Hilyard, TR for John Beaty Estate	E. I. DuPont & Co.	10+		

1400 Delmarva Lane - Parcel ID# 704340055									
Parcel Divisions	**INST. TYPE**	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
Parcel 3:C4.1	DEED	U6	536	13 Mar 1856	John W. Tatum	E. I. DuPont & Co.	2 tracts (11.8 A)	Two tracts: 1) 6A 131P of marshland, same land Joseph Lynam sold Tatum Apr 1834; 2) 5+A adj John Richardson & E.I. DuPont Co., one of 3 tracts of marsh obtained from 2 transactions with the Porter family in 1830 & 1832	Tract 1 stems from R4:406 (see Parcel 3:C4.1a). Tract 2 is from L4:125 and Q4:17 (see Parcel 3:C4.1b).
Parcel 3:C4.1a	DEED	R4	406	18 Apr 1834	Joseph Lynam	John W. Tatum	6.8	For $538.65…Land willed to Joseph Lynam by his father John. Lot of marsh meadow taken from his father's plantation in Middleborough Marsh, containing 6A 131P	
Parcel 3:C4.1a	WILL	S	371	Dec 1830	John Lynam Estate	Joseph Lynam		Accord to John Lynam's Will, Joseph got the plantation John's father purchased from James Sinnix - where Joseph was residing in 1828 w/cleared land, woodland, & marsh meadow, incl. 5A marsh form belong to this plantation in Middleborough Marsh	Excepting point field then enclosed in said marsh & W half of woodland deeded to brother, Thos. Lynam
Parcel 3:C4.1b	DEED	Q4	17	26 Dec 1832	Robert Porter Jr.	John W. Tatum			Likely his 1/5 interest in the estate of Ann Porter
Parcel 3:C4.1b	DEED	L4	125	5 Mar 1830	Yeamans & Lydia Gillingham, Peter & Rachel Porter, Ellen B. Johnson, and John B. Porter (heirs of Peter Brynberg)	John W. Tatum	3 tracts (133.3 A & 16.5 A)	For $6,416.40… 4/5ths of Peter Brynberg's estate totaling 133A 1Q 27P (much of his land was divided into 5 equal parts by survey). And also the heirs 4/5ths interest in two lots of marshland in Middleborough Marsh totaling 16A 2Q (Brynberg purchased from John Lynam, one in 1806 (see D3:507) and the other in 1810 (see H3:533)).	Parcels of interest include the two marsh tracts from Lynam. Peter Brynberg left his entire estate to his daughter, Ann Porter, and after her to death, to her children: Lydia B., Peter B., Ellen (widow), John B., and Robt Jr. (still a minor).

1400 Delmarva Lane - Parcel ID# 704340055									
Parcel Divisions	**INST. TYPE**	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
Parcel 3:C4.1b	DEED	H3	533	10 Apr 1810	John & Anna Lynam	Peter Brynberg	marsh lot: 5A 2Q 27P	For $208.11…lot of Marsh land in Middleborough Marsh adj drain of John Richardson, drain of John Lynam, drain of John Brynberg, and drain of another lot of marsh belonging to P. Brynberg… containing 5A 2Q 20P & being part of lager tract John Lynam inherited from his father John, who purchased land of James Sinnexson in 1754 (see DB R p. 407)	Part of land John Lynam (Sr.) willed to son Andrew Lynam, who died without issue - so land then passed to John's other son, John Lynam.
Parcel 3:C4.1b	DEED	D3	507	5 Mar 1806	John & Anna Lynam	Peter Brynberg	2 marsh lots: 10A 71P & 3A	For $716… two lots of marsh meadow in marsh commonly called "Middleburgh Marsh." The first adj land of P.Brynberg, Christiana Creek, lands of John Richardson, John Lynam, and lands form of James & Brewer Sinox, now of John Lynam & John Brynberg… containing 10A 71P. The second adj. land of John, now David Stidham, Mill Creek, a slip of marsh belonging to W.Walraven... cont. approx. 3 A	
Parcel 3:C4.1b	DEED	Arch Deeds	S6#1 12	10 Feb 1785	Henry Sinnexson	John Lynam	10A 3Q 10P	for 369+ pounds… 10+ A marsh lot in Christiana Hd, part of 30A Henry received in deed from his father, James Sinex, on 25 Feb 1760 (30 A, see DB T:161)	
Parcel 3:C4	DEED	Arch Deeds	S6#1 13	20 Aug 1754	John Sinnexson	John Lynam	125	For 363+ pounds… tract of marsh in Christiana Hd, containing approx. 125A.	This land likely part of John Sinnexson's inheritance from his father, Broor Sinnexson.

