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Phase I Cultural Resources Survey

Bridge 1-377
On N435 Over Back Creek
New Castle County, Delaware

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Prepared for:
Delaware Department of Transportation
800 Bay Road
Dover, Delaware 19901
and
George & Lynch, Inc.
422 West Water Street
Dover, Delaware 19904
and
Century Engineering
4134 North Dupont Highway
Dover, Delaware 19901

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March 2001

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DelDOT Contract No. 20-071-10
Federal Aid No. EBROS-N435(1)

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ABSTRACT

A.D. Marble & Company, of Rosemont, Pennsylvania, conducted a Cultural Resources Survey, including a Phase I archaeological investigation and an architectural survey, for the proposed Bridge 1-377 on N435 Over Back Creek project in St. George's and Pencader Hundreds, New Castle County, Delaware. This work was performed for the Delaware Department of Transportation during September and November, 2000, and January and February, 2001. The 7,500.0-square meter (80,729.3-sq ft) Area of Potential Effect (APE) covered a variety of landscape settings, including floodplain, stream terrace, woodland, and graded lawns.

The architectural survey was conducted in September and November, 2000, and included a windshield survey of the project APE. No standing structures were documented within the project APE.

Phase I archaeological investigations were conducted between January 9 and February 2, 2001. Thirty-two 50.0-centimeter (19.7-in) diameter shovel test pits were excavated across the APE. Excavations revealed that the four quadrants of the project APE exhibited varying levels of disturbed, graded fill overlying an intact subsoil horizon. Fill soils yielded 498 historic artifacts and 13 prehistoric artifacts. The subsoil produced six historic artifacts and two prehistoric artifacts. No prehistoric ceramics or projectile points were recovered. No intact cultural deposits or features were encountered during Phase I archaeological excavations.

Results of the Phase I archaeological investigations of the proposed Bridge 1-377 on N435 Over Back Creek project revealed no potential for the presence of intact prehistoric and historic cultural deposits within the APE. Landscaping and filling activities, which have scoured any potential subsurface features, have impacted much of the area. The two prehistoric artifacts recovered from the subsoil may possibly relate to activities extending from 7NC-F-14, a nearby Woodland I Period site, but the evidence is inconclusive.

TABLE OF CONTENTS

Abstract.....	<i>i</i>
Table of Contents.....	<i>ii</i>
List of Illustrations.....	<i>iv</i>
1.0 INTRODUCTION.....	1
2.0 PROJECT DESCRIPTION.....	7
2.1 Environmental Setting.....	7
2.2 Soils.....	7
3.0 PREHISTORIC AND HISTORIC CULTURAL CONTEXT.....	11
3.1 Regional Prehistoric Context.....	11
3.1.1 Paleo-Indian Period (13,000-6500 B.C.).....	11
3.1.2 Archaic Period (6500-3000 B.C.).....	12
3.1.3 Woodland I (3000 B.C.-A.D. 1000).....	13
3.1.4 Woodland II (A.D. 1000-1650).....	16
3.1.5 Contact Period (A.D. 1650-1750).....	16
3.2 Regional Historic Context.....	17
3.2.1 Exploration and Frontier Settlement (1630-1730).....	17
3.2.2 Intensified and Durable Occupation (1730-1770).....	20
3.2.3 Transformation from Colony to State (1770-1830).....	21
3.2.4 Industrialization and Capitalization (1830-1880).....	22
3.2.5 Suburbanization (1880-1940).....	23
3.2.6 Recent History (1940-Present).....	24
4.0 BACKGROUND RESEARCH.....	25
4.1 Archaeological Sites.....	25
4.2 Architectural Resources.....	26
4.3 Site-Specific Historic Context.....	27
4.3.1 Cazier / Dickey Property.....	27
4.3.2 Henry Clayton Property.....	32
4.3.3 Bayard Farm.....	34
5.0 RESEARCH DESIGN AND METHODOLOGY.....	38
5.1 Prehistoric Archaeological Site Potential.....	38
5.2 Historic Archaeological Site Potential.....	38
5.3 Historic Structures.....	39
5.4 Archaeology Methods.....	39
5.5 Architectural Methods.....	40
6.0 FIELD RESULTS.....	42
6.1 Phase I Archaeological Investigation.....	42
6.1.1 Southwestern Quadrant.....	42
6.1.2 Northwestern Quadrant.....	46

6.1.3 Northeastern Quadrant	49
6.1.4 Southeastern Quadrant	49
6.1.5 Evaluation of Test Results	52
6.2 Historic Structures Survey	52
7.0 CONCLUSIONS AND RECOMMENDATIONS.....	54
7.1 Conclusions.....	54
7.1.1 Phase I Archaeological Investigation.....	54
7.1.2 Architectural Resources	55
7.2 Recommendations.....	55

References

Appendices

- Appendix A: Bridge 377 Site Form
- Appendix B: Official Correspondence
- Appendix C: Artifact Catalog by Provenience
- Appendix D: Qualifications of Researchers

LIST OF ILLUSTRATIONS

Figures

1. Project Location Map.....	2
2. Bridge 377 Reconstruction Plans, 1964.....	3
3. Bridge 377 Project APE and Study Window for Documented Architectural Resources	6
4. Physiographic Provinces of Delaware	8
5. Soils Survey Map.....	9
6. Bridge 377 Project APE, 1849.....	30
7. Historic Maps Showing Bridge 377 Project APE.....	31
8. Bridge 377 Project APE.....	43
9. Southwestern Quadrant Soil Profiles.....	44
10. Northwestern Quadrant Soil Profiles.....	47
11. Northeastern Quadrant Soil Profiles.....	50
12. Southeastern Quadrant Soil Profiles.....	51

Photographs

1. Bridge 377, Choptank Road Over Back Creek, View Southwest.....	4
2. Southwestern and Southeastern Quadrants of Project APE, View South.....	45
3. Northwestern and Northeastern Quadrants of Project APE, View North.....	48

Tables

1. Cazier / Dickey Property Chain-Of-Title.....	29
2. Henry Clayton Property Chain-Of-Title	33
3. Bayard Farm Property Chain-Of-Title.....	35

1.0 INTRODUCTION

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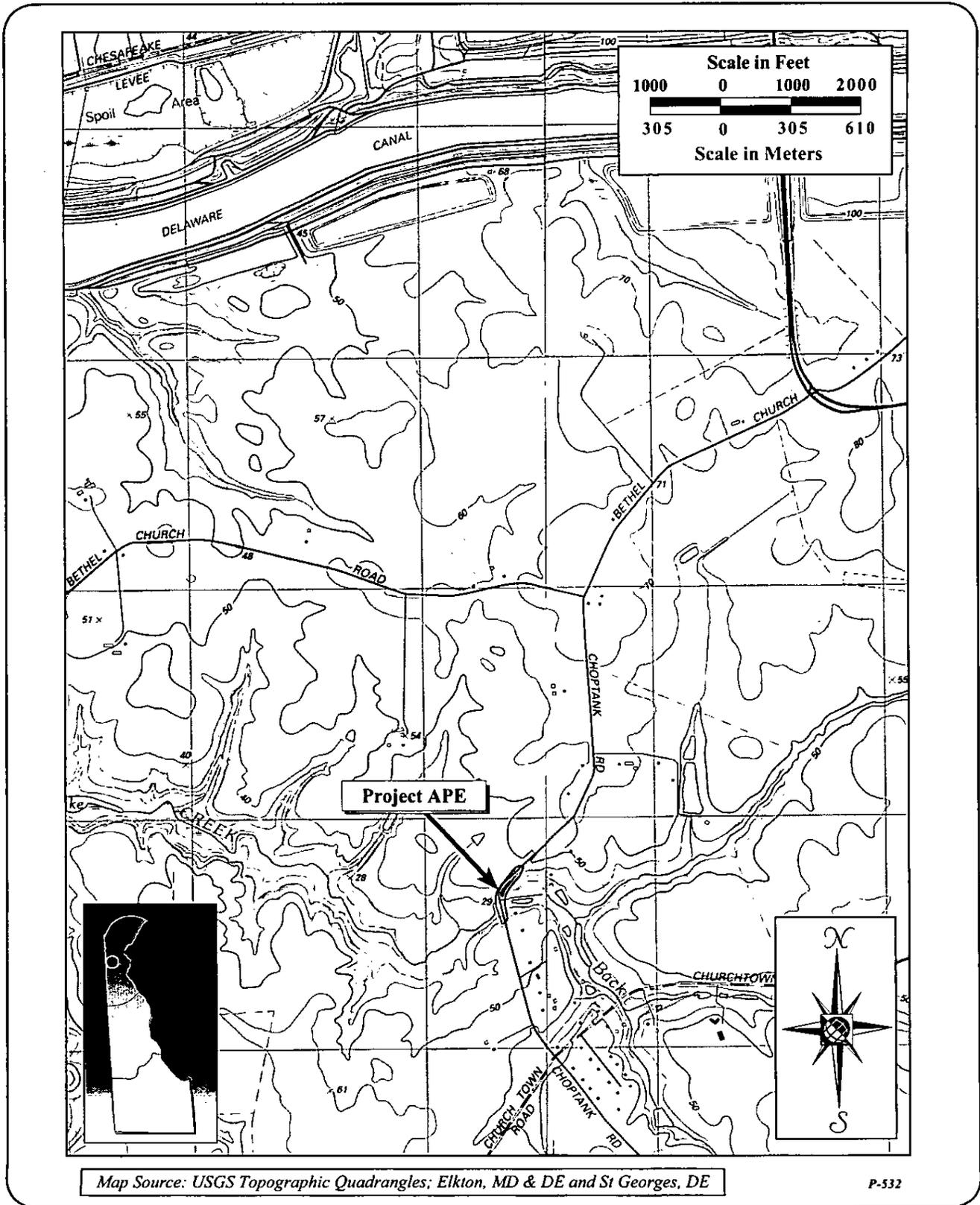
The following report presents the results of the Cultural Resources Survey of the proposed replacement of Bridge 1-377 on N435 Over Back Creek (Bridge 377). Located north of Middletown in Pencader Hundred and St. George's Hundred, New Castle County, Delaware, the study area consists of Bridge 377, which carries Country Road 435 (Choptank Road) across Back Creek, and its immediate fast lands (Figure 1).

Overall, the project area encompasses an approximate 250.0-meter by 30.0-meter (820.2-ft by 98.4-ft) corridor surrounding Bridge 377. The proposed replacement of Bridge 377 will entail the removal of the existing bridge span and abutments, and the relocation of a new bridge approximately 10.0 meters (32.8 ft) to the east of the old bridge. The proposed new bridge will redirect the existing roadway approaches and offer a wider span for two vehicles to simultaneously pass across the bridge.

The existing structure consists of a single span, pre-stressed concrete slab bridge supported by stone masonry abutments encased in concrete (Figure 2) (Photograph 1). The bridge is 10.0 meters (32.8 ft) long with a span length of 8.5 meters (27.9 ft) and a deck width of 5.5 meters (18.0 ft). The age of the original superstructure and stone masonry abutments is unknown. In 1964, the stone masonry abutments were encased in concrete and the superstructure was replaced. The superstructure consists of six pre-stressed concrete beams supported by a substructure of concrete abutments with flared semi-course rubble wing walls. The wing walls have been parged with concrete, and a timber railing serves as the parapet. The bridge has been determined ineligible for listing on the *National Register of Historic Places* (Cultural Resources Survey [CRS] N-12659) (Appendix A).

The proposed new bridge will consist of a two-lane span crossing Back Creek east of the current bridge. Guard rails, road signs, and other associated highway improvements will be incorporated into the proposed bridge design. The placement of the new bridge and widening of the deck span and roadway approaches will eliminate the congestion and hazards associated with the current traffic restrictions of the one-lane bridge.

Figure 1
Project Location Map
 Bridge 1-377 on N435 Over Back Creek
 New Castle County, Delaware





Photograph 1: Bridge 1-377, Choptank Road over Back Creek, view facing southwest (December 2000).

Potentially significant architectural and archaeological resources were researched as part of the historic investigation for the proposed improvements at Bridge No. 377. The main goal of the architectural survey was to identify and evaluate all standing historic resources within the project Area of Potential Effect (APE), and to determine the project's effects (if any) on these resources. The primary goal of the Phase I archaeological survey was to locate and identify any existing archaeological resources affected by the proposed construction in the area. The results of the comprehensive archaeological investigation of the project area will assist the Delaware Department of Transportation (DelDOT) and other agencies in their future planning activities. The APE for the Bridge 377 project area was determined during an October 27, 2000 meeting between members of the Delaware State Historic Preservation Office (DESHPO), United States Army corps of Engineers (USACOE), Delaware Natural Resources and Environmental Commission (DNREC), and other agencies (Appendix B). The APE consists of areas within the project zone that would be impacted by disturbance of the existing land surface (Figure 3).

The Phase I cultural resources survey was conducted by A.D. Marble & Company of Rosemont, Pennsylvania, January 29 to February 2, 2001. The Principal Investigator for archaeology was Scott A. Emory. Lauren C. Archibald was the Principal Investigator for the historic structures survey. Amy Fanz and David Weinberg served as field supervisors for archaeological testing of the APE; Steven Blondo performed the historic property research. The authors of this report are Scott A. Emory and Lauren C. Archibald.

This investigation was performed for the DelDOT, in compliance with the provisions of the DESHPO Guidelines for Architectural and Archaeological Surveys, and the Secretary of the Interior's Standards and Guidelines. In addition, all cultural resource evaluations were conducted in accordance with Section 106 of *The National Historic Preservation Act* of 1966, as amended; the *Procedures for the Protection of Historic and Cultural Properties* set forth in 36 CFR 800, as amended; 23 CFR 771, as amended; guidance published by the Advisory Council on Historic Preservation (ACHP); Sections 1(3) and 2(b) of *Executive Order* 11593; and the *National Environmental Policy Act* of 1966. Funding for the cultural resources survey was provided by DelDOT.

2.0 PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

2.1 Environmental Setting

The APE is located within the Mid-Peninsular Drainage Divide of the Upper Coastal Plain Physiographic Province (Figure 4). This area is characterized by low rolling hills that separate the headwaters of streams that drain into the Delaware River and Bay from streams that drain into the Chesapeake Bay. The Mid-Peninsular Drainage Divide exhibits slight elevation differences, with low-order headwaters comprising the flowing surface waters. Additional water sources include large fresh-water swamps formed in poorly drained soils surrounded by sand ridges, and bay/basin features (Custer 1989, 29).

Wetland, forest, and landscaped lawn settings comprise the project APE. Generally, the land slopes from the northwest down to the southeast. A mix of deciduous and coniferous trees interspersed with scrub/shrub and briars is present on both sides of the bridge. Grassy banks line the edge of the roadway, while skunk cabbage, sweet gum and other wetland vegetation dominate the floodplain of Back Creek. Landscaped lawns are present on portions of the northwest and southeast sides of the APE.

2.2 Soils

Four soil types are recorded with the APE. These soils include Matapeake silt loam, 0 to 2 percent slope (MeA) and Matapeake silt loam, 5 to 10 percent slope (MeC3) of the Matapeake Series; Mixed alluvial land (Mv); as well as Sassafras and Matapeake soils, 15 to 30 percent slope (SmE) of the Sassafras Series (USDA 1970) (Figure 5).

The Matapeake series consists of deep, well-drained soils that occur on uplands of the Coastal Plain in the southern part of the county. They are the most extensive soils in the county, and account for about one-fourth of the total acreage. Two soil types from the Matapeake series are represented within the APE. MeA is found at the southernmost portion of the APE on both sides of County Road 435 and is described as being typical for the series. MeC3 (severely eroded) is found at the northernmost portion of the APE on both sides of County Road 435, and along the west border at the southernmost end of the APE. Most of the original surface layer of MeC3 has

Figure 4
Physiographic Provinces of Delaware
 Bridge 1-377 on N435 Over Back Creek
 New Castle County, Delaware

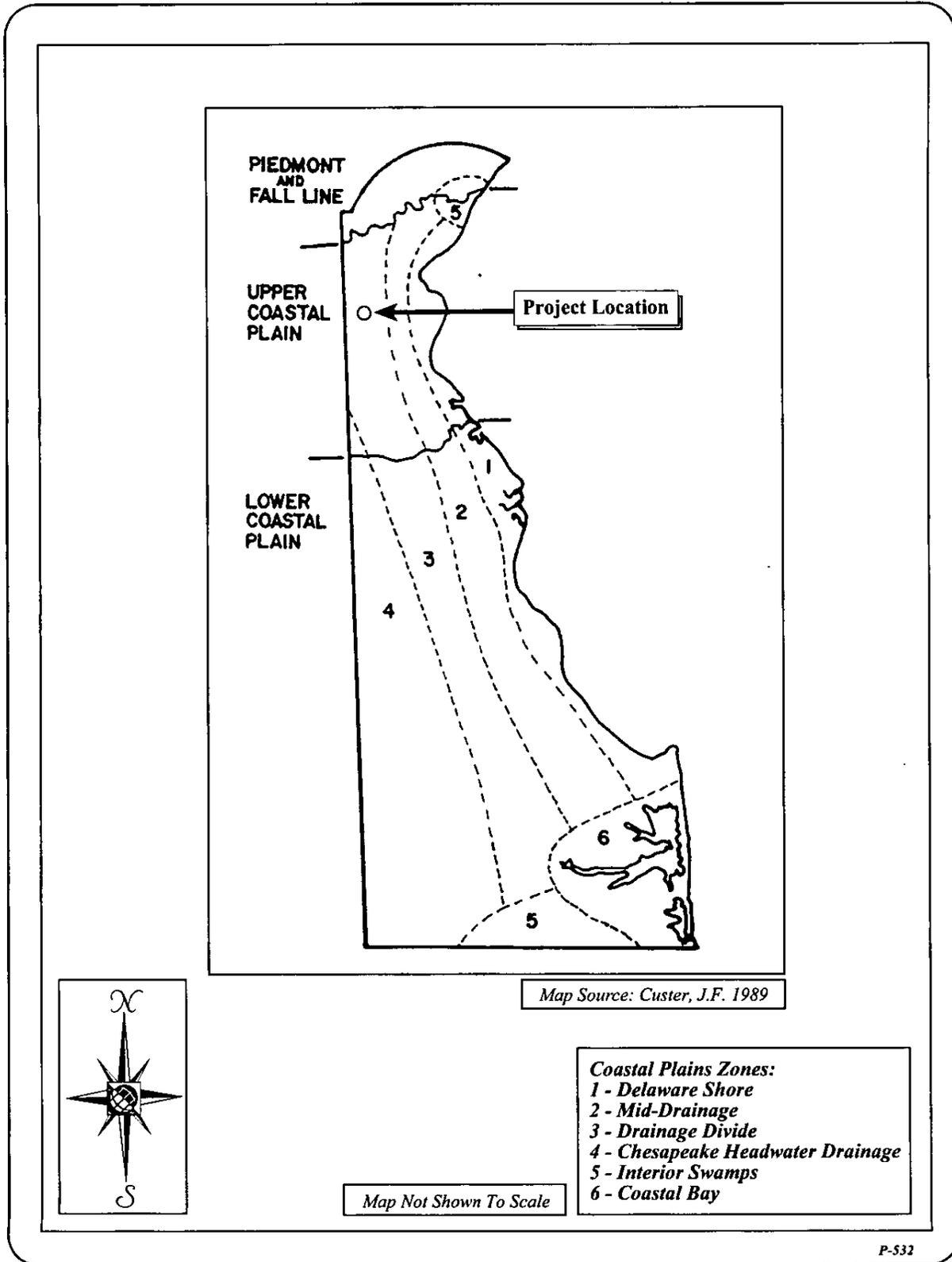


Figure 5
Soil Survey Map
 Bridge 1-377 on N435 Over Back Creek
 New Castle County, Delaware



Map Source: USDA, Soil Survey of New Castle County Delaware, pp 33 and 37

P-532

been washed from this soil, and the plow layer contains much sticky material that formerly was subsoil (USDA 1970, 29).

