INTRODUCTION

The purpose of this report is to describe and present the results of Phase II archaeological research of the Chesapeake and Delaware Canal (C&D Canal) bridge replacement section of the State Route 1 Corridor in New Castle County, Delaware (Figure 1). As part of archaeological research into the entire 46 mile long State Route 1 highway project, Phase I archaeological survey of a 6.4 mile section of the proposed highway right-of-way (Figure 2) identified nine archaeological sites that required further examination to determine their eligibility for the National Register of Historic Places for compliance under section 106 of the National Historic Preservation Act (Hodny, Bachman, and Custer 1989). This report is the second in a series on archaeological research of the C&D Canal section of State Route 1 and continues the work of Hodny, Bachman, and Custer (1989). Future reports will be issued for final excavations of any significant sites impacted by highway construction.

HISTORY OF RESEARCH

Archaeological research of the State Route 1 Corridor began in the early 1980s with a preliminary study of the archaeological potential for the large area within which the proposed highway would be located (Custer et al. 1984; Custer and Bachman 1986; Custer, Bachman, and Grettler 1986). Predictive models were developed for prehistoric archaeological sites and documents and maps were studied to identify historical occupations and land use. After a specific corridor for the highway was selected, archaeological field work began. Sites were identified on the basis of shovel test pitting and walk-over of plowed fields. The presence of prehistoric artifacts, cultural soils, or historical debris characterize archaeological sites. The State Route 1 Corridor has been studied in segments defined by the Delaware Highway Department (DelDOT) construction schedule (Bachman, Grettler and Custer 1988; Custer, Bachman, and Grettler 1987; Grettler, Bachman, and Custer 1991; Hodny, Bachman, and Custer 1989). Phase II studies follow site identification and investigate the extent, depth, and preservation of archaeological deposits. From the Phase II studies, the significance of a site and its potential for nomination to the National Register of Historic Places can be assessed. If a site is significant to prehistory or history, then steps must be taken to either protect the site from damage by construction or the information contained in the archaeological deposits must be preserved by archaeological excavation and analysis. This report presents the results of Phase II investigations at nine sites in the State Route 1 Corridor right-of-way.

ENVIRONMENTAL SETTING

Geology and Geomorphology

The study area is located on Delaware's Upper Coastal Plain (Figure 3), which extends from the Piedmont Fall Line to the Smyrna River (Custer 1984; Custer and Bachman 1986). The High