0 Off South Madison Street - Parcel ID# 704430003								
INSTR. TYPE	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
DEED	1428	122	16 Mar 2004	New Castle County	Riverfront Development Corporation	4.58	Instrument #20040318 0030763	
DEED	S93	237	1 June 1976	Manor Real Estate Co (PA)	County of New Castle	4.587	For $4,100… land known as parcel #5 in a survey of Mann-Talley, Inc (dated Sept 1975). Being a portion of land conveyed to Manor RE by Harry F. Cook et al. in Feb 1941	
DEED	W43	154	13 Feb 1941	Harry & Elizabeth Cook	Manor Real Estate & Trust Co (PA)	4.831	For $1.00...Land adj. Marsh Road, Shellpot Branch, land belonging to Jessup Moore Paper Co., and property Manor Real Estate purchased from S. McDaniel.	
DEED	W43	153	13 Feb 1941	Harry & Elizabeth Cook	Manor Real Estate & Trust Co (PA)	9.475	For $1.00...Land adj. Shellpot Land Company and PB&W RR, land formerly of Geo. Talley, and other land of railroad. Same land Clay sold to Cook in Nov 1940.	
DEED	G42	487 & 488	13 Nov 1940	Charles & May Whitlock	Harry & Elizabeth Cook	9.475 & 4.831	For $1.00…	
DEED	E42	267	1 June 1932	Charles & Mary Clay	Charles & May Whitlock	9.475	For $1.00… Being same premises which Harvey Anderson, unmarried sold on 1 June 1932 to Charles E. Clay (no further reference provided).	
DEED	F42	267	1 June 1932	Charles & Mary Clay	Charles & May Whitlock	4.831	For $1.00… Being same premises which Harvey Anderson, unmarried sold on 1 June 1932 to Charles E. Clay (no further reference provided).	
DEED			1 June 1932	Harvey Anderson	Charles & Mary Clay	9.475 & 4.831		

0 Off South Madison Street - Parcel ID# 704430002								
INSTR. TYPE	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
DEED	1428	122	13 Nov 1992	Harbor Associates	Delmarva Power & Light Co.		Several transactions including sale of land and easement agreements	
DEED	396	138	8 July 1986	Hub Marine & Industrial Park LTD	Harbor Associates		Instrument #198607080561147	
DEED	A86	652	17 Mar 1972	Hub Marine & Industrial Acres Corp.	Hub Marine & Industrial Park LTD		Instrument #197203172503861	
DEED	E67	67	29 Nov 1960	H Klaff & Company Inc.	Hub Marine & Industrial Acres Corp.	5 Tracts	For $10… Tract 1) 84.39A purchased from Dravo Corp., subject to various railroad easements; Tract 2) 3.14A marshland adj lands of Henry Latimer Est, Shellpot Branch, and WNRR; Tract 3) 15.24A adj Shellpot Branch and the bridge crossing Christiana River, land formerly of Jester and McDaniel, formerly of Beste brothers, and J. H. Washington; Tract 4) 0.58A B&P RR conveyed to Dravo; Tract 5) 18.47A adj Marsh Rd, Dravo Corp, Fort Warden, Bethelm Steel, Shipley Run, B&PRR, etc.	All land depicted on survey by Price & Price on June 25, 1947 and revised on June 16, 1950.
DEED	A67	665	28 Nov 1960	United States of America, General Services Admin.	H Klaff & Company Inc.	5 Tracts	For $100.00… (same parcels as above).	All land depicted on survey by Price & Price on June 25, 1947 and revised on June 16, 1950.
MTG	Q30	143	10 Apr 1943	DRAVO Co.	United States of America		Mortgage agreement is 166 pages in length.	

0 JFK Memorial Highway and 0 I-495 - Parcel ID# 704340065 and 100400009								
INSTR. TYPE	**DB**	**PG**	**DATE**	**GRANTOR**	**GRANTEE**	**AC**	**NOTES**	**COMMENTS**
MTG	114	196	1990		State of Delaware	18.63 & 1.03	For $268,500… Instrument # 20090929 0062803 (lease)	Old New Castle & Wilmington Railroad bed
LEASE			1967−1976	Delaware Railroad Co.	Penn Central Railroad Company			
LEASE			1916−1967	Delaware Railroad Co.	Pennsylvania Railroad Company			
LEASE			1902−1916	Delaware Railroad Co.	Philadelphia, Baltimore & Washington Railroad			
LEASE			1899−1902	Delaware Railroad Co.	Philadelphia, Wilmington & Baltimore Railroad			
DEED			1891	Philadelphia, Wilmington & Baltimore Railroad	Delaware Railroad Co.			
DEED			1877	New Castle & Wilmington Railroad Co.	Philadelphia, Wilmington & Baltimore Railroad			
DEED	Q6	349	30 Jun 1852	William & Rachel Tatnall	New Castle & Wilmington Railroad Co.	6.164	For $2,335… two tracts containing approximately 6.164A.	Sketch of tract made in deed book. Both on South side of Christina River.
DEED	Q6	349	22 Jun 1852	Mary R. Latimer	New Castle & Wilmington Railroad Co.	2.232	For $500.00…one tract containing about 2.232A	Sketch of tract made in deed book.