Mv land is found in the central portion of the APE where Back Creek flows. Generally, the soil material lacks distinct characteristics and cannot be identified (USDA 1970, 31) (Figure 5). This soil is described as occurring in flood plains, mainly on the Coastal Plain in the southern part of the county. It is flooded at least once a year in most areas, and flooding lasts for long periods in some places. Drainage is generally poor, but there are spots that are better drained (USDA 1970).

SmE soils are mapped near the south end of the APE (Figure 5). This soil is described as silty to sandy in texture and, in most places, much thinner than normal above the underlying sandy material. Some areas are wooded; in these there has been little or no erosion. Other areas have been cleared and are severely eroded. Small inclusions are gravelly, and a few spots are seasonally wet (USDA 1970).

***3.0 PREHISTORIC AND HISTORIC
CULTURAL BACKGROUND***

3.0 PREHISTORIC AND HISTORIC CULTURAL CONTEXT

3.1 Regional Prehistoric Context

There are five general periods regarding the chronological sequencing of Native American cultures of the Delmarva Peninsula: Paleo-Indian (13,000-6500 B.C.), Archaic (6500-3000 B.C.), Woodland I (3000 B.C.-A.D. 1000), and Woodland II (A.D. 1000-1650), and the Contact Period (A.D. 1650-1750).

3.1.1 Paleo-Indian Period (13,000-6500 B.C.)

Paleo-Indian occupation of eastern North America was coeval with retreating glacial conditions and the emergence of a Holocene environment. The emergent environment is characterized as a mosaic of deciduous, boreal, and grassland biomes with a uniformly cold and alternately wet and dry climate. Human adaptation to these changing environmental conditions resulted in small, mobile bands of hunter-gatherers with movements related to the exploitation of different localized environments and resources. Site patterning seems to indicate a preference for riverine environments with sites located on high terraces or knolls overlooking rivers or streams (Leslie 1973; Marshall 1982; Custer 1989). Northern Delaware is thought to have contained a wide variety of resources attractive to Paleo-Indian inhabitants. It is hypothesized that the mobile lifestyle, with its emphasis on hunting, would leave its mark on the landscape in the form of base camps, base camp maintenance sites, hunting sites, and quarry-related locations (Custer 1984, 52-3). The swampy, bay/basin features associated with the Mid-Peninsular Drainage Divide have been hypothesized as potential locations for Paleo-Indian sites (Custer 1989, 107). The Everett Site (7NC-D-21) is one of the few Paleo-Indian sites identified adjacent to a bay/basin feature (Kellogg 1993, 41).

Although some evidence exists displaying Paleo-Indian exploitation of plant resources (Dent and Kaufman 1985), Paleo-Indian tool kits were designed primarily for game procurement and processing. These tool kits often display a high degree of maintenance and reworking, indicative of extensive curation. This pattern is consistent with nomadic migration between sources of lithic raw materials. The earliest diagnostic tool forms include fluted points (i.e., Clovis, Mid-Paleo, and Dalton), while later forms include notched (and often serrated) points (i.e., Palmer,

Amos, and Kirk). Early Paleo-Indian people preferentially selected high quality cryptocrystalline lithic materials, such as chert, jasper, and chalcedony, for the manufacture of their tools. Jasper and chalcedony from the Delaware Chalcedony Complex (Iron Hill, located approximately 14.5 kilometers (9.0 mi) north of the APE) are believed to have been an important lithic source for the early inhabitants of this region. In fact, researchers have identified a cluster of fluted point finds associated with the Delaware Chalcedony Complex in northwestern New Castle County, Delaware and northeastern Cecil County, Maryland (Custer and Galasso 1980; Custer, Ward, and Watson 1986; Custer 1989, 103). The aforementioned Everett Site is also located only 500.0 meters (1640.4 ft) from the Iron Hill School Quarry Site (7NC-D-34) (Kellogg 1993, 41). The trend towards the nearly exclusive selection of high quality lithic materials began to attenuate during the later portion of the Paleo-Indian Period. Numerous Kirk and Palmer notched points manufactured from coarser materials, including quartz, quartzite and rhyolite, have been found in Delaware (Custer 1989, 59).

The majority of Paleo-Indian sites in northern Delaware and the Mid-Peninsular Drainage Divide have taken the form of isolated point and tool finds on the surface (Custer 1984, 1989). In the vicinity of the APE, a fluted point fragment and a Kirk/Palmer point were found at the Snapp Site (7NC-G-101), located approximately 8.0 kilometers (5.0 mi) northeast of the APE (Custer and Hsiao-Silber 1995, 93-7). To the south, a series of three Paleo-Indian sites have been identified in the Drainage Divide in central Kent County, Delaware. Known collectively as the Hughes Early Man Complex, these sites yielded a Clovis point, Kirk and Palmer notched points, and numerous bifacial and flake tools (Custer 1984, 58).

3.1.2 Archaic Period (6500-3000 B.C.)

The Archaic Period is marked by the emergence of a fully Holocene environment. Warmer, moister climatic conditions prevailed with the disappearance of grasslands and the expansion of mesic forests of oak and hemlock. Mast foods were provided by the mesic forest, which also attracted small game animals, especially deer and turkey. A marked rise in sea level during the early Holocene had a profound effect on the Delmarva Peninsula. This rise caused lowland flooding and the inundation of river systems, which speeded the development of complex estuary

systems. Numerous interior swamps were also created. These changes caused a net increase in floral and faunal resources associated with new wetland areas.

The environmental shift to more moderate conditions occurred simultaneously with a broadening of the subsistence base. Archaic people utilized a wide variety of plant and animal resources, resulting in a wide range of subsistence activities and associated tool kits (Custer 1989, 128). An increase in sedentism is also inferred by the settlement pattern, with base camps located on terraces of major drainage systems, supported by smaller micro-band camps and procurement camps found along smaller streams and interior swamps (Custer 1989, 129-30). A fission-fusion model of social organization drives site identifications of macro, micro, and procurement camps (Custer 1989, 131). A shifting band-level organization is also inferred, with group sizes changing in response to seasonal availability of resources.

Archaic projectile points include bifurcated-base and a wide variety of stemmed and notched forms. Unfortunately, stemmed points of this period are often difficult to distinguish from similar Woodland I types. In response to the broadening of exploited food resources, Archaic people produced diverse tool kits containing an array of ground stone tools, including grinding stones, netsinkers, and axes.

Archaic Period sites in the area include several sites associated with Churchman's Marsh, a large interior swamp approximately 22.5 kilometers (14.0 mi) northeast of the APE. The Clyde Farm Site (7NC-E-6), one of the Churchman's Marsh sites, yielded bifurcate points and Neville-like stemmed points and has been interpreted as a base camp (Custer, Watson, and DeSantis 1986). Several sites associated with bay/basin features have also been identified in southern New Castle County. These sites produced small numbers of artifacts and are considered to be short-term hunting/procurement sites (Custer 1989, 135).

3.1.3 Woodland I (3000 B.C.-A.D. 1000)

The transition to the Woodland I Period is marked by the intensification of subsistence and resource exploitation processes that include a greater use of aquatic resources. During this period, sea level rise slowed, which allowed the stabilization of riverine and estuarine areas.

This in turn fostered the development of shellfish and anadromous fish populations. These new resources were heavily exploited during the Woodland I period. The increased expansion of food resources also led to a higher degree of sedentism. In fact, it is during the Woodland I Period that very large, macro-band base campsites were occupied on year-round basis (Custer 1989). Storage pits and evidence of house structures are first found at these Woodland I Period sites.

Changes in the exploitation of lithic resources also occurred during this period. Whereas cryptocrystallines had been heavily favored during the Paleo-Indian and Archaic Periods, groups inhabiting the Middle Atlantic region during the Woodland I Period greatly expanded their use of lithic raw materials to include quartz, quartzite, argillite, and rhyolite (Kinsey 1977; Stewart 1984; Custer 1992). Custer has suggested that the use of more varied materials reflects a decrease in band territory size (1992, 42). However, wide distribution of non-local lithic materials, such as South Mountain rhyolite from south central Pennsylvania, also suggests the development of long-distance trade networks.

Early Woodland I (Clyde Farm Complex) sites are marked by stemmed, broad-bladed, and fishtail points. A major increase in the use of rhyolite and argillite is also noted. Clyde Farm assemblages also include steatite bowl fragments and a wide range of ground stone tools. Around 1000 B.C., steatite bowls were replaced by ceramics. Early ceramic wares included Marcey Creek, Dames Quarter, and Experimental. Collectively, the Woodland I artifact assemblage reflects the intensification of food production concomitant with the development of a more sedentary settlement strategy focused on riverine and estuarine resources (Custer 1984). Clyde Farm Complex macro-band base camps are found along river floodplains and estuarine marshes, with micro-band camps being located near specialized resources. Procurement sites are found short distances from base camps (Kellogg et al. 1994). Numerous Clyde Farm Complex sites have been identified in the vicinity of Churchman's Marsh. Significant components of this period have also been excavated at the nearby Snapp Site and Lums Pond Site (7NC-F-18) (Custer and Hsiao-Silber 1995; Petraglia et al. 1998). Also, a Clyde Farm Complex (mid-period) site, 7NC-F-14, was identified on Back Creek, adjacent to the project area. This site yielded a

soapstone fragment and contracting stem broadspear point (Bureau of Archaeology and Historic Preservation Site Files).

Increased social complexity is evident during the Woodland I Period. Some researchers believe that the development of a sedentary lifestyle and the production and control of surplus food resources may have led to the development of incipient ranked societies (Custer 1989). Evidence for this change comes in the form of exotic grave goods indicating complex mortuary ceremonies, which were being practiced in central Delaware beginning around 500 B.C. and ending around 0 B.C. Known as the Delmarva Adena, this culture group possessed exotic materials and ceremonial goods similar to those of the Ohio Valley Adena cultures (Custer 1984). Several important Delmarva Adena sites excavated in Kent County, Delaware, have produced status-related goods, such as Flint Ridge chalcedony cache blades, copper beads, and tubular pipes, inferring some degree of social stratification. Custer has suggested a *big-man* social organization for this complex (1989, 268-9). Delmarva Adena Complex sites include micro-band base camps, major and minor mortuary-exchange sites, cache sites, and isolated finds. Ceramic wares associated with this complex include Wilgus, Coulbourn, and Nassawango.

While the Delmarva Adena Complex was thriving in central Delaware, the Black Rock Complex (formerly known as *Wolfe Neck*) was present in New Castle County, Delaware, as well as in several adjacent Maryland and Pennsylvania counties (Custer 1994 in Petraglia et al. 1998). Sites of this complex included macro-band and micro-band base camps, procurement sites, and shell middens (in coastal areas). Black Rock components are often found at Clyde Farm Complex sites, including the Clyde Farm Site, the Delaware Park Site, and the Mitchell Farm Site (Custer 1989, 253). In New Castle County, Delaware, Black Rock Complex artifacts include Susquehanna Series ceramics and stemmed projectile points.

By 0 B.C., the Delmarva Adena and Black Rock Complexes appear to have been abandoned (Custer 1989, 275). Around this time, the Carey Complex, characterized by shell-tempered ceramics (Mockley Ware) and Rossville-like and Fox Creek points, replaced these earlier complexes and expanded across the Delmarva Peninsula. The settlement and subsistence patterns

of the Carey Complex generally followed those of the previous Woodland I complexes. However, the Carey Complex conspicuously lacked the mortuary/exchange centers of the Delmarva Adena Complex (Custer 1989, 277). By AD 500, the Delaware Park Complex replaced the Carey Complex in northern Delaware. Although poorly represented, the Delaware Park Complex is characterized by Hell Island ceramics and Rossville and Jack's Reek points. The Delaware Park Site produced evidence for intensive exploitation of plant foods, a continuation of trends observed at earlier Woodland I sites.

3.1.4 Woodland II (A.D. 1000-1650)

The Woodland II Period, or Late Woodland Period, is generally marked by a change in subsistence in the Middle Atlantic region. The primary change is the introduction of cultigens; associated changes in artifact types and settlement patterns are also noted. However, evidence for the shift to an agricultural system is absent in the Delmarva Peninsula. Rather, continuity with earlier periods is reflected by research results (Custer 1989). Woodland II settlement patterns generally follow the Woodland I model: macro-band base camps supported by micro-band camps and procurement sites. Woodland II culture groups include the people of the Minguannan Complex, who occupied northern Delaware, northwestern Maryland, and portions of Chester County, Pennsylvania (Custer 1989, 314). This poorly understood group settled on many sites that were previously occupied during the Woodland I Period (e.g., Clyde Farm Site, Delaware Park Site, Mitchell Farm Site). Artifacts from this group include thin-walled Minguannan ceramics and triangular projectile points. Again, no evidence for village sites or agriculture has been found in association with this complex. In fact, Custer (1989:315) suggests that the Minguannan people may have been less sedentary than previous Woodland I groups.

3.1.5 Contact Period (A.D. 1650-1750)

The Contact Period in Delaware began with the settlement of Europeans in the New World. This was quickly followed by a major disruption of native lifeways, as European goods and practices were adopted. The introduction of European diseases into Native American settlements and internecine conflict over fur trade caused a severe loss of life among native groups.

The Susquehannock Indians were the dominant force from 1550 through the mid-1600s in the Susquehanna River Valley and the central Middle Atlantic region in general. The Susquehannocks gained control of the European fur trade and prevented indigenous groups in southeastern Pennsylvania (e.g., Lenni Lenape) and the Delmarva Peninsula (e.g., Nanticoke) from participating in this trade during the mid-seventeenth century. The Susquehannocks and the Iroquois fought for control over the Susquehanna River and European trade. After 1675, the Susquehannocks lost control of the region, and were completely exterminated by 1763 (Custer 1996, 315; Kent 1989).

The fall of the Susquehannocks precipitated what Custer has labeled the "Refugee Complex", characterized by groups of indigenous people migrating west to join up with other native groups. Sites of this period/complex are virtually non-existent in Delaware; one possible Refugee Complex site, the Parkway Gravel Site (7NC-G-100), was identified in New Castle County as part of the Route 1 Corridor study (Kellogg et al. 1994). By the mid 1700s, native settlement of the Delmarva Peninsula had come to a virtual end.

3.2 Regional Historic Context

The history of the Middle Atlantic region begins with the explorations of numerous European peoples in North America. In general, the history of Delaware is divided into five time periods, beginning with exploration of the area, and concluding with modern urbanization (De Cunzo and Catts 1990). The following discussion has been abstracted from several historical works, specifically De Cunzo and Catts (1990), Hoffecker (1988), Kellogg (1993), Lemon (1972), Munroe (1979), Scharf (1888), and Weslager (1961). A more detailed historical overview of the Bridge 377 project APE is provided in the Background Research section.

3.2.1 Exploration and Frontier Settlement (1630-1730)

Early exploration of the Delaware Bay offered much promise for colonizing the new land. Navigators such as Henry Hudson and Samuel Argall briefly sailed in the Delaware Bay, yet neither man could portend the growth and conflict that would arise in the area. The introduction of Dutch settlements at High Island in 1624 and Lewes in 1631 opened the area to initial colonization, but these outposts did not survive for more than two years (Weslager 1961, 11).

In March of 1638, the first Swedish colonists in America disembarked at the confluence of the Christina and Brandywine Rivers in what is now Wilmington, Delaware (Munroe 1979, 21). Peter Minuit, leader of the expedition, safely brought the party across the stormy Atlantic and helped to establish a foothold in Delaware. With his departure in June 1638, Mans Kling guided the growth of the colony, and within a few years a church, fort, and farming community evolved to form the first European settlement in Delaware (Weslager 1961, 181).