FIGURE 1

Location of the State Route 1 Corridor

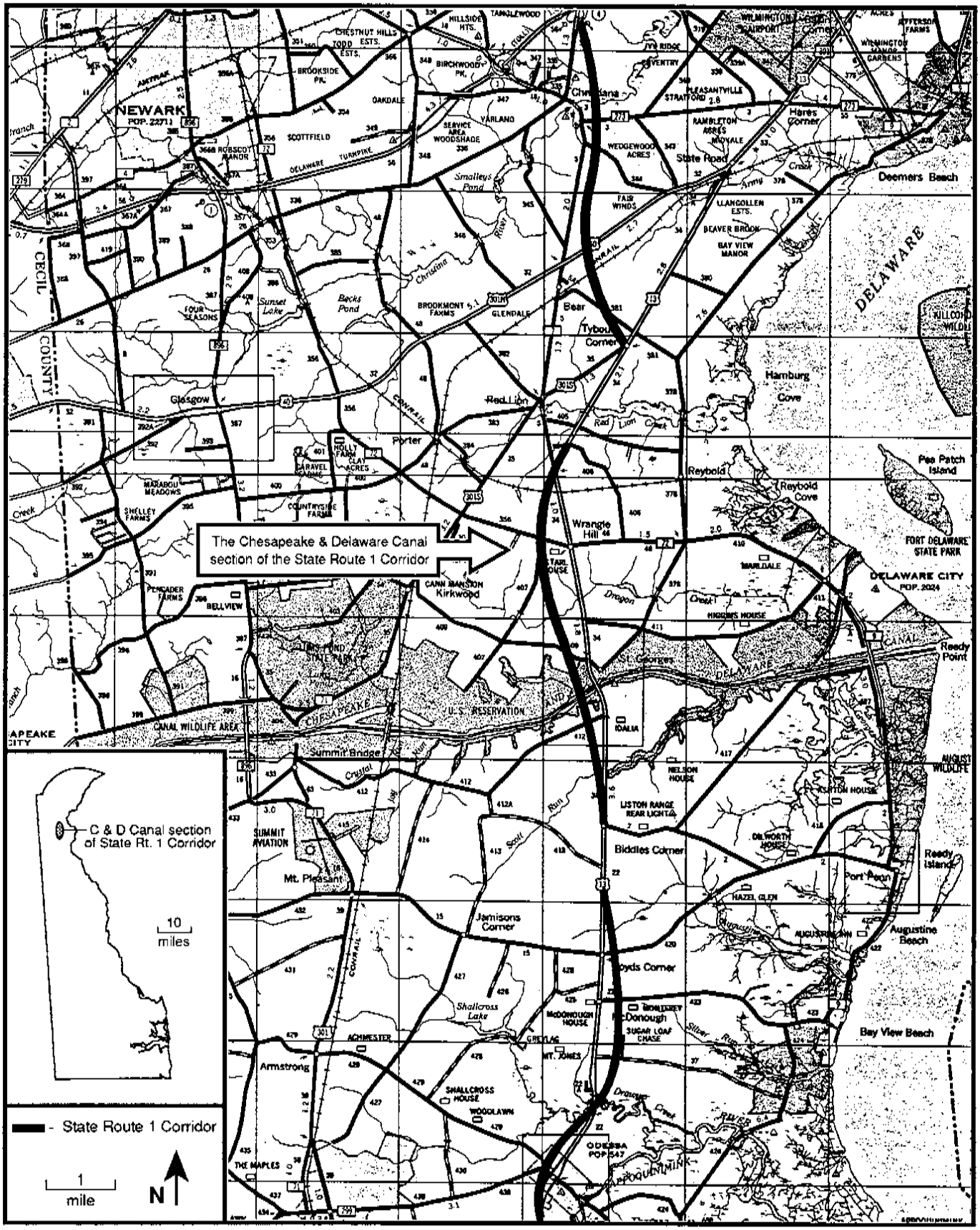
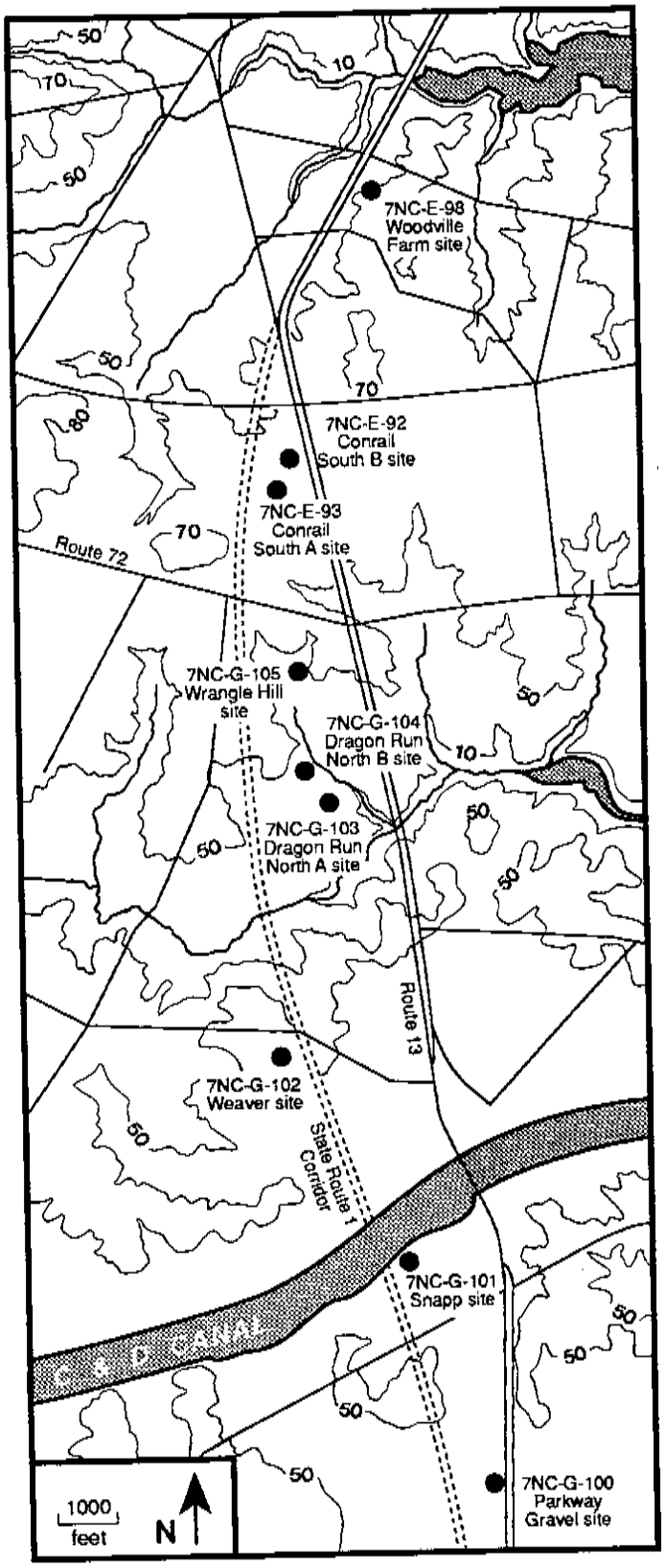