The presence of this Swedish colony posed a challenge to the Dutch colonial interests in the Delaware Bay area. Peter Stuyvesant, the Dutch governor of New Netherland, resented the Swedish presence in Dutch territory and the fact that Fort Nassau, a Dutch post constructed in 1626, predated the Swedish settlement. As a result, in 1651 Stuyvesant established Fort Casimir, near present-day New Castle. A series of military conflicts ensued, with the victorious Dutch establishing the town of New Amstel (New Castle) near Fort Casimir in 1656 (Weslager 1961, 12).

English influence began in the Delaware Valley region in 1664 with the takeover of the Dutch colonies by Sir Robert Carr. Carr, on behalf of James, Duke of York and Albany, confiscated the lands, houses, and personal possessions of the Dutch officials. Despite the hostile nature of the Carr's actions, the transfer of authority went smoothly. The English leadership sought to maintain existing land ownership, political structure, and trading privileges among the remaining colonists. New immigrants, including English and Scotch-Irish, joined the remaining mixed populace of Swedish, Finnish, and Dutch colonists.

In 1681, William Penn received proprietary rights over Pennsylvania from King Charles II. While the new colony served him well, this province was lacking in one essential detail – access to the ocean. Penn appealed to the Duke of York to give him the land between Pennsylvania and the ocean, and in 1682, the Duke of York conveyed the three Delaware counties, New Castle, Kent, and Sussex, to Penn. Penn's hold over a newly expanded Pennsylvania, however, was soon tested by disputes between the three Pennsylvania counties and the three Delaware counties. The colonists of the three lower counties, generally members of the Church of

England, often found themselves in disagreement with the Quaker-majority Pennsylvania counties over voting power, appropriations, and religious character. Political dissension and mistrust eventually lead to a separate government and relative autonomy for Delaware in the fall of 1704. Despite the political rift, social and economic ties were maintained between the Lower Counties and Philadelphia throughout the seventeenth and eighteenth centuries (Munroe 1984).

Settlement patterns in Delaware shifted from the closely spaced Dutch and Swedish villages along the Delaware River to scattered farmsteads along internal drainages, such as St. Georges, Back, and Appoquinimink Creeks, and along emerging roads. These large plantations were typically made up of a dwelling house and outbuildings, with a surrounding patchwork of farmed fields. Structures present at these plantations included small dwellings built of wood, or, less frequently, brick. Large portions of the property were likely kept in marsh or woodland for livestock forage.

Changing economic factors based on the agricultural activities encouraged a pattern of scattered settlement. Farmers and settlers in the area found that wheat crops sold for a higher value than tobacco, rye, or barley. Large tracts of land provided the acreage to grow cash crops of wheat, as well as to sustain subsistence gardens for the household, and provide grazing for livestock. The focus of farmers and settlers in the area shifted from subsistence to market-oriented agriculture in response to the demands of the urban market (Loehr 1952; Hoffecker 1977).

Transportation routes in late-seventeenth to early-eighteenth-century Delaware were often dictated by natural waterways, as existing roads were few and in poor condition. In 1660, "Herman's Cart Road," located between Appoquinimink (present day Odessa) and Bohemia Manor in Maryland, offered one of a select few overland routes connecting the Delaware Bay to the Chesapeake Bay (Scharf 1888, 991). However, water transportation provided a cheaper, more efficient method to transport goods from the remote hinterland to urban markets along the Delaware River. As a result, the port cities of Philadelphia and Wilmington, and to a lesser extent New Castle, grew steadily and took over a dominating commercial role in the growth of Delaware.

3.2.2 *Intensified and Durable Occupation (1730-1770)*

Delaware witnessed an increase in population and commercial expansion by the middle of the eighteenth century. Small hamlets located along riverine settings and at crossroads underwent rapid growth. This expansion accommodated the increase of the settler population and the agricultural commodities that were brought in from the surrounding farms for transport to Philadelphia and Wilmington. These "commercial towns," such as Christiana, Newport, Cantwell's Bridge (Odessa), and Newark, served as focal points for the local society and economy (Heite and Heite 1986).

Farming continued to dominate as the main activity for 80 to 90 percent of colonial Delaware's population (Egnal 1975, 201). Wheat constituted the primary crop, followed by rye, corn, barley, oats, and garden vegetables. Livestock husbandry supplemented the income produced from field crops; additionally, home manufactures, such as soap, were introduced into the local economy (Main 1973).

Land use patterns increased with regard to the tillage of the farm's total acreage. Lands once reserved as forest or marsh were cleared and incorporated into the crop cycle. A system of three-field or four-field rotation was used on farms of the Upper Peninsula, spurring larger harvests per acre (Lemon 1972, 169). The increased need for larger tracts of land forced new buyers to purchase and cultivate property once reserved as marginal grounds.

In response to the abundance of wheat produced, milling operations prospered along rivers in New Castle County. Commercial flour mills were established along the Brandywine and Christina Rivers, providing Wilmington with a large influx of flour and other wheat-based products for shipment to New York and Philadelphia. The resulting commerce from milling led to the establishment of other industries in Wilmington, including shipbuilding, coopering, and import-export trade. Water-powered mill technology spread throughout the colony, fostering grist, saw, and fulling (woolen cloth) operations during different seasons of the year.

3.2.3 Transformation from Colony to State (1770-1830)

The American Revolution brought much disarray to the region at the beginning of this time period. British activities on the Delaware River and Bay disrupted the maritime economy of the area, impacting all manner of trade. British, French, and Continental forces passing through Delaware made for disruptive travel to farmer and merchant alike. Social and political unrest in the colony further heightened an already tense atmosphere.

Colonists witnessed a variety of military forces pass through Delaware during the Revolutionary War. British and Hessian troops marched from Cecil County, Maryland, and skirmished in the fall of 1777 with American forces at Cooch's Bridge, south of Newark. The American forces were forced to retreat, and the British seized Wilmington. The control of Wilmington shifted frequently throughout the winter of 1777-78. In 1781, Lafayette's French troops disembarked at Christiana, then proceeded to march west towards Tidewater, Virginia. Later that same year, Washington's troops headed south through Wilmington and Christiana to the Head of Elk.

After the Revolutionary War, the population of Delaware grew rapidly, while its agricultural productivity dropped. A decrease in soil fertility coupled with competition for good farming land and a decline in wheat prices forced many farmers with small operations to sell off their holdings to larger, wealthier farms. Many dispossessed farmers left Delaware during the 1820s and 1830s, or sought occupation in the numerous urban and industrial centers where employment was readily available.

Manufacturing and commerce prospered under the influence of an increased labor force. Textile manufacturers in the cotton and woolen mills along Red Clay Creek, White Clay Creek, and Brandywine Creek produced the finished raw fabrics needed to clothe a growing country (Pursell 1958). Other products manufactured in New Castle County include paper, snuff, rope, gunpowder, and iron (Coxe 1814).

3.2.4 Industrialization and Capitalization (1830-1880)

The effects of the Industrial Revolution led to significant advances in transportation, urbanization, and industrialization in northern Delaware. By the early 1830s, a significant number of transportation improvements were underway. The Chesapeake and Delaware Canal, finished in 1829, opened a direct route from the head of the Chesapeake Bay to the Delaware River, eliminating the long water journey around the Delmarva Peninsula. The shortened travel time fostered more business between the major urban centers of Baltimore and Philadelphia. In 1837, 100,000 tons of cargo passed through the C & D Canal, while in 1872, the peak tonnage year, 1,318,772 tons were transported (Snyder and Guss 1974). The towns of Chesapeake City, Maryland, and Delaware City, Delaware, grew at the respective terminal points of the canal. Locks were located at Chesapeake City and at St. George's, Delaware, where the "King's Highway" crossed. These towns became social and economic points for the local community as a result of the commercial traffic with the canal.

The arrival of railroads in northern Delaware during the nineteenth century expedited the journey of people and goods alike. The New Castle and Frenchtown Railroad, established in 1831, transported passengers from Philadelphia to Baltimore, connecting them with Union Line steamboats in the Delaware River and Chesapeake Bay (Kellogg et al. 1994). Initially this railroad was horse-drawn, but steam locomotives, built by the Robert Stephenson Company in England, took the horses' place by 1832 (Warren 1970). The Philadelphia, Wilmington, and Baltimore Railroad, opened in 1839, provided local transportation for farmers who shipped their produce to markets in the eastern urban areas.

Delaware's agricultural background continued to face a decline in the farmer population. Remaining successful farmers incorporated a variety of strategies to extend the life of their farms. Production was diversified to include dairy farming, some wheat production, and market or truck gardening. The New Castle County Agricultural Society recommended that farmers use improved fertilizers, machinery, and drainage techniques on their lands. As a result, the agricultural economy of the Piedmont and Upper Peninsula continued to produce goods, but the focus shifted from grain farming to commodities, such as milk, milk by-products, fruits, and vegetables, which were needed in nearby urban communities.

From the 1830s to the 1870s, peach production represented a significant percentage of the agricultural economy in Delaware. A combination of rich soil tempered with favorable rainfall and climate provided optimum growing conditions for peach orchards. In addition, Delaware's transportation network of railroads and waterways offered quick transportation of peaches to the major urban markets of Philadelphia, Baltimore, and New York. The lucrative industry helped not only peach growers, but support industries such as basket factories, canneries, and peach tree nurseries as well. Railroad and steamship companies essential to fruit shipment depended on the revenue generated from the annual peach harvests. By the mid-1870s, however, a blight known as "Yellows" destroyed much of the peach orchards in Delaware.

As agricultural production shifted with industrialization in northern Delaware, the makeup of farm labor also shifted. Free black laborers played an increasing role in farm work. A strong Abolitionist sentiment and legislation prohibiting the importation and exportation of slaves, especially in New Castle and Kent Counties, encouraged free blacks to settle in Delaware. In 1790, less than one-half of the blacks in Delaware were free. By 1810, more than three-quarters of the black population was free in Delaware (Kellogg et al. 1994, 13).

3.2.5 Suburbanization (1880-1940)

Throughout the late nineteenth century and into the twentieth century, an increase of population in Delaware led to urban expansion. Immigrants from Eastern and Central Europe filtered into Delaware settling into neighborhoods in Wilmington and other urban points of entry. Nearly 70 percent of New Castle County's population in the early 1900s was living in the city of Wilmington (Kellogg 1990, 32). Between 1870 and 1900, the number of people employed in industry and manufacturing in Delaware rose from 23.5 percent to over 31 percent, accounting for 14 percent of the total state population (Reed 1947).

Agriculture continued to focus on the production of perishable goods with a decrease in staple crops. Dairy, poultry, tomatoes, apples, potatoes and other truck produce were grown for sale to the markets of Philadelphia, New York, Baltimore, and other large urban areas. Transportation improvements, encouraged by the significance of truck crops, opened new sections of roads for Delawareans. Urban growth spread out from the industrial center of Wilmington, encroaching

upon farmlands. A noticeable decline in farm size and total acreage followed, suggesting a period of farm abandonment (DeCunzo and Catts 1990).

By the early twentieth century, the pattern and density of settlement in Delaware had spread from localized urban centers to interlocked suburban communities across the state. Small communities, such as Jesterville (Summit) and Bowersville (Kirkwood), were replaced by commercial and industrial "strip" development along major roads. The introduction of the automobile gave people a means to travel beyond the confines of a train or boat in a short period of time. Improvements to the state road system expanded manufacture, commerce, and agriculture throughout the state. The Dupont Highway, opened in 1923, connected northern and southern Delaware and shifted the state's agricultural production permanently towards non-local markets.

3.2.6 Recent History (1940-Present)

Since 1940, urbanization has spread across New Castle County, altering the landscape and land use patterns of the area. Large industrial manufacturing companies, such as DuPont and Chrysler, built extensive operations to supply goods and services to worldwide customers. Road improvements, such as State Route 1 expressway and Route 896, provided faster routes for commercial and residential traffic across the state. Planned suburban communities spread as the improved roadway system and employment opportunities brought more traffic into rural areas.

4.0 BACKGROUND RESEARCH

4.0 BACKGROUND RESEARCH

To investigate architectural resources, researchers visited the DESHPO to review site files and survey reports that pertained to standing structures in or near the project APE. Researchers also contacted DelDOT, the University of Delaware's Center for Historic Architecture and Design, and the New Castle Department of Land Use (Historic Preservation section) in search of relevant survey reports and studies. Current tax maps were obtained from the New Castle County Department of Land Use, primarily to determine the limits of nearby historic properties *vis-à-vis* the Bridge 377 project APE. Mr. Kevin Cunningham, of DelDOT, was consulted on December 12, 2000 (Kevin Cunningham, personal communication, December 12, 2000). Ms. Gwen Davis of the DESHPO was also consulted during this project (Gwen Davis, personal communication, October 29 and November 1, 2000).

Prior to archaeological investigations of the Bridge 377 project APE, a review of available documents was performed to ascertain if any previously recorded archaeological and architectural resources existed within, or in the vicinity of, the project area. Primary sources consulted included files housed at the DESHPO, Delaware State Archives, New Castle County Recorder of Deeds, New Castle County Register of Wills, DelDOT, and various historical and educational institutions. Resources related to the prehistory, history, geography, and ethnohistory of the project area were also consulted during background research.

4.1 Archaeological Sites

No archaeological sites are reported within the APE. One recorded prehistoric site, 7NC-F-14, was identified within the vicinity of the project APE. Located approximately 500.0 meters (1640.4 ft) east of Bridge 377, 7NC-F-14 resides on a first terrace along the northeast fringe of the current APE. The Delaware Archaeology Bureau documented the site as a surface collection in 1966. Artifacts recovered from the 1966 surface collection include eight quartz chunks, seven cores, four bifaces, one broadspear projectile point, four flakes and one steatite fragment. Based on the recovery of a broadspear point and steatite fragment, the site was classified as Woodland I (3000 B.C.-A.D. 1000) (Custer 1984, 30).

4.2 Architectural Resources

There are six recorded historic buildings within a 0.8-kilometer (0.5-mi) radius of the project area. The Cultural Resource Survey (CRS) numbers for these are: N-6195 (J.T. Bird House) at 1208 Bethel Church Road, N-5123 (B.T. Biggs agricultural complex) on Choptank Road, N-3860 (Dickey Farm/Locust Grove/Butler House) on Choptank Road, N-12743 at 1394 Choptank Road, N-5234 on Churchtown Road, and N-427 (Woodside/Henry Clayton House) on the east side of Choptank Road. Although all of these are outside the APE, and outside of the viewshed of the proposed bridge, they are mentioned briefly herein to provide general historic background information on local building types.

The Woodside/Henry Clayton House is located about 0.5 kilometer (0.3 mi) to the south of Bridge 377. Built in 1860 by Henry Clayton, this house is an example of a brick Italianate farmhouse. The Claytons were a prominent Delaware family of politicians and early settlers in the St. George's area (Herman et al. 1992, Inventory Form for Woodside). The Woodside house was listed on the *National Register of Historic Places* on September 13, 1985, as part of the multiple property nomination *Rebuilding of Saint George's Hundred 1850-1880* (Herman et al. 1992). Henry Clayton, like others in this area, was involved in experimental farming and was one of the most prosperous growers and the largest shipper at the end of third quarter of the nineteenth century. As described in the *National Register* nomination, *Rebuilding St. George's Hundred*, many local farmers lost their peach crops to disease toward the end of the nineteenth century. Henry Clayton, who was closely related to many prominent Delawareans, also raised other crops and had other interests, which apparently helped to buffer his losses (nomination for Woodside in *Rebuilding St. George's Hundred* 1992).

Just to the south of the Woodside/Clayton House is another historic farm dwelling (N-12743) located at the northeast corner of Choptank Road and Churchtown Road. It is far more modest than the Woodside/Clayton House, featuring frame construction with an original two-story ell. The CRS form for this property suggests that it may have been a tenant house associated with the main Woodside/Clayton residence. Tenant farms were typical during this part of New Castle County in the second half of the nineteenth century (Kellogg 1993). The Woodside property and this possible tenant property are now separately owned and both are part of the Lamborn

Subdivision, with 4.0-acre and 1.9-acre lots, respectively. Subdivision has been the predominant development pattern within the vicinity of the project APE, and other nearby subdivisions include Wheatland, Williams Subdivision, and Brady Subdivision.

Across the road from the above two properties is the Dickey Farm, also known as Locust Grove and the Butler House. The Dickey Farm is located on the west side of Choptank Road about one-half mile south of Bridge 377. This property contains a large brick farmhouse with a later wood addition and center chimney. According to the CRS form, this property was originally (one of) Joshua Clayton's residence(s). The house has a side hall, double parlor plan, and appears to date from the mid-nineteenth century. Today the property is located among a sea of lots in a modern subdivision known as Clayton Manor.

The historic J.T. Bird House, at 1208 Bethel Church Road, is located on a slight rise and 0.8 kilometer (0.5 mi) to the northwest of Bridge 377. Still on an expanse of farmland, this farmstead may date from the late eighteenth century with an 1840 addition. Outbuildings here were rebuilt around 1900, and the farm is still in operation. Although the actual parcel has been reduced to less than four acres, most of the 325 acres immediately surrounding it are still maintained as agricultural lands.

The Governor Benjamin T. Biggs Farm, located approximately 0.8 kilometer (0.5 mi) to the north of Bridge 377 on Choptank Road, was recorded by the Historic American Building Survey (HABS No. DE000226), and was also listed on the *National Register of Historic Places* on September 11, 1987. This brick, Greek Revival-influenced farm dwelling was built ca. 1846. The historic house on Churchtown Road (N-5234) is a two-bay, modest vernacular dwelling with a rear ell.

4.3 Site-Specific Historic Context

4.3.1 Cazier / Dickey Property

The southeastern APE constitutes a small portion of land that was granted in 1671 to Augustine Herman by Lord Baltimore (Scharf 1888, 949). In 1714, Matthias Van Bibber purchased a portion of what was called St. Augustine Manor from Ephriam Augustine Herman. This

purchase comprised lands east of the Bohemia Manor to the Delaware River, and south of the Chesapeake and Delaware Canal to Appoquinimink Creek (ibid). Van Bibber fathered four sons, Jacob, Adam, Matthias, and Henry, and two daughters, Sarah and Rebecca. Van Bibber's portion of St. Augustine Manor was passed to his daughters, with Rebecca retaining the land located in Delaware.

Rebecca married John Cazier, and at her death the property was given to her sons, John, Jacob and Matthias. John sold his one-third interest of the property to Matthias and Jacob on March 21, 1780 (Scharf 1888, 949). While Scharf (1888) suggests that the larger portion of Matthias' and Jacobs' land descended from Jacob to his son, Henry, deed records indicate that Henry Cazier purchased a 553-acre property from the Farmers Bank of the State of Delaware for \$6,000.00 on March 5, 1835 (NCCC 1835, 22) (Table 1). The boundary description given in this deed corresponds with the current tract of land located in the northwest corner of the intersection of Choptank Road and Churchtown Road, which includes the southwestern quadrant of the project APE (Figure 6).

Henry married Sarah Johnson, of New York City, and produced two children, Catherine Eugenia, born February 26, 1830, and Jacob Benson, born December 25, 1833 (Scharf 1888, 949). Henry's Last Will and Testament, dated June 22, 1855, left to Catherine a 500-acre tract of land adjacent to the south edge of Back Creek on the west side of Choptank Road (NCCC 1855). This parcel of land includes the current southwestern quadrant of the APE (Figure 7).

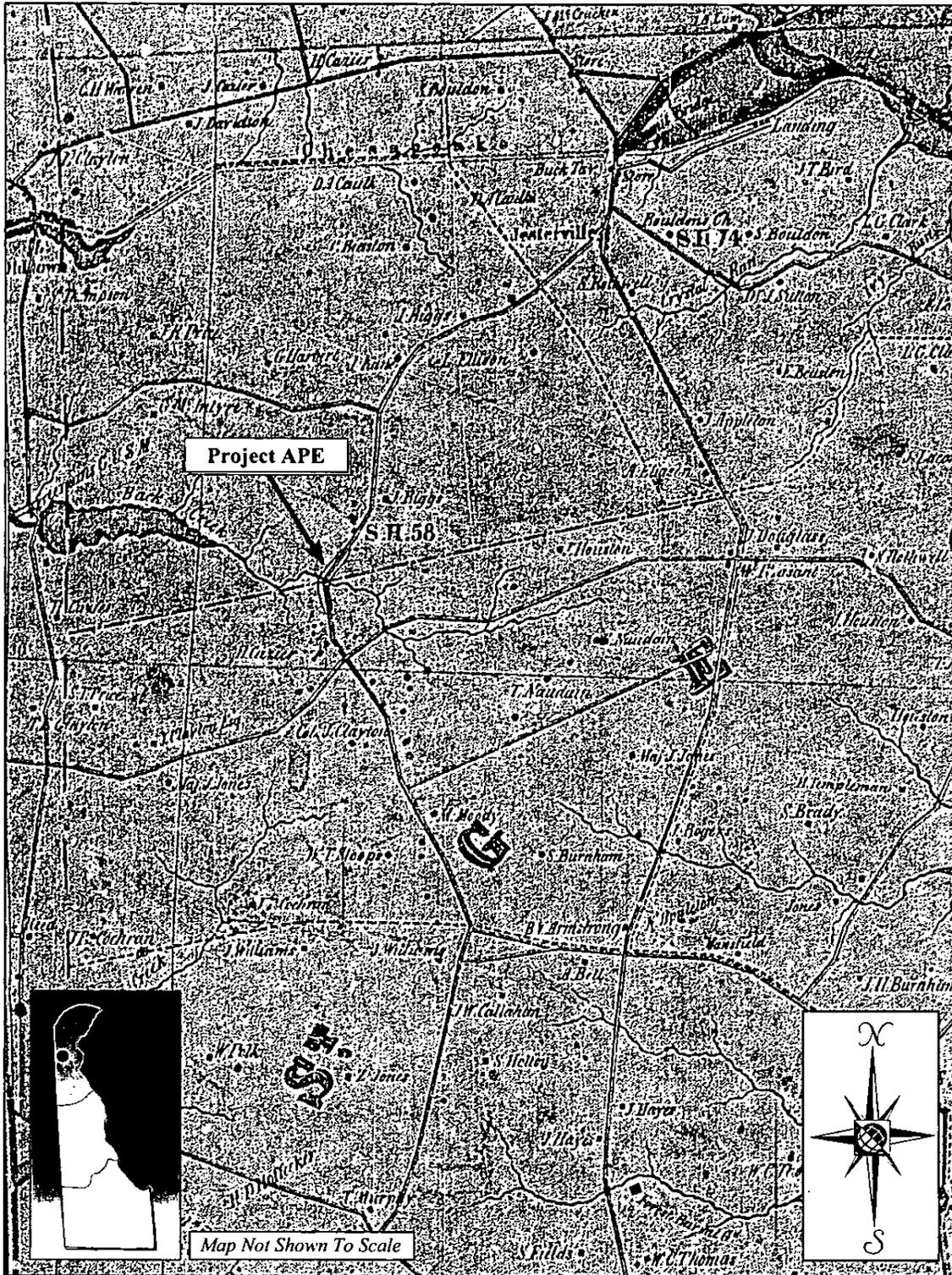
Catherine Eugenia met Samuel Dickey, a reverend from Oxford, Pennsylvania, and the two were married October 8, 1850 (Scharf 1888, 949). Catherine passed away March 16, 1862, leaving behind three children, Sallie Eugenia, born August 11, 1853, Mary Irvine, born August 21, 1857, and Henry Cazier, born February 3, 1860. Henry died August 17, 1868. Sallie and Mary took ownership of the 500-acre tract of land deeded by their mother and lived on the property.

Mary wed Samuel Price, who took control of the property. Their son, William, purchased the 453-acre property from Mary and Samuel for \$70,000.00 on September 14, 1906 (NCCC 1906a). While the boundaries of the new parcel followed the layout of Back Creek, Choptank Road, and

Table 1. Cazier / Dickey Property, Chain-Of-Title.

<u>Name</u>	<u>Date</u>	<u>Cost</u>	<u>Acres</u>	<u>References</u>
To: Drawyer Development LLC Fr: Barke LLC	8/16/1996	\$10.00	.82	DB 2161-284
To: Back Creek LLC Fr: Kenneth Kershaw et al	5/8/1996	\$763,449.00	239.5	DB 2149-21
To: Drawyer Development LLC Fr: Barke LLC	12/18/1995	\$169,500.00	3.5	DB 2028-124
*Churchtown Partners merges with Barke LLC in 1993				
To: Churchtown Partners Fr: James McCully, Brian P. McCully, Virginia T. Douglass, James B. Tyler III, John W. Tyler, Jeanne J. Sparks, Douglas E. Ernest Jr., and Elizabeth P. Drummond	11/1/1989	\$1,925,250.00	453	DB 950-299
To: James B. Tyler, Margaret T. McCully, Virginia T. Douglass, Jeanne J. Sparks, Douglas E. Ernest, and Elizabeth P. Drummond Fr: Arthur L. Price	12/23/1980		453	LWT 95392
*James B. Tyler passes his 1/6 interest to sons James III and John W.				
To: Arthur L. Price Fr: William Price	1943		453	LWT 30737
To: William Price Fr: Mary E. & Samuel B. Price	9/14/1906	\$70,000.00	453	DB Z-20-2
* Mary E. Price is the daughter of Catherine.				
To: Catherine Eugene Dickey Fr: Henry Cazier	6/22/1855		500	LWT X-1-293
To: Henry Cazier Fr: Farmers Bank of the State of Delaware	3/25/1835	\$6,000.00	553	DB U-4-22

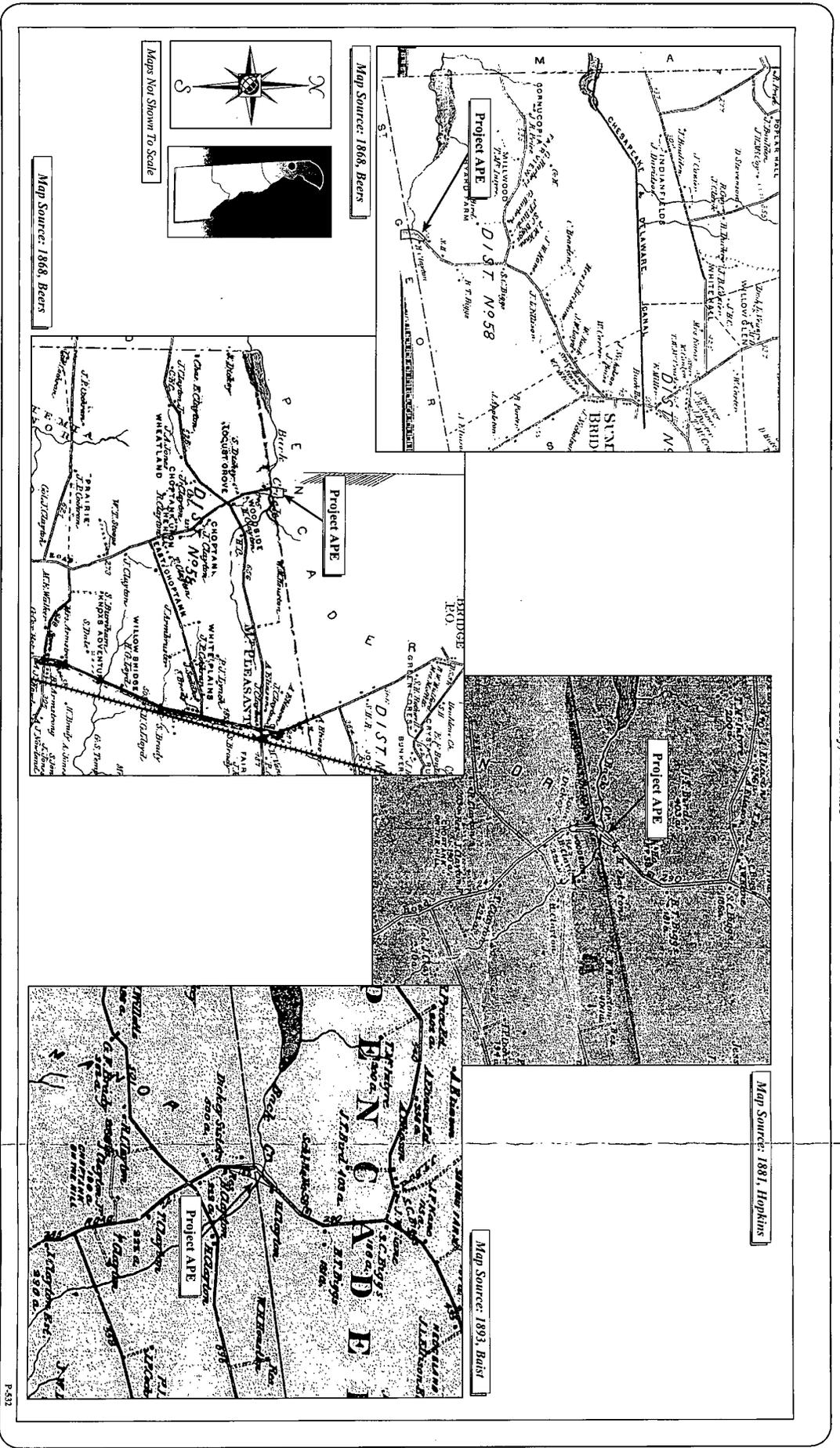
Figure 6
Bridge 377 Project APE, circa 1849
 Bridge 1-377 on N435 Over Back Creek
 New Castle County, Delaware



Map Source: 1849, Rea and Price

P-532

Figure 7
 Historic Maps Showing Bridge 377 Project APE
 Bridge 1-377 on N435 Over Back Creek
 New Castle County, Delaware



Bridge 1-377 on N435 Over Back Creek
 Phase I Cultural Resources Survey

Churchtown Road, the property line on the west side of the tract shifted with the loss of acreage (NCCC 1906a). Arthur L. Price, William's son, received ownership of the Dickey Farm in 1951, as per the stipulation of his father's last will and testament (NCCC 1943). Arthur's Last Will and Testament, dated December 23, 1980, stipulated that the Dickey Farm be divided in equal shares among his nephews, James B. Tyler and Douglas E. Ernest, and nieces, Margaret T. McCully, Virginia T. Douglass, Jeanne J. Sparks, and Elizabeth P. Drummond (NCCC 1980). The Dickey Farm was subsequently sold through a series of corporations and landholders, eventually being subdivided and parceled into a housing development.

4.3.2 Henry Clayton Property

The northeastern and southeastern quadrants of the APE were once part of a plantation owned by Joshua Clayton. The earliest deed reference to the Clayton property begins with the sale of 212 acres of land, known as "Woodside," from Joshua Clayton to Nathaniel Young on February 18, 1873 (NCCC 1849). Nathaniel Young held the property as a trustee for Joshua because the deed stipulated that the land could be returned to Joshua at any time (NCCC 1849:86). Nathaniel's tenure as trustee was dissolved by 1873, and the deed transferred the 212-acre tract to Joshua and Martha Clayton as owners and Henry Clayton as recipient of the land (NCCC 1873). The Woodside plantation was bordered to the south by lands owned by Joshua Clayton and J. P. Cochran, to the east by land owned by W. H. Houston, and to the north by land owned by B. T. Biggs (Table 2). This tract of land contains both the northeast and southeast quadrants of the Bridge 377 project APE (Figure 7).

Henry Clayton passed away in January, 1896, leaving Woodside to his wife, Margaretta (NCCC 1895). Henry made a provision in his will that the ownership of the property should be given to his two sons, Richard Thomas and Henry Lockwood, in the event of Margaretta's death, to be administered by the Equitable Guarantee and Trust Company of Delaware (NCCC 1895, 37). Both Richard Thomas and Henry Lockwood died without children, and the Woodside plantation passed to Mary Naudain Eliason, John M. Naudain, and Lydia L. Francis (NCCC 1906b, 750). Mary Eliason and Lydia Francis, sold their interest in the plantation to John Naudain on June 21, 1919, for \$9,333.34 (NCCC 1919a). Fannie H. Naudain, the widow of John Naudain, sold the property to John S. Morrison on December 1, 1932, effectively transferring the property out of

Table 2. Henry Clayton Property, Chain-Of-Title.

<u>Name</u>	<u>Date</u>	<u>Cost</u>	<u>Acres</u>	<u>References</u>
To: Medford L. & Janice A. Marshall Fr: William Bowe	8/1/1985			DB 263-287
To: William Bowe Fr: Herbert & Katheryn Schmolze	11/20/1977			DB W-95-331
To: Herbert & Katheryn Schmolze Fr: Dunhill Corporation	7/9/1964			DB H-73-665
To: Dunhill Corporation Fr: William Donald Thompson				DB T-71-600
To: William D. Thompson Fr: John S. Morrison	10/2/1950			DB D-50-415
To: John S. Morrison Fr: Fannie H. Naudain, William H. & Annetta B. Naudain, Helen Naudain and George Hoffa	12/1/1932			DB N-38-208
To: John M. Naudain Fr: William C. and Mary N. Eliason, & Robert M. and Lydia L. Francis	6/21/1919	\$9,333.34	212, 2/3 interest	DB P-28-457
To: Mary Naudain Eliason, John M. Naudain, and Lydia Louise Francis Fr: Margaretta R. Clayton	4/17/1906		212, each receiving 1/3 interest	LWT K-3-750
To: Margaretta R. Clayton Fr: Henry Clayton	11/15/1895		212	LWT S-2-36
To: Henry Clayton Fr: Joshua & Martha Clayton	2/18/1873	\$1.00	212	DB L-14-413
To: Nathaniel Young Fr: Joshua Clayton	10/24/1849	\$5.00	212	DB C-6-85

family ownership (NCCC 1932). The Clayton property transferred ownership several more times throughout the twentieth century, being split up and parceled by subsequent owners to its current form.

4.3.3 *Bayard Farm*

Encompassing lands in the northwest corner of Bridge 377, the Bayard Farm was purchased by Aaron Ross from Sheriff John Stockton on February 2, 1790, at public auction (NCCC 1790) (Table 3). This tract of land, including a brick dwelling, consisted of 413 acres of tilled fields, marsh and wooded land. Ross lost the property as a result of outstanding debt, and Sheriff Maxwell Bines sold the farm to James A. Bayard for £1,600 at public auction on April 15, 1800 (NCCC 1800a). Bayard purchased an additional 60-acre parcel contiguous with the western boundary of the first tract of land for £51 on October 31, 1800 from Sheriff Bines (NCCC 1800b).

Richard H. Bayard, the son of James A. Bayard, received the 402-acre tract of land from his father. On January 16, 1834, Richard sold the land to James T. Bird and Henry Cazier, two area landowners (NCCC 1834a). Five months later, Henry Cazier sold his one-half interest in the property to James T. Bird, effectively giving Bird control of the land (NCCC 1834b) (Figure 7). James T. Bird farmed the land and raised two children, Susan and Levi. With James' death, the land passed on to Susan and Levi, with each child receiving one-half interest in the property (NCCC n.d., 74). Susan sold her interest back to Levi on March 20, 1888, leaving him as sole heir to the Bayard Farm (NCCC 1888).