FIGURE 2

Location of the Chesapeake and Delaware Canal Segment of the State Route 1 Corridor

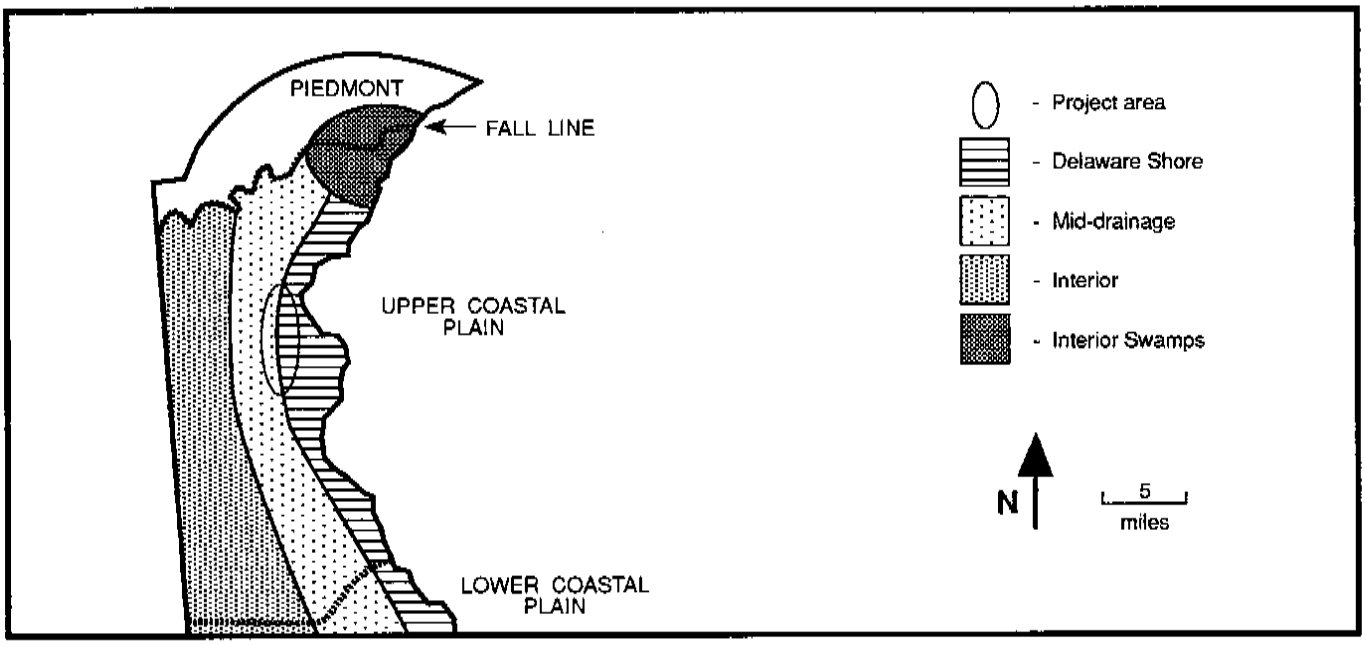


Coastal Plain is formed by the southeastern extension of coarse gravels of Pleistocene age (2 million years old and younger) into Delaware known as the Columbia Formation (Jordan 1964:40). The topography is rolling and elevation differences range up to 16 meters (50 feet) where headlands bordering streams overlook adjacent floodplain marshes. The elevation differences are sufficient to support different plant communities and animal species (Braun 1967:246-247). Watercourses are deeply incised and filled with a wedge of relatively recent sediments that thickens towards Delaware Bay (Kraft et al. 1976:13). Most streams are tidal and the freshwater/ saltwater mix allows for a wide range of resources. Soils form a mosaic of well-drained and poorly-drained settings distributed across the landscape. The Upper Coastal Plain can be divided into several zones running parallel to Delaware Bay (Figure 3). The study area straddles the border between the Delaware Shore and the Mid-drainage subdivisions (Hodny, Bachman, and Custer 1989:7-9).