Levi C. Bird willed the Bayard farm to his stepson, John Kent Kane, who took possession of the farm, now 450 acres, on September 4, 1902 (NCCC 1902). Kane and his wife, Margaret, worked the land for seventeen years, eventually selling the 450 acres to Elwood B. Griffinberg for \$1.00 (NCCC 1919b). Griffinberg sold off some of his land holdings, yet purchased the adjacent School District No. 58 lands from the State Board of Education of the State of Delaware for \$150.00 on November 23, 1923 (NCCC 1923). He sold the new tract, reduced back to 402 acres, to Elbert D. Griffinberg on May 15, 1939 for \$66.00 (NCCC 1939). Paul Millikin purchased the

Table 3. Bayard Property, Chain-Of-Title.

<u>Name</u>	<u>Date</u>	<u>Cost</u>	<u>Acres</u>	<u>Reference</u>
Parcel I				
To: Choptank Associates, LLC	3/21/00	\$1.00	413.53	DB 2811-313
Fr: Charles M. & Suzanne K. Carter, Catherine M. Carter, Phyllis C. Wallis, and Paul H. Carter				
To: Charles M. Carter	1/5/99	\$1.00	413.53	DB 2568-151
Fr: Betty Piser, Guardian of the property of Viola B. Carter				
* This parcel consists of a series of other parcels subdivided and recombined within the Carter family between 1980 and the present. To facilitate the chain-of-title, much of the property exchange up to the current land incarnation will be excluded.				
Parcel II				
To: Catherine M. Carter Stansky	12/23/1997	\$10.00	2.452	DB 2382-0010
Fr: Michael A. Stansky				
To: Charles M. and Suzanne K. Carter	9/25/1992	\$10.00	2.452	DB 1403-14
Fr: Michael A. Stransky and Catherine M. Carter Stransky				
* This parcel consists of a series of other parcels subdivided and recombined within the Carter family between 1980 and the present. To facilitate the chain-of-title, much of the property exchange up to the current land incarnation will be excluded.				
Parcel III				
To: Charles M. & Suzanne K. Carter	3/21/2000	\$1.00	50	DB 2811-298
Fr: Choptank Associates, LLC				
* This parcel consists of a series of other parcels subdivided and recombined within the Carter family between 1980 and the present. To facilitate the chain-of-title, much of the property exchange up to the current land incarnation will be excluded.				
To: Howard R. and Lilla Viola Carter	4/4/1949	\$10.00	402	DB X-48-597
Fr: Paul Milliken				
To: Paul Milliken	12/14/1944	\$25,000.00	402	DB R-44-268
Fr: Elbert D. and Elizabeth J. Griffinberg				
To: Elbert D. Griffinberg	5/15/1939	\$66.00	402	DB M-41-436
Fr: Elwood B. Griffinberg				

Table 3. Bayard Property, Chain-Of-Title. (cont.)

*Includes school property.				
To: Elwood B. Griffinberg Fr: State Board of Education of the State of Delaware	11/23/1923	\$150.00	unknown	DB O-32-18
* Sold School District No. 58 land.				
To: Elwood B. Griffinberg Fr: John Kent and Margaret Kane, wife	4/22/1919	\$1.00	450	DB E-28-578
To: John Kent Kane Fr: Levi C. Bird	9/4/1902		450	LWT Z-2-90
To: Levi C. Bird Fr: Susan E. Johnson and Robert F., husband	3/20/1888		½ interest	DB E-14-2
To: Levi C. Bird Fr: James T. Bird			½ interest	LWT I-2-73
* Other ½ interest of property goes to Levi's sister, Susan E. (Bird) Johnson.				
To: James T. Bird Fr: Henry Cazier	6/10/1834	\$3350.00	402	DB R-4-542
To: James T. Bird and Henry Cazier Fr: Richard H. Bayard and wife	1/16/1834	\$6700.00	402	DB R-4-456
To: James A. Bayard Fr: Maxwell Bines, Sheriff	10/31/1800	£51	60	DB Z-2-501
To: James A. Bayard Fr: Maxwell Bines, Sheriff	4/15/1800	£1600	413	DB Z-2-494
To: Aaron Ross Fr: John Stockton, Sheriff	2/19/1790	£1702	413	DB I-2-16

402-acre tract from Elbert and Elizabeth Griffinberg on December 14, 1944 (NCCC 1944). Five years later, Milliken sold the tract to Howard and Lilla Viola Carter for \$10.00 (NCCC 1949). Between 1979 and 1992, Lilla Viola Carter distributed her land holdings to her children, Charles M., Catherine M., Paul H. Carter, and Phyllis C. Wallis. In some cases, Betty Piser, guardian of Lilla Viola Carter, acted as her representative. Land transactions were numerous, involving both the original 402 acres of land, as well as smaller 10- to 15-acre tracts incorporated by the children (Table 3).

5.0 RESEARCH DESIGN AND METHODOLOGY

5.0 RESEARCH DESIGN AND METHODOLOGY

The long history of Native American and Euroamerican occupation of the area requires various considerations for the research design of the Bridge 377 Cultural Resources Survey. This section will present the potential for prehistoric and historic cultural resources, and the methodologies used to evaluate this potential.

5.1 Prehistoric Archaeological Site Potential

Portions of the southwestern, northeastern and southeastern, quadrants of the project APE fall within the floodplain of Back Creek, which feeds into the Chesapeake & Delaware Canal. One documented prehistoric site, 7NC-F-14, a Woodland I Period (3000 B.C.-A.D. 1000) site, resides on a first terrace on the north side of Back Creek. This site is estimated to be 500.0 meters (1640.4 ft) from the proposed bridge project APE. There is a strong possibility that cultural remains associated with this site might exist within the project APE.

Predictive models for Woodland I and II Period sites in this area suggest that well-drained knolls along minor and ephemeral drainages were favored settings for procurement sites (Catts et al. 1990). As such, similar topographic settings within and around the project APE have a high potential for Woodland Period sites. There is low potential for earlier cultural periods of prehistoric occupation within and around the project APE. Although Paleo-Indian and Archaic settlement patterns focused on similar geographical conditions, they did not exhibit intensive settlement as during the Woodland I Period (Custer 1984).

5.2 Historic Archaeological Site Potential

This project APE has a high probability for containing historic resources. Although there were no standing historic structures within the APE, two former structures in the proximity of the APE are shown on three nineteenth-century maps (Beers 1868; Hopkins 1881; Baist 1893) (Figure 7). One of these structures, near the northeast portion of the APE, lists H. Clayton as the landowner. Although this structure was still standing as late as 1893, it is no longer extant. Another former structure is shown in the vicinity of the southwest portion of the APE near Back Creek. This latter structure is not labeled with a landowner on the Beers map of 1868. However, the Hopkins

map of 1881 labels the structure as being owned by S. Dickey. The Baist map of 1893 labels this latter structure and the main house (located just to the south) as "Dickey Sisters." The fact that the second dwelling first appears on the 1868 Pomeroy and Beers map and is unlabeled denotes the possibility that it may have served as something other than a residence (e.g., a mill, tenant house, or an outbuilding) under the ownership of the Dickey family.

In a 1993 cultural resources survey for the Route 301 Corridor study, Siders et al. (1993) documented 11 potential historic archaeological sites within a 4.0-kilometer (2.5-mi) radius of the Bridge 377 project APE. Seven of the potential sites were categorized under agricultural contexts (farms), with three related to the rebuilding of St. George's Hundred (farms) and one listed as education related (school house) (Siders et al 1993, 90-92). These potential archaeological sites date from 1830 to 1940, reflecting a period in New Castle County of agricultural decline with a corresponding increase in industrialization and urbanization. Given the number of categorical and date-specific potential historic archaeological sites documented in a restricted area, historic archaeological sites of a similar context and time frame would be expected to be present in the Bridge 377 project APE.

5.3 Historic Structures

Research into the history and development of this area revealed that there are no historic structures present within the project APE. However, the project APE includes parcels of land that were once part of larger historic farmsteads. The dwellings associated with the historic farmsteads were discussed within this document (Background Research, Section 4.2). These other resources were previously surveyed as part of other studies. Background research, including written documentation, historic map evaluation, deed research, and preparation of a chain-of-title, supported the conclusion that there were no historic structures within the project APE.

5.4 Archaeology Methods

An initial pedestrian survey of the Bridge 377 project APE was conducted in order to identify potential boggy, wetland and heavily disturbed areas with low archaeological potential. This

overview was also performed to determine the presence of any above-ground indicators of archaeological resources within the project APE.

Despite the presence of steep, eroded banks and graded landscape associated with the road cut, there is the possibility of intact archaeological resources, albeit disturbed or deeply buried, held within the lands surrounding the APE. The proximity of a documented prehistoric site warranted the placement of initial shovel test pit excavations (STPs) at 15.0-meter (49.2-ft) intervals within the Bridge 377 project APE. This sampling procedure was applied to low probability areas as well to provide a thorough cross-section of soil stratigraphy and artifact concentrations within the APE.

The STPs measured 50 centimeters (19.7 in) in diameter. Soils were excavated by stratum and screened separately, with soil profile information, including soil texture and color, recorded on standardized forms. All soils were screened through 0.64-centimeter (0.25-in) hardware cloth to recover artifacts. All STPs were backfilled upon completion of each test, and STP locations plotted on a scale map of the APE. The APE and its surroundings were photographed during Phase I excavations.

Artifacts and faunal material were washed and labeled according to the *Interim Guidelines for Sampling and Curation of Archaeological Collections* issued by the DESHPO. All artifacts were cataloged into a computerized database. Historic artifacts were entered into the database and were categorized by functional group associations (e.g., Household Group, Architectural Group, Activities Group, etc.) following South's model (1977). Prehistoric artifacts were classified by lithic type: debitage (flakes and shatter), cores, tools, and cobble tools.

5.5 Architectural Methods

On October 29, 2000, a field view at the project site was held with state agency staff from DESHPO and DelDOT, USACOE, project consulting engineers, and A. D. Marble & Company staff. The project area was also subjected to a windshield survey earlier in October 2000 and again in November 2000. All accessible roads within the project area were driven and any potentially historic buildings were noted on USGS Topographic Quadrangle maps.

During the windshield survey, no standing structures that were observed within the project vicinity, other than the previously recorded historic properties, are over 50 years old. The project area land parcel boundaries shown on tax maps indicate that none of the surrounding historic properties are within the APE. Consequently, our survey effort was generally confined to the APE. This focused approach is justified by the 1999 ACHP regulations, which provide some general guidance on required level of survey. For example, the ACHP regulations state that “he Agency Official shall make a reasonable and good faith effort to carry out appropriate identification efforts, ... [t]he Agency Official shall take into account ... the magnitude and nature of the undertaking and the degree of [Federal involvement], the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the area of potential effects... (36 CFR 800.4(b)(1)).”

6.0 FIELD RESULTS

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6.1 Phase I Archaeological Investigation

To simplify the archaeological fieldwork, the project APE was divided into four quadrants. Each quadrant will be discussed separately in the following summary. A total of 32 STPs were excavated within the Bridge 377 project APE. The locations of these test excavations are presented in Figure 8. A summary artifact catalog is presented in Appendix C.

6.1.1 *Southwestern Quadrant*

Ten STPs were excavated in the southwestern quadrant of the project APE (Figure 8). The southern portion of the southwestern quadrant had been subject to extensive grading and filling during construction of a nearby golf course and the soil profile exhibited a large amount of fill (Photograph 2). STPs 1W through 4W contained a range of 50.0- to 80.0-centimeter (19.7- to 31.5-in) thick surface horizon of dark yellowish brown (10YR 4/4) fill (Fill 1). Historic ceramics recovered from Fill 1 of these STPs include redware (n=6), blue painted underglaze and undecorated vitreous china (n=11), and transfer-print and undecorated whiteware (n=19). Other artifacts excavated from this fill horizon include vessel glass (n=26), window glass (n=19), bottle glass (n=9), brick fragments (n=18) and nails (n=12), all dating from the mid-nineteenth to twentieth century (Appendix C). Below the fill horizon, a soil (B2), ranging from 30.0 to 60.0 centimeters (11.8 to 23.6 in) thick, was a strong brown to reddish yellow (7.5YR 4/6-6/8) coarse sand subsoil (B-horizon). No artifacts were recovered from the B2 soils in STPs 1W-4W. A culturally sterile yellowish brown to light yellowish brown (10YR 5/4-6/4) coarse sand to clayey sand subsoil (C-horizon) was found underlying the B-horizon (Figure 9).

Soil profiles in STPs 5W through 9W reflected the erosion and deposition of the lowland area (Figure 9). The surface horizon consisted of a dark brown (10YR 2/2-3/3) loamy sand fill averaging between 20.0 and 38.0 centimeters (7.9 and 15.0 in) thick. In common with the up-slope STPs, the lowland surface fill horizon contained a variety of ceramics, vessel glass, modern refuse, and architectural debris dating from the mid-nineteenth to twentieth century. This fill horizon was also designated Fill 1 to maintain transect continuity, but was related to roadway construction, and not golf course landscaping found in STPs 1W through 4W.

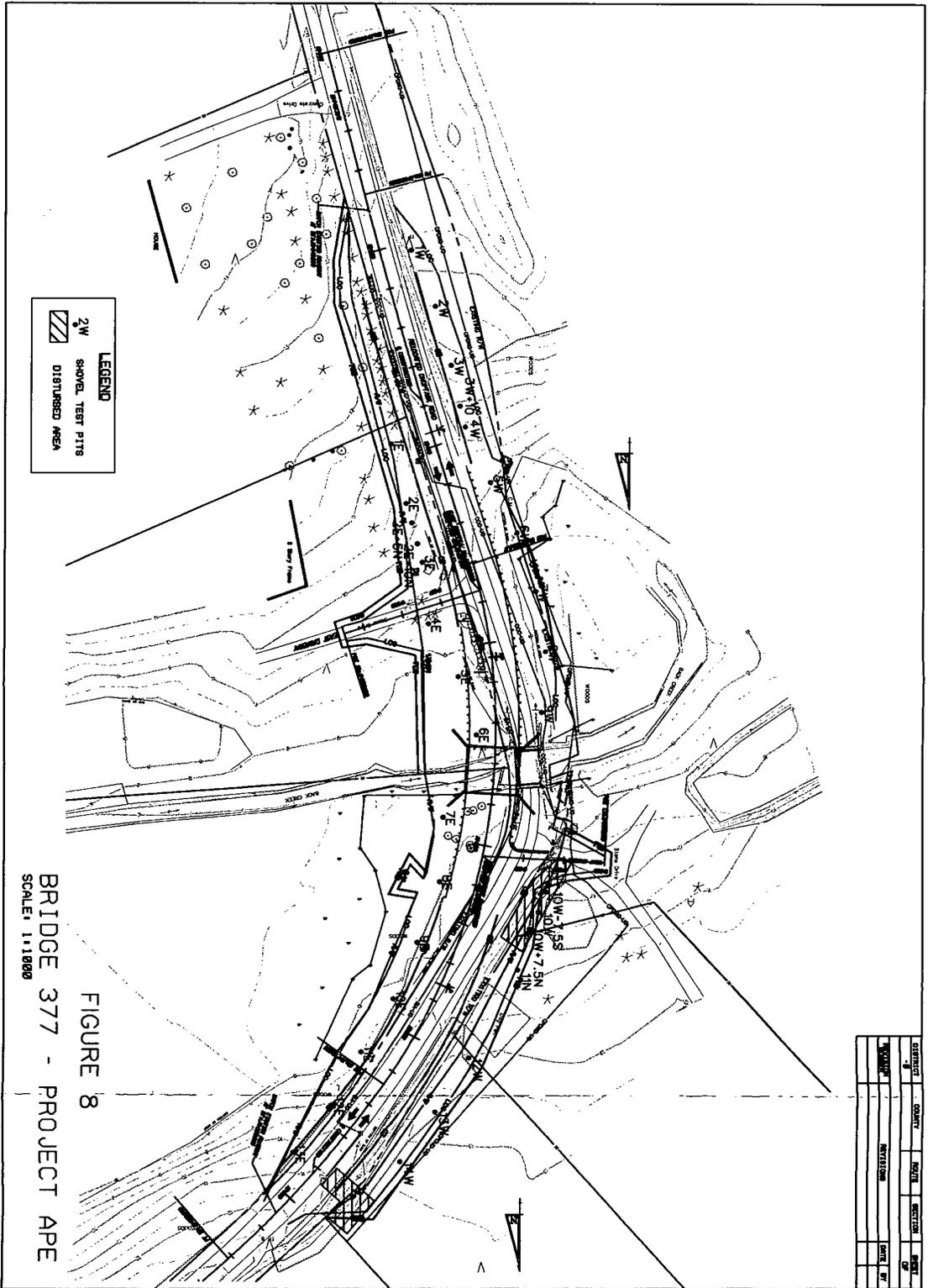


Figure 9
 Southwestern Quadrant Soil Profiles
 Bridge 1-377 on N435 Over Back Creek
 New Castle County, Delaware