Delaware Shore: The Delaware Shore zone includes terrace remnants of the Delaware River and tidal marshes that fringe the Delaware River and Delaware Bay. Marshes dominate the area and often extend well inland from the river and bay shore. Soils in the area are generally poorly drained; however, pockets of well-drained soils may be found on higher elevations. The State Route 1 Corridor study area under consideration here includes only the western extensions of this zone. Only the eastern edges of the project area are included in the Delaware Shore zone.

FIGURE 3

Physiographic Zones of Northern Delaware



Mid-drainage: The majority of the study area falls in the Mid-drainage zone located between the Delaware Shore and Mid-Peninsular Drainage Divide zones. The modern tidal limit marks the center of the zone. The major drainages and their tributaries are fresh throughout the inland portion of the zone. Some tidal marshes and poorly-drained floodplains occur along the major drainages. Well-drained soils have developed on upper terraces of the drainages and on isolated headlands between the major drainages and their tributaries. Access to both brackish and freshwater resources makes this zone one of the richest in Delaware for hunters and gatherers.

Sea-Level Change: The location of the dividing line between the Delaware Shore and Mid-drainage zones has shifted during the Pleistocene. The most important factor in this landscape modification is post-glacial sea-level rise since about 14,000 years ago (Bloom 1983). Sea-level rise of over 100 meters has drowned the ancient course of the Delaware River across the continental shelf (Belknap and Kraft 1977; Fletcher 1988; Kraft et al. 1976). Low elevation land surfaces have become submerged and the configuration of the Delaware River and Bay have changed dramatically (Knebel, Fletcher and Kraft 1988). The rate of sea-level rise has decreased during the past 4,000 years slowing the rate of shoreline migration and the intrusion of tidal and salt waters up inland streams. Thus, the environmental zones discussed above have remained relatively constant for the last half of the Holocene. Most important is that the proposed right-of-way lies in an area of overlapping zones which increases its value to prehistoric peoples as a resource procurement area.

Drainages: The C&D Canal section of the relief route is defined by two easterly flowing streams. The southern boundary of the section is Scott Run which drains northeast into the C&D Canal. The northern boundary is Pigeon Creek, a branch of Red Lion Creek, that drains into Delaware Bay. The right-of-way also crosses Dragon Run Creek. Doll Creek Run, a small, northeast-trending tributary of Red Lion Creek, flows roughly parallel and west of existing Route 13. The right-of-way crosses several small, unnamed tributaries of these streams, as well as several ephemeral drainages. Swampy and poorly-drained areas are found adjacent to the major streams.

Soils: Soils in the project area fall within the Matapeake-Sassafras association (Matthews and Lavoie 1970). South of the C&D Canal Matapeake silt loams dominate, while to the north Sassafras sandy loams and Matapeake silt loams are evenly dispersed. Most of these soils are well drained, but badly eroded due to agricultural practices. Along the streams poorly-drained soils are more common.

Modern Setting

Land use in the project area has been primarily agricultural since Europeans colonization of the region. The majority of the project area south of the intersection of Routes 7 and 13 is still under cultivation. An exception is the town of St. Georges. The area north of the Routes 7 and 13 intersection and also the area west of Route 13 is largely residential and commercial. Approximately one mile to the east of the project area on its northern end lies the sprawling Texaco USA refinery, which has substantially altered the history, topography, and ambience of this section of the county. The project area itself has not been as significantly altered by increased development as have adjacent areas to the north and other portions of the State Route 1 Corridor to the south.

REGIONAL PREHISTORY

The prehistory of the region has been summarized by Custer (1984, 1989), Custer and Bachman (1986), and Bachman, Grettler, and Custer (1988); the following discussion is drawn from those sources. The prehistory of the Delaware Coastal Plain has been divided into four major blocks of time (Table 1): The Paleo-Indian Period, the Archaic Period, the Woodland I Period, and the Woodland II Period. The Contact Period begins with European colonization of the region and includes the period of transition in which Native Americans maintained their traditional cultures while adapting to the new social and economic conditions.

Paleo-Indian Period

The Paleo-Indian Period begins after the withdrawal of the last Pleistocene ice sheet from Eastern North America and lasts into the subsequent period of rapidly changing early Holocene environments. Paleo-Indians relied on hunting and gathering apparently with the emphasis on hunting. Extinct animals such as Bison antiquis, mastodon, and mammoth may have been hunted, as well as more northerly animals such as moose and caribou. A mosaic of boreal, deciduous, and

TABLE 1

Prehistoric Time Divisions for Northern Delaware

DATE	PERIOD	LOW COASTAL PLAIN	HIGH COASTAL PLAIN	PIEDMONT / FALL LINE
1600 A.D.	WOODLAND II	TRIANGULAR PROJECTILE POINTS **SLAUGHTER CREEK COMPLEX** Townsend Creek ceramics Triangular projectile points	CERAMICS **MINGUANNAN COMPLEX** Minguannan ceramics Triangular projectile points	ANTLER HARPOON
1000 A.D.		LARGE TRIANGULAR POINT **LATE CAREY COMPLEX** Mockley / Claggett ceramics Large triangular projectile points	**WEBB COMPLEX** Hell Island ceramics Misc. stemmed points Jack's Reef pentagonal projectile points	**DELAWARE PARK COMPLEX** Hell Island ceramics Misc. stemmed projectile points
500 A.D.		**CAREY COMPLEX** Mockley ceramics Rossville stemmed projectile points Fox Creek projectile points ROSSVILLE LAGOON	JACK'S REEF **CAREY COMPLEX** Mockley ceramics Rossville stemmed projectile points PIPE	CACHE BLADES **CAREY COMPLEX** Mockley ceramics Rossville stemmed projectile points
0 A.D.	WOODLAND I	CERAMICS **WOLFE NECK COMPLEX** Wolfe Neck ceramics Misc. stemmed projectile points	FOX CREEK **DELMARVA ADENA COMPLEX** Adena side and corner notched projectile points Misc. stemmed projectile points Coulbourn ceramics	CACHE BLADES **WOLFE NECK COMPLEX** Wolfe Neck ceramics Susquehanna Series ceramics Misc. stemmed projectile points
500 B.C.		FISHTAIL BROADSPEARS **CLYDE FARM COMPLEX** Bare Island / Lackawaxen projectile points Marcey Creek & Dames Quarter ceramics Broadspears Fishtail projectile points Steatite bowls Experimental ceramics	ADENA CERAMICS **BARKER'S LANDING COMPLEX** Bare Island / Lackawaxen projectile points Marcey Creek & Dames Quarter ceramics Broadspears Fishtail projectile points Steatite bowls Experimental ceramics Heavy reliance on argillite	BROADSPEAR **CLYDE FARM COMPLEX** Bare Island / Lackawaxen projectile points Marcey Creek & Dames Quarter ceramics Selden Island ceramics Broadspears Fishtail projectile points Steatite bowls Experimental ceramics Long broadpoints
3000 B.C.	ARCHAIC	BARE ISLAND / LACKAWAXEN LE CROY ST. ALBANS KANAWHA	CARVED STEATITE (SOAPSTONE) BOWL	GROUND STONE AXE
8500 B.C.	PALEO-INDIAN	CLOVIS MID-PALEO DALTON-HARDAWAY PALMER KIRK STEMMED KIRK CORNER NOTCHED		
12000 B.C.				

grassland environments overlain on the soil and landscape of the region would have provided a wide variety of productive habitats for these game animals.

The Paleo-Indian tool kit was used for catching, killing, and processing game animals. High quality stone was preferred for tools and careful resharpening and maintenance of tools was common. A mobile, seasonal lifestyle in which groups focused on game-attractive environments has been hypothesized. Social organization probably consisted of single and multiple-family bands. Throughout the 5500 year span of this time period, the lifestyle adaptation remained relatively unchanged, although adjustments occurred as environments changed. Paleo-Indian sites in Delaware include quarries, quarry reduction stations, base camps, base camp maintenance stations, outlying hunting sites, and isolated point finds (Custer 1986); however, no Paleo-Indian sites have been recognized in the study corridor (Hodny, Bachman, and Custer 1989).