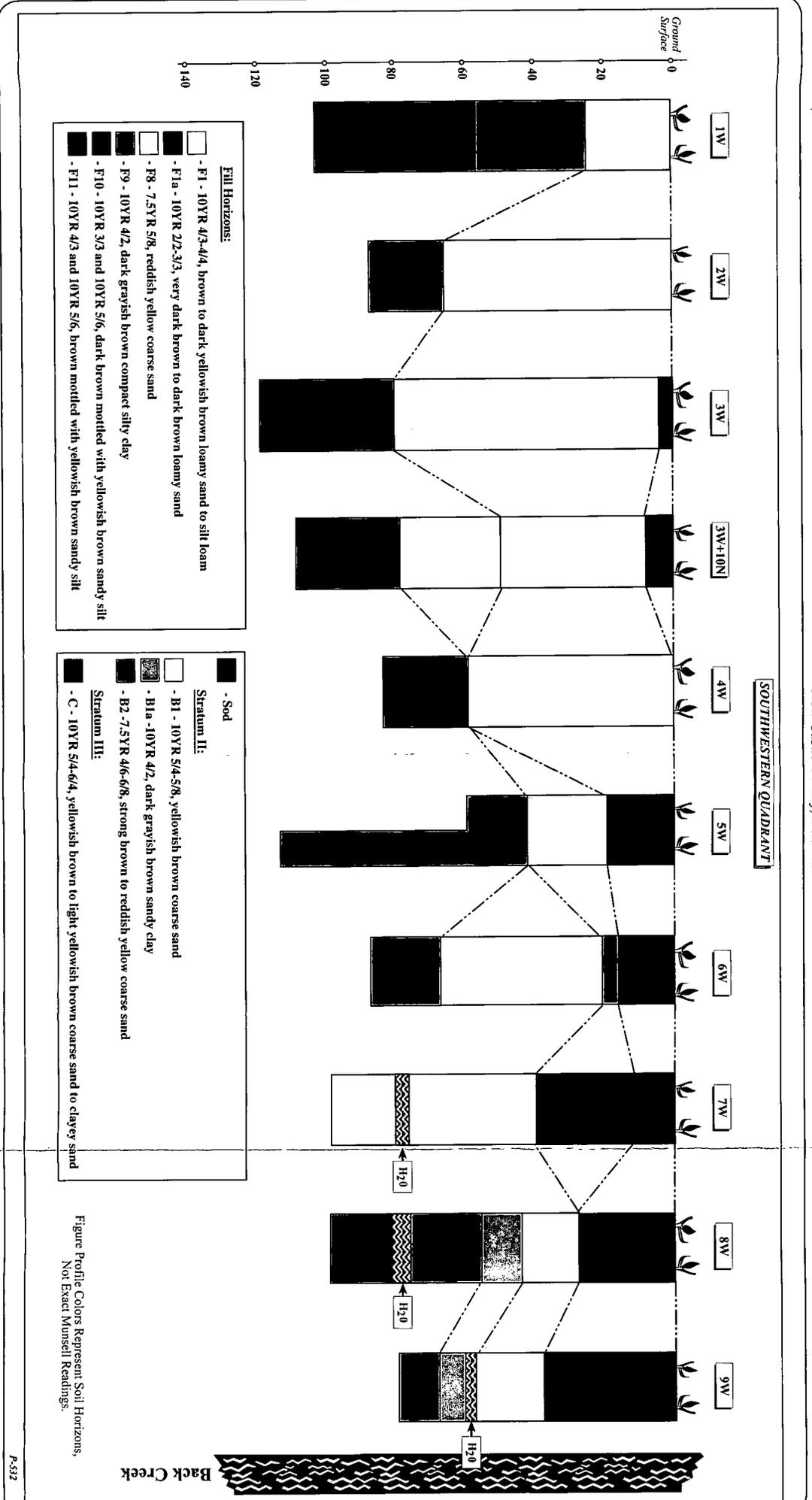


Figure Profile Colors Represent Soil Horizons,
 Not Exact Munsell Readings.



Photograph 2: Southwestern (right) and southeastern (left) quadrants of the project APE, view facing south (December 2000).

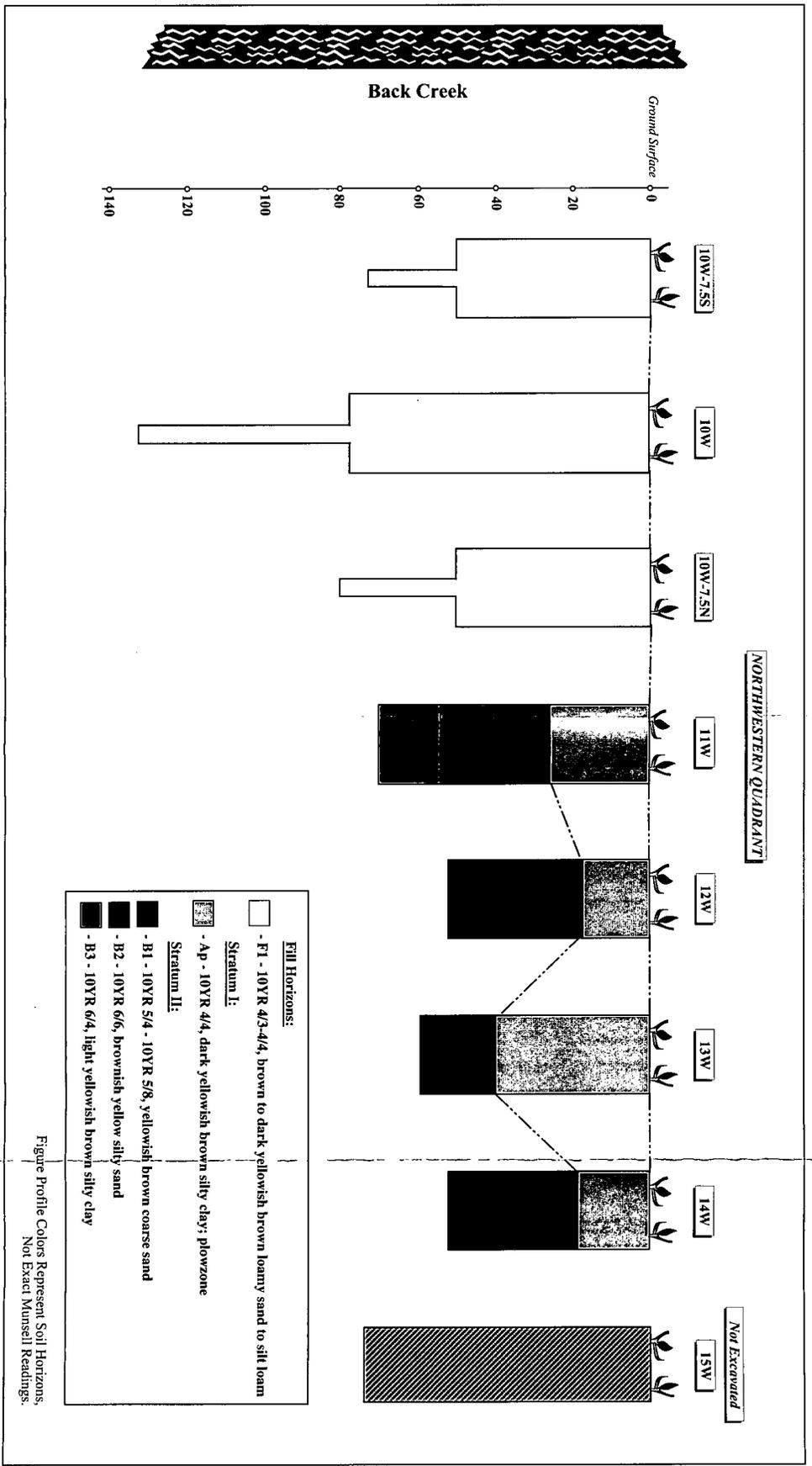
STPs 5W through 7W exhibited a series of narrow fill episodes below the Fill 1 cap with a minimal number of historic artifacts (n=12) (Figure 9). A yellowish brown (10YR 5/6-5/8) coarse sand, designated as B1, was noted below the fill horizons. In STP 6W, one utilized jasper pebble fragment was found between 21 and 68 centimeters (8.3-26.8 in) below the surface in the B1 horizon. A second B-horizon, B2, was encountered below the B1-horizon. This B2-horizon and a subsequent C-horizon found in STPs 5W through 9W are the same soils found in STPs 1W through 4W (Figure 9).

6.1.2 Northwestern Quadrant

Seven STPs were excavated in the northwestern quadrant (Figure 8). STPs 11W, 12W, 13W and 14W exhibited a consistent pattern of a 25.0- to 50.0- centimeter (9.8- to 19.7-in) thick, dark yellowish brown (10YR 4/4) silty clay plowzone (Ap); this stratum was overlying a yellowish brown (10YR 5/4-5/6) silty clay subsoil (B-horizon). STP 11W contained two additional B-horizons below the yellowish brown silty clay: a brownish yellow (10YR 6/6) silty sand between 40.0 and 54.0 centimeters (15.7 and 21.2 in) below the ground surface, and a light yellowish brown (10YR 6/4) silty clay from 54.0 to 70.0 centimeters (21.2 to 27.5 in) below the previous stratum. Two redware sherds were found in the Ap-horizon of STP 13W.

STPs 10W-7.5S, 10W, and 10W+7.5N at the south end of the northwest quadrant revealed severe ground disturbance (Figure 10) (Photograph 3). A gas pipeline was noted in the immediate test area, and the slope of the land has been graded to accommodate a driveway entrance and utility poles. These three STPs exhibited one contiguous level of a dark yellowish brown (10YR 4/4) sandy loam fill throughout the soil horizon, extending as deep as 134.0 centimeters (52.7 in) below the surface (Figure 10); no subsoil was encountered in these three STPs. A single chert flake was uncovered within the fill matrix in STP 10W, approximately 40.0 centimeters (15.7 in) below the surface. No other prehistoric artifacts were found in the northwestern quadrant.

Figure 10
Northwestern Quadrant Soil Profiles
 Bridge 1-377 on N435 Over Back Creek
 New Castle County, Delaware



Bridge 1-377 on N435 Over Back Creek
 Phase I Cultural Resources Survey



Photograph 3: Northwestern (left) and northeastern (right) quadrants of the project APE, view facing north (December 2000).

6.1.3 *Northeastern Quadrant*

A total of seven STPs were excavated in the northeastern quadrant (Figures 8 and 11) (Photograph 3). As this section of the project APE skirted swampy, wooded lowlands, much of each soil profile consisted of a 40.0- to 60.0-centimeter (15.7- to 23.6-in) thick, dark yellowish brown to yellowish brown (10YR 4/6-5/4), wet silty clay B-horizon subsoil overlain by a variety of sandy fill horizons. The fill horizons correspond with raised land associated with the roadbed. STPs 7E, 8E, and 9E, located on the floodplain, quickly filled with water and were abandoned. Two STPs, 9E and 10E, contained C-horizon soils, which were gray to light olive brown (2.5Y 5/1-5/4) clay.

Test pits in the northeastern quadrant produced a limited number of artifacts. The fill horizons contained a low number of historic ceramics (n=2), but yielded a proportionally large number of modern vessel glass (n=25) and bottle glass (n=39) fragments. Other artifacts included unidentifiable fasteners (n=10) and other assorted modern debris (n=12) (Appendix C). Two flakes, one quartz and one chert, were found in an STP 13E fill layer between 0.0 and 18.0 centimeters (0.0 and 7.1 in) below the ground surface. No artifacts were found in the B- or C-horizon soils.

6.1.4 *Southeastern Quadrant*

Eight STPs were excavated across the southeastern quadrant (Figures 8 and 12). Soils in the southeastern quadrant were similar in composition and stratification to soils in the southwestern quadrant (Photograph 2). STPs located on the uplands of the southeastern quadrant, 1E through 4E, consisted of a soil ranging from 10.0 to 25.0 centimeters (3.9 to 9.8 in) thick. This soil was a dark grayish brown to brown (10YR 4/2-4/3) silt loam to silty clay fill top horizon (Fill 1), and was overlying a 25.0- to 50.0-centimeter (9.8- to 19.7- in) thick, strong brown to reddish brown (7.5YR 5/6-6/8) coarse sand subsoil (B2). The B2-horizon was replaced in STP 2E+10N, STP 3E, STP 4E, and STP 6E with a soil 10.0 to 40.0 centimeters (3.9 to 15.7 in) thick, of a dark yellowish brown (10YR 4/4) silty clay subsoil horizon (B1). STPs in the floodplain, 5E and 6E, contained a yellowish brown (10YR 5/6) silty sand fill top horizon overlying subsoil. In general, C-horizon subsoils were characterized as light olive brown to olive yellow (2.5Y 5/6-6/6), with consistency ranging from gravelly sand in the uplands to clay in the floodplain. Interestingly, a

Figure 11
 Northeastern Quadrant Soil Profiles
 Bridge I-377 on N435 Over Back Creek
 New Castle County, Delaware

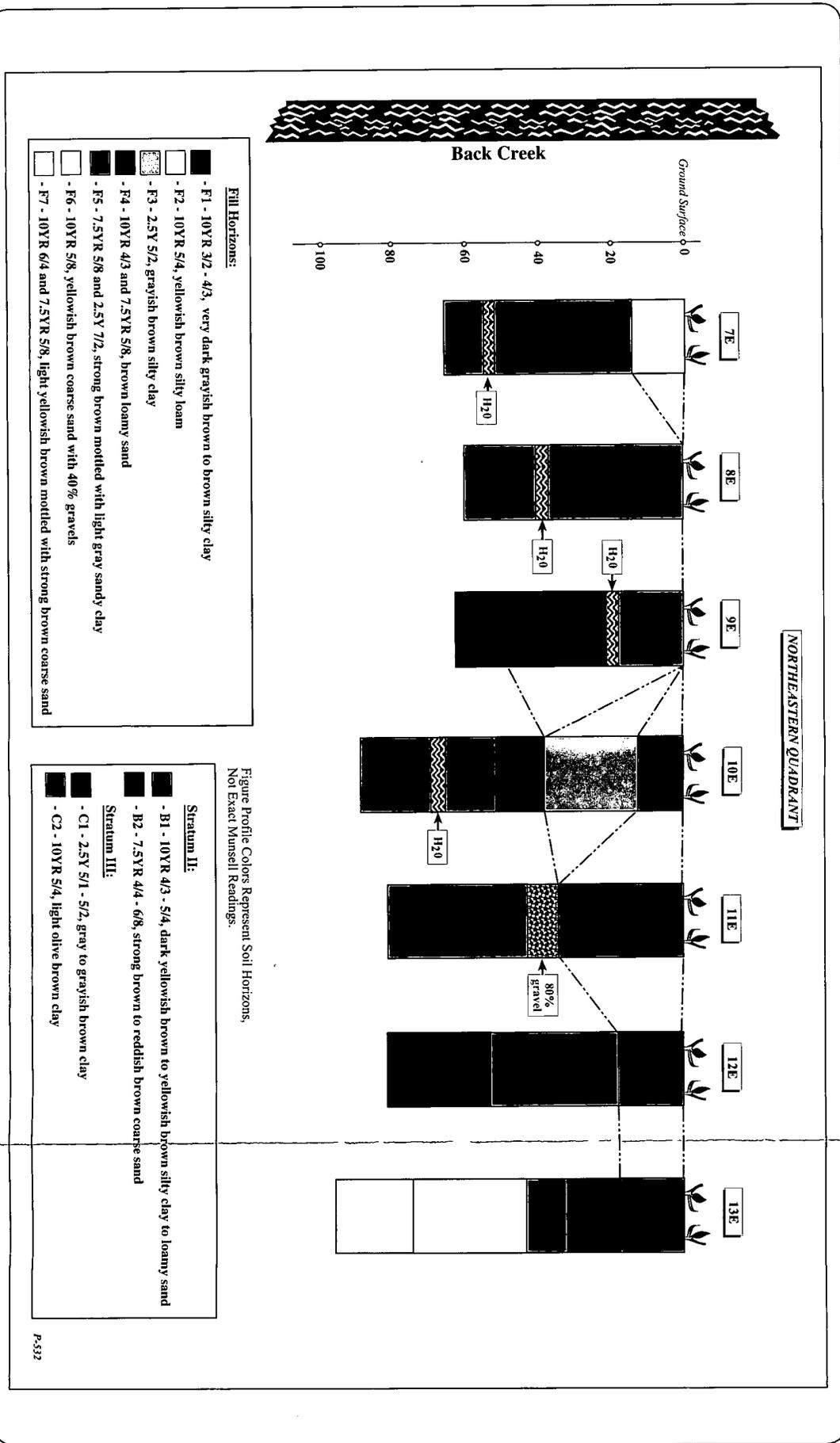


Figure 12
Southeastern Quadrant Soil Profiles
 Bridge 1-377 on N435 Over Back Creek
 New Castle County, Delaware

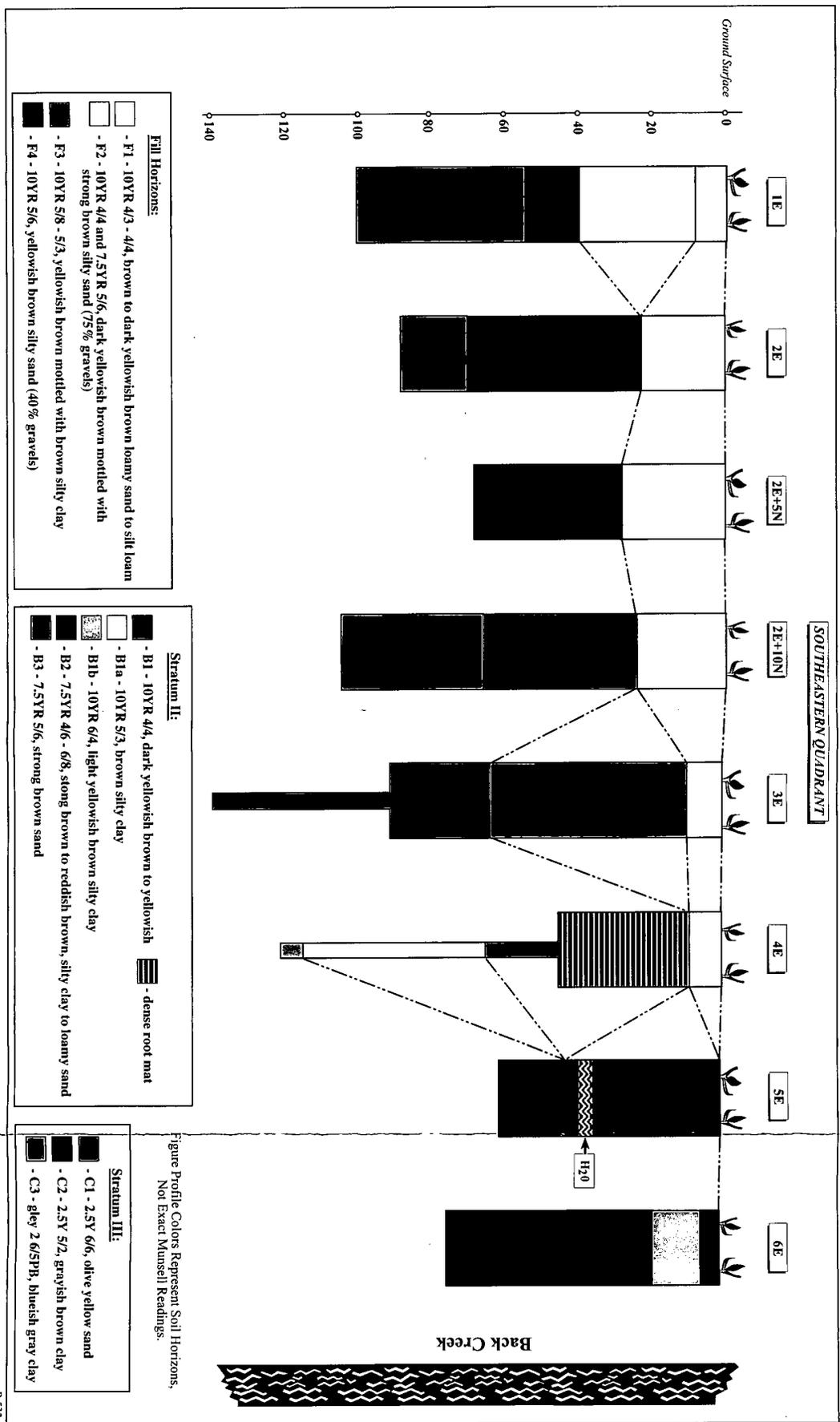


Figure Profile Colors Represent Soil Horizons,
 Not Exact Munsell Readings.

bluish gray (Gley 2 6/5PB) marine clay C-horizon subsoil was noted at 114.0 centimeters (44.9 in) below ground surface in STP 4E.