Archaic Period

Archaic Period people adapted to warm and dry early Holocene environments with deciduous forests and grasslands. Post-glacial warmth reached a maximum around 7000 B.C. as variations in the earth's orbit decreased axial tilt and brought the planet closer to the sun during summer — the opposite of today's situation (Imbrie and Imbrie 1979; Kutzbach 1987). On the other hand, seasonality increased — warm, dry summers alternated with colder winters. In general, conditions became drier during the Paleo-Indian Period, but the dryness culminated during the Archaic Period as surface-water levels fell (Webb, Newby, and Webb1993). Game animals became more scarce as the Pleistocene megafauna became extinct and the ranges of northern species shifted north. However, browsing species such as deer probably flourished. Adaptations changed from the hunting focus of the Paleo-Indian Period to a generalized foraging pattern in which plant food resources played a more important role. Small procurement sites are known from favorable hunting and gathering locals such as near bay/basin features on Delaware's Coastal Plain. Persistent water sources supported some large base camps.

Tool kits were more generalized than earlier Paleo-Indian tool kits and showed a wider array of plant processing tools such as grinding stones, mortars, and pestles. A mobile lifestyle was probably common with a wide range of resources and settings utilized on a seasonal basis. A shifting band level organization which saw the waxing and waning of group size in relation to resource availability is evident. Custer (1989) has identified three types of sites for this period of Delaware prehistory: macro-band base camp, micro-band base camp, and procurement site. The most common settings for the macro-band base camps are large interior swamps and terraces along major rivers. Micro-band base camps and procurement sites occur on terraces along lower order streams and in proximity to hunting areas and lithic outcrops. There are no recorded sites from the Archaic Period in the project area.

Woodland I Period

The Woodland I Period begins as dramatic changes in local climates and environments occur throughout the Middle Atlantic region. Solar warmth and seasonal extremes eased somewhat and surface water levels rose (Webb, Newby, and Webb 1993). A reduction in the rate of continuing sea-level rise caused the expansion of biologically productive brackish and salt water marshes along the Delaware River and Bay shore. The major changes in environment and resource distributions caused a radical shift in adaptations for prehistoric groups. Important areas for settlements include the major river floodplains and estuarine swamp areas. Large base camps such as the Barker's Landing, Coverdale, Hell Island, and Robbins Farm sites have been found in many settings on the Delaware Coastal Plain. There was apparently a population increase and year-round occupation of sites. The overall tendency during the Woodland I Period was toward a more sedentary lifestyle.

Woodland I tool kits show minor variations, but also major additions compared with Archaic tool kits. Plant processing tools became more common suggesting intensive harvesting of wild plant foods. Chipped stone tool assemblages changed little from the preceding Archaic Period except for the introduction of broad-bladed, knife-like tools. First soapstone and then ceramic vessels were added also. These items enabled more efficient cooking of plant foods and may also have functioned as storage containers for surplus food. Storage pits and house features are also known from northern Delaware from sites such as Clyde Farm (Custer 1982) and Delaware Park (Thomas 1981). Occupation during the Woodland I Period was focused on the Mid-drainage zone. Most of the prehistoric archaeological sites in the project area date to the Woodland I Period (Hodny, Bachman, and Custer 1989:84).

Social organizations became more complex during the Woodland I Period. Increased food supplies with occasional surpluses and relatively sedentary lifestyles fostered the development of incipient ranked societies. The presence of extensive trade and exchange networks for lithic materials, caching of special artifact forms, and use of exotic raw materials are evidence of the increasing social complexity and interaction. The cemeteries of the Delmarva Adena Complex, such as the Frederica site and the St. Jones site (Thomas 1976), show that some individuals had special status in society.

Four cultural complexes (Table 1) have been identified for the Woodland I Period on the Upper Coastal Plain of northern Delaware (Custer 1984). Clyde Farm Complex macro-band base camps are large sites located in major riverine floodplains, along developing estuarine marshes, and in poorly-drained areas of the Piedmont. Micro-band base camps occur in outlying areas adjacent to specialized resource locations and procurement sites are a short distance from these campsites (Custer 1986:85). Two Clyde Farm Complex micro-band base camps are near the project area: site 7NC-E-11 is to the east along the north bank of Red Lion Creek and the other, site

7NC-E-2 (Indian Mound site) is west of the project area near the village of Red Lion. A Clyde Farm procurement site, 7NC-G-1, is west of the project area south of the C&D Canal. Two other Woodland I procurement sites, 7NC-G-19 and 7NC-G-30, which have not been associated with any cultural complex, are located east of the project area along the south bank of the C&D Canal (former channel of St. Georges Creek).