Artifacts were generally limited to disturbed fill horizon deposits. Historic artifacts were limited to the fill horizons; although, three clear vessel glass fragments and one nail were uncovered in root disturbance associated with a dense root mat between 9.0 and 44.0 centimeters (3.5 and 17.3 in) in the B-horizon of STP 4E. A variety of historic ceramics, vessel glass, heavily corroded nails, a kaolin pipe stem fragment, and coal were uncovered in the southeastern quadrant (Appendix C). Eleven prehistoric lithics were also recovered from the disturbed fill horizon soils of the southeastern quadrant. One lithic, a small jasper flake, was found between 24.0 and 66.0 centimeters (9.4 and 26.0 in) below surface in the B-horizon subsoil of STP 2E+10N. No other prehistoric artifacts were uncovered in the B-horizon of any STPs in the southeast quadrant.

6.1.5 Evaluation of Test Results

Test results revealed the presence of both historic and prehistoric artifacts within the Bridge 377 project APE. No intact, subsurface features or artifact deposits related to historic or prehistoric activities were encountered within the project APE. A total of 504 historic artifacts, consisting of mid-nineteenth to twentieth-century ceramics, architectural fasteners, a pipe stem fragment, vessel and bottle glass, window glass, brick fragments, and modern debris were found in a variety of fill horizons related to grading activities associated with a nearby golf course and housing development, as well as road improvements. Fifteen prehistoric artifacts, consisting of jasper, quartz, and chert materials, were also encountered in the project APE. No prehistoric ceramics or projectile points were recovered during excavations. One jasper pebble tool (found in the southwestern quadrant) and one jasper flake (located in the southeastern quadrant) were found below the fill horizons in B-horizon soils. No other prehistoric artifacts were encountered in B-horizon or C-horizon soils throughout the project APE.

6.2 Historic Structures Survey

As defined in 36 CFR Part 800.4(a) (1) and 36 CFR 800.4(b) (1), the Historic Structures APE associated with this project has been defined as the geographic area within which the replacement of the existing Bridge 377 on N435 Over Back Creek, New Castle County,

Delaware, may cause direct or indirect changes in the character or use of identified *National Register* eligible or listed resources. The existing Bridge 377 has previously been determined ineligible for individual listing in the *National Register of Historic Places* (Appendix A).

The remainder of the project study area is characterized by recently constructed low level residential and commercial buildings located in visual range of the eastern and western ends of the project. The Historic Structures APE for this proposed project takes into consideration the potential visual and audible effects that replacing the current bridge may have on the character and setting of potentially eligible historic properties.

Bridge 377 is located at a slightly lower elevation than the most of the surrounding properties; thus, the bridge itself is not an important visual element in the local landscape. Three residences in the immediate vicinity are of late-twentieth-century construction. There are three modern houses on the east side of the road, to the east of the bridge. No. 1260 Choptank Road, was built in 1979, and two small brick houses just to the south of this date to approximately 1960-1970. A more recent house is located on the west side of the road, just north of the bridge. None of the residences meet the 50-year criterion for listing in the *National Register of Historic Places*, and none appear to qualify under Criteria Consideration G. Under Criteria Consideration G, a property achieving significance within the last fifty years is eligible if is of "*exceptional importance.*"

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.0 CONCLUSIONS AND RECOMMENDATIONS

The following is a summarized assessment of the significance of the potential impacts to the Bridge 377 project APE under the proposed bridge improvement plan, along with the appropriate recommendations.

7.1 Conclusions

7.1.1 Phase I Archaeological Investigation

Phase I archaeological investigations for the Bridge 1-377 on N435 Over Back Creek project, conducted within the APE and by A.D. Marble & Company, resulted in the finding of prehistoric and historic artifacts. Historic artifacts (n=504), characterized by a variety of mid-nineteenth to twentieth century ceramics, vessel and bottle glass, fasteners, and other historic debris, were found primarily in multiple fill horizons overlying intact subsoil (Appendix C). The collection of mid-nineteenth to early twentieth century ceramics, vessel glass, and bottle glass are indicative of a domestic occupation, and are likely associated with surrounding farmsteads, such as the Dickey Farm in the southwestern quadrant and the Clayton residence in the southeastern quadrant.

It is likely that construction activities associated with the golf course in the southwestern quadrant has stripped away the Ap-horizon and graded the area with fill containing artifacts from trash middens or other refuse deposits of the Dickey Farm. The southeast quadrant also appears to have had the Ap-horizon stripped away, and artifact-bearing graded fill was deposited. The construction of a modern house located next to Back Creek floodplain would require some landfilling to raise the living surface for a dwelling. Given the proximity of the Woodside plantation and the golf course construction, the presence of historic artifacts in the fill is not impossible. Nevertheless, the lack of any intact historic subsurface deposits or features, coupled with the extensive grading and filling activities associated with urban development and roadway improvements, suggests that it is highly unlikely any remnants of the dwellings, outbuildings, and / or associated farmstead components would have survived within the APE.

Prehistoric artifacts (n=15), composed of jasper, quartz, and chert, were also found in the project APE. Thirteen flakes were found within the fill horizons, while one jasper pebble tool, found in the southwestern quadrant, and one jasper flake, found in the southeastern quadrant, comprise the only prehistoric artifacts from the subsoil matrix. No prehistoric ceramics or projectile points were contained in the artifact assemblage. Given the close proximity of a documented prehistoric Woodland I Period site (7NC-F-14) to the project APE, prehistoric lithic debris would be expected within the APE. Yet, the paucity of lithic material found in the intact subsoil horizon, and the lack of any diagnostic tools or ceramics within the tested area, does not indicate the presence of a significant prehistoric site. Although the two lithics encountered in the subsoil and the lithics found in the graded fill do not exhibit any traits to positively identify their temporal affiliation, it is possible that they are associated to the Woodland I Period due to the proximity of 7NC-F-14.

7.1.2 Architectural Resources

Other than Bridge 377, which is not eligible, there are no standing historic structures within the project APE. Consequently, this project will have no effect on historic resources.

7.2 Recommendations

While the long prehistory and history of the area suggests multiple cultural occupations and high potential for archaeological/architectural remains, road improvement activities and recent urban development have heavily altered the landscape. Large farmsteads once surrounding Bridge 377 have been sold off and broken down into extensive housing developments. The construction of these housing developments, as well as the golf course, has altered the land through grading and filling. This comprehensive disturbance eliminates the possibility of intact cultural deposits within the APE.

While the number of prehistoric and historic artifacts encountered would suggest a site, the paucity of artifacts in an intact subsoil horizon, in conjunction with the absence of intact features or deposits, does not indicate intact, potentially significant prehistoric or historic resources within the project APE. No additional archaeological work is recommended. In the event that

the proposed Bridge 377 replacement would shift outside of the current APE, additional archaeological investigations would be advised.

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1849 *Deed Book C-6:85-88*. New Castle County Courthouse, Wilmington, Delaware.

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***APPENDIX A:
BRIDGE 377 SITE FORM***

1. NAME(S) OF STRUCTURE
State Bridge Number 377

2. DATE(S) OF CONSTRUCTION

2. LOCATION
Choptank Road over Back Creek
Chesapeake City, New Castle County, Delaware

4. USE (ORIGINAL/CURRENT)
Vehicular

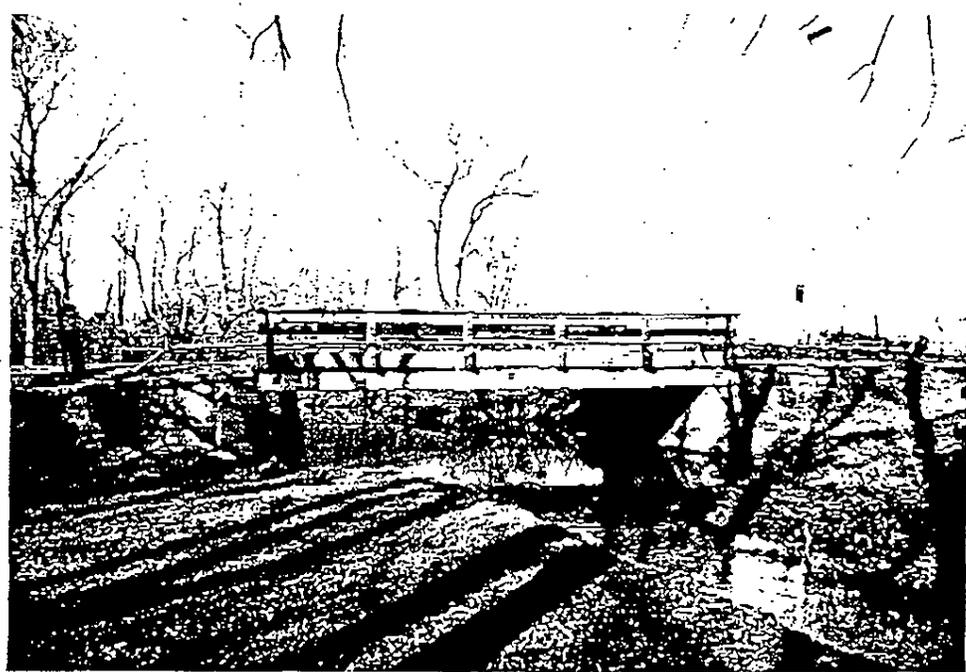
5. RATING
CG

6. CONDITION
Good

State Highway Bridge 377 is a concrete beam bridge with a single span length of 28'-0" built on a 5-10 degree skew. The superstructure consists of six prestressed concrete beams supported by a substructure of concrete abutments with flared semi-coursed rubble wing walls. The wing walls have been parged with concrete. A timber railing serves as the parapet.

Delaware Department of Transportation records for Bridge 377 do not document the date of construction. Drawings for the 1964 alteration show that the superstructure was replaced.

The superstructure of this bridge was replaced in 1964 with the existing prestressed concrete beams.



APPENDIX B:
OFFICIAL CORRESPONDENCE



NOV 06 2000

EY:.....

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. Box 778
DOVER, DELAWARE 19903

THOMAS R. CARPER
GOVERNOR

November 1, 2000

Daniel R. Griffith, Director
Division of Historic and Cultural Affairs
15 The Green
Dover, DE 19901

**RE: Project Initiation, Bridge 377, Choptank Road over Back Creek; State Contract:
20-071-10; Federal Aid No. EBROS-N435(1).**

Dear Mr. Griffith:

On behalf of the Federal Highway Administration (FHWA), the Delaware Department of Transportation (DelDOT) is initiating the above referenced project. This federally funded undertaking is subject to compliance with Section 106 of the National Historic Preservation Act, and its implementing regulations, 36 CFR Part 800. This letter serves to initiate consultation with the DE SHPO on this project (800.3(c)).

This project involves the replacement of BR 377 on Choptank Road. The bridge is located north of Middletown in New Castle County and carries country road 435 (Choptank Road) over Back Creek. The age of the original superstructure and stone masonry abutments is unknown, however, concrete encasement of the stone masonry abutments and replacement of the superstructure took place in 1964.

The existing structure consists of a one lane pre-stressed concrete slab bridge supported by stone masonry abutments encased in concrete. The bridge is 33 feet long with a span length of 28 feet and a deck width of 18 feet.

BR 377 serves a rural local road with a 1998 AADT of 932. This AADT will most likely increase significantly due to widespread housing and golf course construction in the area. The bridge is located in an area designated as Bike Route 1.

The preliminary plan for replacement calls for replacing the current structure with a pre-stressed concrete arch bridge, placing guardrails at bridge approaches, and placing riprap on streambed. The replacement bridge will provide two travel lanes and shoulders for bicycle and pedestrian use. Minor realignment will also be done to smooth the existing curve.

The bridge is considered structurally deficient and is ranked 108 on the deficiency ranking. This project will be handled under the Design-Build procedure. The projects categorical exclusion documentary (SEE REPORT) is included for your information.

On October 27, 2000, we met at the bridge site with Ms. Gwen Davis of your office, representatives from USACOE, DNREC, and the Design and Cultural Resource consulting staff, to introduce the project and to review the proposed action and project area.

Bridge 377 is considered not eligible in the Delaware Historic Bridge survey. There were no obvious historic architectural features in the immediate project area. Our consulting staff will be scheduling a visit to your office to review your files as they review and gather existing resource information, as a follow up to



the field review and comments from SHPO, COE and DNREC, our Design Staff will be evaluating opportunities to minimize limits of construction.

As details develop, we will schedule follow up meetings to assess the need for additional cultural resource survey for potential impact assessment.

In addition to the DE SHPO, we will contact New Castle County Land Use (Historic Preservation Department) for any comments regarding potential cultural resource issues.

By copy of this letter we request that the county, should they have an interest in participating in the formal Section 106 process as a consulting party, respond in writing with their request to the Federal Highway Administration.

At this time, DeIDOT is not aware of any other agencies, organizations, or individuals that may have an interest in the undertakings effect on cultural resources. If applicable, we request the DE SHPO's assistance in identifying any other government, organizations, or individuals that may wish to have an interest or desire to be consulting parties on the project (800.3(f)).

Additionally, DeDOT is scheduling public workshops, (first one currently planned for November 15th) to introduce the project and solicit comments from local property owners, local government representatives, and the general public. Please provide any further recommendations you might have for effectively involving the public in any Section 106 review for this undertaking (800.3(e)).

Based on the nature and extent of the undertaking, we define the area of potential effect as the limit of construction and/or the limit of any proposed right-of-way. We trust the DE SHPO will confirm the proposed APA (800.4(1)).

Please review the information our Department is providing on the undertaking. If there are questions, please contact Terry Fulmer, (302) 760-2095, of my section.

Sincerely,
OFFICE OF PRECONSTRUCTION



Michael A. Angelo
Assistant Director of Design Support

MAA/kjk (Attachment)

cc: Robert Kleinburd, FHWA
Dee Durham, Preservation Delaware, Inc.
Stephanie Bruning, New Castle County Department of Land Use
Joan Larrivee, Division Administrator, DE SHPO
Gwen Davis, DE SHPO
Raymond Harbeson, Chief Engineer
Chao Hu, Director, Preconstruction
Raymond Richter
Joe Jolly, CEI
Chris Baker, G & L
Lauren C. Archibald, ADM
Martin B. Reinbold, ADM

***APPENDIX C:
ARTIFACT CATALOG BY PROVIDENCE***

APPENDIX C
Artifact Catalog By Provenience

APF Bag#	APF Side	STP	Stratum	Level	Group	Description	Count	Secondary Description
1	West	STP 1W	Fill 1	0-25cm	Household Group	Amber Bottle Glass	3	Body Fragments.
2	West	STP 2W	Fill 1	0-66cm	Household Group	Amber Bottle Glass	1	Body Fragment.
3	West	STP 3W	Fill 1	4-81cm	Household Group	Clear Vessel Glass	2	Body Fragments.
3	West	STP 3W	Fill 1	4-81cm	Household Group	Blue Vessel Glass	1	Body Fragment.
3	West	STP 3W	Fill 1	4-81cm	Household Group	Red Earthenware	4	Body Fragments, Brown lead glazed interior/exterior.
3	West	STP 3W	Fill 1	4-81cm	Household Group	Vitreous China	1	Base Fragment.
3	West	STP 3W	Fill 1	4-81cm	Household Group	Vitreous China	5	Rim/Body Fragments, Undecorated.
3	West	STP 3W	Fill 1	4-81cm	Household Group	Vitreous China	1	Body Fragment, Blue Painted Under glaze Design.
3	West	STP 3W	Fill 1	4-81cm	Architectural Group	Clear Window Glass	2	
3	West	STP 3W	Fill 1	4-81cm	Architectural Group	Brick Fragments	4	
3	West	STP 3W	Fill 1	4-81cm	Miscellaneous Group	Lime Fragment	1	
3	West	STP 3W	Fill 1	4-81cm	Undentifiable	Iron Fragments	3	Heavily Corroded.
4	West	STP 4W	Fill 1	0-60cm	Household Group	Dark Olive Vessel Glass	12	Body Fragments.
4	West	STP 4W	Fill 1	0-60cm	Household Group	Amber Bottle Glass	1	Base Fragment.
4	West	STP 4W	Fill 1	0-60cm	Household Group	Clear Vessel Glass	3	Rim Fragments.
4	West	STP 4W	Fill 1	0-60cm	Household Group	Clear Vessel Glass	4	Body Fragments.
4	West	STP 4W	Fill 1	0-60cm	Household Group	Whiteware	1	Base Fragment.
4	West	STP 4W	Fill 1	0-60cm	Household Group	Vitreous China	3	Fragments, Undecorated.
4	West	STP 4W	Fill 1	0-60cm	Architectural Group	Clear Window Glass	4	
4	West	STP 4W	Fill 1	0-60cm	Architectural Group	Brick Fragments	4	
4	West	STP 4W	Fill 1	0-60cm	Architectural Group	Machine-Cut Nails	2	Heavily Corroded.
4	West	STP 4W	Fill 1	0-60cm	Architectural Group	Wire Nails	2	Heavily Corroded.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Amber Bottle Glass	1	Body Fragment.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Olive Vessel Glass	1	Body Fragment.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Clear Vessel Glass	3	Body Fragments.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Whiteware	1	Body Fragment, Blue Transfer Printed Floral Design, Under glaze.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Whiteware	2	Rim/Body Fragments, Blue Transfer Printed Stylized Design, Under glaze.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Vitreous China	1	Body Fragment, Blue Painted Stylized Design, Underside.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Whiteware	4	Rim/Body Fragments, Undecorated.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Whiteware	8	Fragments, Undecorated.
5	West	STP 3W+10N	Fill 1	8-50cm	Household Group	Whiteware	1	Fragment, Burned.
5	West	STP 3W+10N	Fill 1	8-50cm	Architectural Group	Clear Window Glass	10	

APPENDIX C
Artifact Catalog By Provenience

5	West	STP 3W+10N	Fill 1	8-50cm	Architectural Group	Brick Fragments	9	
5	West	STP 3W+10N	Fill 1	8-50cm	Architectural Group	Machine-Cut Nails	7	Heavily Corroded.
5	West	STP 3W+10N	Fill 1	8-50cm	Architectural Group	Wire Nail	1	Heavily Corroded.
5	West	STP 3W+10N	Fill 1	8-50cm	Architectural Group	Unidentifiable Fasteners	10	Heavily Corroded.
5	West	STP 3W+10N	Fill 1	8-50cm	Miscellaneous Group	Lime Fragment	1	
5	West	STP 3W+10N	Fill 1	8-50cm	Unidentifiable	Iron Fragments	5	Heavily Corroded.
6	West	STP 3W+10N	Fill 8	50-80cm	Household Group	Green Bottle Glass	3	Base/Body Fragments.
6	West	STP 3W+10N	Fill 8	50-80cm	Household Group	Whiteware	1	Body Fragment, Blue Painted Stylized Design, Under glaze.
6	West	STP 3W+10N	Fill 8	50-80cm	Household Group	Whiteware	1	Fragment, Undecorated.
6	West	STP 3W+10N	Fill 8	50-80cm	Household Group	Red Earthenware	2	Body Fragments, Brown lead glazed interior/exterior.
6	West	STP 3W+10N	Fill 8	50-80cm	Architectural Group	Clear Window Glass	3	
6	West	STP 3W+10N	Fill 8	50-80cm	Architectural Group	Brick Fragments	1	
6	West	STP 3W+10N	Fill 8	50-80cm	Miscellaneous Group	Lime Fragment	1	
7	West	STP 5W	Fill 1	0-20cm	Household Group	Amber Bottle Glass	1	Body Fragment.
7	West	STP 5W	Fill 1	0-20cm	Household Group	Green Bottle Glass	1	Body Fragment.
7	West	STP 5W	Fill 1	0-20cm	Household Group	Blue Vessel Glass	1	Body Fragment.
7	West	STP 5W	Fill 1	0-20cm	Household Group	Clear Vessel Glass	3	Body Fragments.
7	West	STP 5W	Fill 1	0-20cm	Household Group	Clear Vessel Glass	1	Neck Fragment, Threading.
7	West	STP 5W	Fill 1	0-20cm	Household Group	Red Earthenware	2	Body Fragments, Brown lead glazed interior.
7	West	STP 5W	Fill 1	0-20cm	Architectural Group	Wire Nail	1	Heavily Corroded.
8	West	STP 6W	Fill 1	0-16cm	Household Group	Amber Bottle Glass	12	Base/Body Fragments.
8	West	STP 6W	Fill 1	0-16cm	Household Group	Clear Bottle Glass	30	Base/Body Fragments.
8	West	STP 6W	Fill 1	0-16cm	Household Group	Clear Bottle Glass	1	Neck, With Metal Cap "GORDON'S"
8	West	STP 6W	Fill 1	0-16cm	Household Group	Whiteware	2	Base Fragments, Green/Red/Blue Painted Floral Design, Under glaze.
8	West	STP 6W	Fill 1	0-16cm	Household Group	Whiteware	1	Body Fragment, Undecorated.
8	West	STP 6W	Fill 1	0-16cm	Household Group	Whiteware	1	Body Fragment, Transfer-Printed Red Floral Design, Under glaze.
8	West	STP 6W	Fill 1	0-16cm	Household Group	Vitreous China	1	
8	West	STP 6W	Fill 1	0-16cm	Household Group	Vitreous China	2	Body Fragments, Undecorated.
8	West	STP 6W	Fill 1	0-16cm	Funeral	Clam Shell	1	
8	West	STP 6W	Fill 1	0-16cm	Funeral	Bone	1	
8	West	STP 6W	Fill 1	0-16cm	Activities Group	Battery Cores	11	
8	West	STP 6W	Fill 1	0-16cm	Travel Group	Auto License Plate	12	Heavily Corroded.

APPENDIX C
Artifact Catalog By Provenience

						Fragments		
8	West	STP 6W	Fill 1	0-16cm	Unidentifiable	Metal Mesh	3	
8	West	STP 6W	Fill 1	0-16cm	Unidentifiable	Circular Metal Object	1	Heavily Corroded
8	West	STP 6W	Fill 1	0-16cm	Miscellaneous Group	Plastic	5	Plastic Fragments.
9	West	STP 6W	Strat. II	68cm	Prehistoric	Utilized Jasper Pebble Fragment	1	Flaked, Used as a Cutting Tool.
10	West	STP 7W	Fill 1	0-12cm	Household Group	Clear Vessel Glass	6	Body Fragments.
10	West	STP 7W	Fill 1	0-12cm	Household Group	Lamp Glass	1	
11	West	STP 7W	Fill 2	20-40cm	Household Group	Clear Bottle Glass	57	Base/Rim/Body Fragments.
11	West	STP 7W	Fill 2	20-40cm	Household Group	Clear Vessel Glass	3	Rim Fragments, Threading.
11	West	STP 7W	Fill 2	20-40cm	Household Group	Amber Bottle Glass	4	Body Fragments.
11	West	STP 7W	Fill 2	20-40cm	Household Group	Pale Blue Vessel Glass	1	Body Fragment.
11	West	STP 7W	Fill 2	20-40cm	Household Group	Vitreous China	2	Rim/Body Fragments, red and white.
11	West	STP 7W	Fill 2	20-40cm	Miscellaneous Group	Plastic	1	Plastic Fragment.
12	West	STP 8W	Fill 1	0-28cm	Household Group	Aqua Bottle Glass	3	Base/Body Fragments.
12	West	STP 8W	Fill 1	0-28cm	Household Group	Amber Bottle Glass	19	Base/Body/Neck Fragments.
12	West	STP 8W	Fill 1	0-28cm	Household Group	Clear Vessel Glass	19	Body Fragments.
12	West	STP 8W	Fill 1	0-28cm	Household Group	Lamp Glass	2	
12	West	STP 8W	Fill 1	0-28cm	Household Group	Vitreous China	1	Body Fragment, Pink Transfer Printed Floral Design, Under glaze.
12	West	STP 8W	Fill 1	0-28cm	Architectural Group	Unidentifiable Fasteners	10	Heavily Corroded.
12	West	STP 8W	Fill 1	0-28cm	Miscellaneous Group	Plastic	1	Plastic Wrapper Fragment.
12	West	STP 8W	Fill 1	0-28cm	Unidentifiable	Iron Fragments	5	Heavily Corroded
13	West	STP 9W	Fill 1	0-38cm	Household Group	Vitreous China	1	Rim Fragment, Embossed Stylized Design, Slightly Shell Edged.
13	West	STP 9W	Fill 1	0-38cm	Household Group	Clear Vessel Glass	1	Body Fragment.
13	West	STP 9W	Fill 1	0-38cm	Architectural Group	Spike	1	Heavily Corroded.
13	West	STP 9W	Fill 1	0-38cm	Architectural Group	Wire	2	Steel Wire Fragments, Corroded.
13	West	STP 9W	Fill 1	0-38cm	Unidentifiable	Iron Fragments	4	Heavily Corroded.
14	West	STP 10W	Fill 1	All	Prehistoric	Chert Secondary Flake	1	
15	West	STP 13W	Strat. I	0-40cm	Household Group	Red Earthenware	2	Rim/Body Fragments, Brown Lead Glazed Interior.
16	East	STP 2E+5N	Fill 1	0-28cm	Household Group	Red Earthenware	1	Body Fragments, Brown Lead Glazed Interior/Exterior.
16	East	STP 2E+5N	Fill 1	0-28cm	Household Group	Red Earthenware	1	Body Fragments, Brown Lead Glazed Interior.

APPENDIX C
Artifact Catalog By Provenience

16	East	STP 2E+5N	Fill 1	0-28cm	Activities Group	Pipe Stem Fragment	1	
16	East	STP 2E+5N	Fill 1	0-28cm	Miscellaneous Group	Coal Fragment	1	
17	East	STP 3E	Fill 1	0-10cm	Prehistoric	Jasper Flake Fragments	5	
17	East	STP 3E	Fill 1	0-10cm	Prehistoric	Chert Flake Fragment	1	
18	East	STP 3E	Fill 2	10-63cm	Household Group	Red Earthenware	5	Rim/Body Fragments, Brown Lead Glazed Interior/Exterior.
18	East	STP 3E	Fill 2	10-63cm	Household Group	Red Earthenware	6	Rim/Body Fragments, Brown Lead Glazed Interior.
18	East	STP 3E	Fill 2	10-63cm	Architectural Group	Unidentifiable Fasteners	2	Heavily Corroded.
18	East	STP 3E	Fill 2	10-63cm	Unidentifiable	Iron Fragment	1	Heavily Corroded.
18	East	STP 3E	Fill 2	10-63cm	Prehistoric	Jasper Tertiary Flakes	2	
18	East	STP 3E	Fill 2	10-63cm	Prehistoric	Jasper Spaw/Decortication Flake	1	Heat
18	East	STP 3E	Fill 2	10-63cm	Prehistoric	Quartz Flake Fragment	1	
19	East	STP 2E+10N	Fill 1	0-24cm	Household Group	Red Earthenware	2	Fragments, Unglazed.
19	East	STP 2E+10N	Fill 1	0-24cm	Household Group	Red Earthenware	1	Body Fragment, Brown Lead Glazed Interior.
19	East	STP 2E+10N	Fill 1	0-24cm	Household Group	Red Earthenware	5	Rim/Body Fragments, Brown Lead Glazed Interior/Exterior.
19	East	STP 2E+10N	Fill 1	0-24cm	Household Group	White ware	1	Body Fragment, Blue Painted Floral Design, Under glaze.
19	East	STP 2E+10N	Fill 1	0-24cm	Household Group	Vitreous China	1	Body Fragment, Grey and Blue.
20	East	STP 2E+10N	Strat. II	24-66cm	Prehistoric	Jasper Flake Fragment	1	Heat Treated.
21	East	STP 4E	Strat. II	9-44cm	Household Group	Clear Vessel Glass	3	Base/Body Fragments.
21	East	STP 4E	Strat. II	9-44cm	Architectural Group	Unidentifiable Nail	1	Heavily Corroded.
22	East	STP 5E	Fill 3	0-42cm	Household Group	Amber Bottle Glass	3	Body Fragments.
22	East	STP 5E	Fill 3	0-42cm	Household Group	Clear Vessel Glass	1	Body Fragment.
23	East	STP 7E	Fill 2	0-13cm	Household Group	Clear Vessel Glass	1	Body Fragment.
23	East	STP 7E	Fill 2	0-13cm	Architectural Group	Unidentifiable Fasteners	10	Heavily Corroded.
23	East	STP 7E	Fill 2	0-13cm	Unidentifiable	Iron Fragment	1	Heavily Corroded.
24	East	STP 10E	Fill 3	12-38cm	Household Group	Amber Bottle Glass	24	Base/Body Fragments.
24	East	STP 10E	Fill 3	12-38cm	Household Group	Amber Bottle Glass	3	Base Fragments, Fit together "MADE IN CANADA..... WALKERVILLE CANADA.....HIRAM WALKER &....."
24	East	STP 10E	Fill 3	12-38cm	Household Group	Amber Bottle Glass	1	Body Fragment, ".....SALE.....TLE....."
24	East	STP 10E	Fill 3	12-38cm	Household Group	Green Bottle Glass	5	Body Fragments.
24	East	STP 10E	Fill 3	12-38cm	Household Group	Green Bottle Glass	2	Neck Fragments, Threading.

APPENDIX C

Artifact Catalog By Provenience

24	East	STP 10E	Fill 3	12-38cm	Household Group	Clear Vessel Glass	21	Base/Body Fragments.
24	East	STP 10E	Fill 3	12-38cm	Miscellaneous Group	Plastic	3	Plastic Fragments.
25	East	STP 11E	Fill 1	0-34cm	Household Group	Violet Vessel Glass	1	Body Fragment.
25	East	STP 11E	Fill 1	0-34cm	Household Group	Amber Bottle Glass	1	Body Fragment.
25	East	STP 11E	Fill 1	0-34cm	Household Group	Whiteware	1	Body Fragment, Blue Painted Stylized Design, Under glaze.
25	East	STP 11E	Fill 1	0-34cm	Household Group	Whiteware	1	Fragment, Undecorated.
25	East	STP 11E	Fill 1	0-34cm	Household Group	Whiteware	1	Fragment, Undecorated.
25	East	STP 11E	Fill 1	0-34cm	Miscellaneous Group	Rubber Fragment	1	
25	East	STP 11E	Fill 1	0-34cm	Unidentifiable	Iron Fragments	5	Heavily Corroded.
26	East	STP 13E	Fill 1	0-18cm	Household Group	Amber Bottle Glass	3	Body Fragments.
26	East	STP 13E	Fill 1	0-18cm	Household Group	Clear Vessel Glass	2	Fragments.
26	East	STP 13E	Fill 1	0-18cm	Prehistoric	Quartz Flake Fragment	1	
26	East	STP 13E	Fill 1	0-18cm	Prehistoric	Chert Flake Fragment	1	
26	East	STP 13E	Fill 1	0-18cm	Miscellaneous Group	Plastic	1	Plastic Fragment.
26	East	STP 13E	Fill 1	0-18cm	Unidentifiable	Iron Fragment	1	Heavily Corroded.
Total Historic:							504	
Total Prehistoric:							15	
Grand Total:							519	

APE West Historic Total: 380
Prehistoric Total: 2

APE East Historic Total: 124
Prehistoric Total: 13

APPENDIX D:
QUALIFICATIONS OF RESEARCHERS

Scott A. Emory
Maritime Archaeologist/Principal Investigator

Mr. Emory has the experience and training to work on prehistoric and historic archaeological sites, as well as underwater archaeological sites. He has directed and supervised Phase I, II, and III site studies and conducted archaeological excavations throughout New Jersey, Delaware, Pennsylvania, Virginia, and Maryland, and Bermuda. Mr. Emory has directed bridge replacement projects, shipyard documentation and investigation, highway planning, construction, and expansion, shipwreck investigations, and wetland mitigation. He is fully experienced with underwater archaeological documentation procedures and is certified by the American Academy of Underwater Sciences. While trained as an underwater archaeologist, Mr. Emory is also experienced with historic ceramic analysis.

Education

- 2000 M.A., Maritime History and Nautical Archaeology, East Carolina University
- 1991 B.A., Anthropology, University of Delaware

Amy K. Fanz
Field Director

Ms. Fanz has the experience and training to work on prehistoric and historic period archaeological sites. She has directed and supervised Phase I, II, and III site studies and conducted archaeological excavations throughout the Mid-Atlantic and Southeast regions of the United States. Ms. Fanz has directed a variety of projects for different clientele, including pipeline realignments, military base, highway planning, construction, and expansion. She is experienced in lithic analysis and ethnobotany.

Education

1988 B.A. Anthropology, University of Denver

David L. Weinberg
Archaeologist

Mr. Weinberg is experienced in directing and conducting all phases and aspects of archaeological excavations, laboratory processing and curation. He has conducted archaeological excavations throughout Delaware, Maryland, New Jersey, New York, North Carolina, Pennsylvania, Virginia, and Connecticut, within urban and rural settings. He has authored and co-authored cultural resource management reports and is skilled in field, studio and architectural photography. He has experience in soil description, characterization and site cartography. Mr. Weinberg is also experienced with the preparation of Section 106, NHPA, and ARPA documents. Areas of special interest include nineteenth century burial practices and historic ceramics.

Education

1984 BA, Anthropology/Archaeology, Geology (minor), University of Delaware