During Wolfe Neck times, there is a decrease in the use of rhyolite and argillite for stone tool manufacture, suggesting a decrease in the importance of these materials. The implication is that old trade networks and the concomitant exchange of information are reduced during this period. A Wolfe Neck macro-band base camp site may shed some light upon this problem. Otherwise, Wolfe Neck habitation and procurement sites and settlement locations appear to be similar to those of the preceding Clyde Farm Complex. No Wolfe Neck Complex sites appear in or adjacent to the project area, although there are some poorly known Woodland I sites in nearby drainages which could contain Wolfe Neck components

The Carey Complex component in northern Delaware has been best expressed at the Clyde Farm site (7NC-E-6) and at the Delaware Park site (7NC-E-41). These large macro-band base camps contain storage features (indicating a reliance upon the harvesting of plant foods) and house pits. The Carey Complex is distributed throughout Delaware. A heavy dependence upon fish and shellfish is observed by Custer (1984:131). Carey Complex sites in the project area would most likely take the form of micro-band base camps and procurement sites associated with the larger base camps noted above. The Delaware Park Complex is characterized by a similar settlement pattern and adaptation and once again only micro-band base camp and procurement sites would be expected within the proposed right-of-way. There are no Carey or Delaware Park Complex sites known within or adjacent to the proposed right-of-way.

Woodland II Period

In many areas of the Middle Atlantic, the Woodland II Period is marked by the appearance of agricultural systems; however, on the Delaware Coastal Plain there is no evidence of agriculture. Some of the settlements of the Woodland I Period, especially the large base camps, were also occupied during the Woodland II Period and very few changes in basic lifestyles and overall artifact assemblages are evident. Intensive use of plants and hunting remained the major subsistence activities until European contact. There is some evidence, nonetheless, of an increasing reliance on plant foods and coastal resources throughout the Woodland II Period in the study area. Social organization changes are evidenced by a collapse of the trade and exchange networks and the end of the appearance of elaborate cemeteries.

Custer (1986) notes that the data quality for the Woodland II Period for the study area is poor. Only two sites from the period occur near the project area: 7NC-E-12 (site function unknown) and 7NC-G-30, a procurement site. Any macro-band base camp in the area would likely

show a prehistoric use of several environmental zones and micro-band base camps would suggest local resource exploitation.

Contact Period

The Contact Period is an enigmatic period of the archaeological record of Delaware which begins with the arrival of the first substantial numbers of Europeans in Delaware. No Native American archaeological sites that unequivocally date to this period have been discovered in Delaware. A number of sites from the Contact Period are known in surrounding areas such as southeastern Pennsylvania, nonetheless. It appears that Native American groups of Delaware did not interact much with Europeans and were under the domination of the Susquehannock Indians of southern Lancaster County, Pennsylvania. Thus, the discovery of any Contact Period sites would be significant. The Contact Period ends with the virtual extinction of Native American lifeways in the Middle Atlantic area except for a few remnant groups.

REGIONAL HISTORY

This overview is abstracted from Custer and Bachman (1986), De Cunzo and Catts (1990), Munroe (1978), Hancock (1932), Hoffecker (1973, 1977), Lemon (1972), Scharf (1888), and Weslager (1961, 1967). A more detailed historical overview of the general State Route 1 Corridor is provided in the Phase I/II Research Plan (Custer, Bachman, and Grettler 1987). The Historical period is divided into five parts (Table 2) following the scheme of De Cunzo and Catts (1990).

Exploration and Frontier Settlement

In 1638 a Swedish colony was established at the confluence of the Brandywine and Christina Rivers in what is now Wilmington. The small colony grew and within a few years a fort, church, and small farming community grew to form the nucleus of the first permanent European settlement in Delaware. The Swedish colony interfered with Dutch colonial interests and in 1651 the Dutch established Fort Casimir near modern New Castle. The Dutch resolved the conflict through military action and founded the town of New Amstel near Fort Casimir. English influence in the Delaware valley region began in 1664 when Sir Robert Carr seized the Dutch colonies and assumed possession for James, Duke of York and Albany. The transfer of authority from the Dutch to the British was peaceful in Delaware. Existing land ownership, trading privileges, and political structure were maintained by the new leadership. The Swedish, Finnish, and Dutch colonists remained and new immigrants, including English and Scotch-Irish, supplemented the growing population forming an ethnically mixed community.

In 1682, William Penn was granted proprietary rights over Pennsylvania and the Lower Three Counties — modern Delaware. Political frictions soon developed between the Quakers of Pennsylvania and the colonists of the Three Lower Counties, leading to a separate government and relative autonomy for the southern colonists. Economics linked Penn's divided colony, however,

TABLE 2

Historical Time Divisions for Delaware

Date Range (A.D.)	Historical and Research Contexts
1880 - 1940	Urbanization and Suburbanization
1830 - 1880	Industrialization and Capitalization
1770 - 1830	Transformation from Colony to State
1730 - 1770	Intensified and Durable Occupation
1630 - 1730	Exploration and Frontier Settlement

From De Cunzo and Catts (1990) Management Plan for Delaware's Historical Archaeological Resources

and the Penn family's claims to Delaware were finally relinquished just prior to the American Revolution.

The early Dutch and Swedish pattern of closely spaced villages along the Delaware River was gradually replaced by the English colonial settlement pattern of scattered farmsteads along internal drainages, such as Red Lion, St. Georges, and Dragon creeks in the study area, and along emerging roads. The pattern of scattered settlement was encouraged by economic factors. For example, Philadelphia required increasing numbers of marketable foodstuffs for local consumption and export and land speculators parceled huge tracts of productive farmland obtained from Penn. Philadelphia's economic influence during the eighteenth century caused a shift in agricultural activities in Delaware from subsistence to market crops.

Waterways were important for transportation and commerce because early roads were limited and in poor condition. The few existing roads led to landings on rivers and the Delaware Bay where produce and goods were shipped by cheaper, and more efficient, water transport. The Delaware River and Bay served as a major focus of water transportation because the majority of Delaware's streams flow eastward. For this reason, the large port city of Philadelphia, and to a lesser extent Wilmington and New Castle, exerted major commercial influence on the Delaware counties throughout the eighteenth century and later. Wilmington, New Castle, and Lewes were also ports for ocean-going vessels involved in export trade. Overland transport was limited to a few major roads, such as the eighteenth-century post road connecting Philadelphia, Wilmington,

New Castle, Odessa, Middletown, Dover and Lewes, with a western branch at Milford leading to Chesapeake Bay. Development was stimulated at crossroads like Wrangle Hill, in the project area, and Red Lion, about one-half mile west of the study area. The village of St. Georges was a transshipment point and a ferry crossing.

Intensification and Durable Occupation

By the middle of the eighteenth century, population increase and commercial expansion stimulated the growth of towns and the development of transportation and industry. During the 1730s, successful attempts were made to harness waterpower on the Brandywine and Christina rivers resulting in the growth of Wilmington as the foremost milling and shipping center in Delaware. The availability of wheat from the central Mid-Atlantic region, economical transportation, and the proximity of the Philadelphia and New York markets facilitated the commercial rise of Brandywine mills. During the later part of the eighteenth century, Wilmington's economy focused on shipbuilding, coopering, milling, and import-export trade.

The rise of commerce and industry in Wilmington had significant impacts on the rural areas of New Castle and Kent counties. The technologies used in the Brandywine Valley spread to these areas resulting in an extensive network of mills throughout the colony. The water-powered mills frequently served a variety of purposes with grist, saw and fulling (woolen cloth) operations during different seasons of the year. The mills produced goods primarily for local markets.

Transformation from Colony to State

The American Revolution dominated the social and political climate of the colony at the start of this time period. The British blockade disrupted maritime transportation and raiding parties landed and took food, livestock, and slaves from the locals. A British force including Hessian mercenaries landed in Cecil County, Maryland and marched east towards Philadelphia. A small group of continental soldiers and militia skirmished with the British forces near Cooch's Bridge (near Glasgow), but was forced to retreat. The British went on to capture Wilmington which traded hands throughout the winter of 1777-1778. Washington's army later passed through northern Delaware headed south towards Yorktown. Earlier, Lafayette's French troops had landed at Christiana and marched west towards tidewater Virginia.

After the war, population grew rapidly, but agricultural productivity began to drop. However, the early decades of the nineteenth century saw the beginning of an agricultural revolution throughout Delaware, but concentrated in New Castle County. The first agricultural society in the United States was formed in New Castle County in 1804 and emphasized scientific agriculture. Marl, a natural fertilizer, was discovered during the construction of the C&D Canal in the 1820s. The opening of the canal in 1829 encouraged farmers to grow fresh market crops because transportation became quick and cheap.

Industrialization and Capitalization

A transportation revolution was underway by the early 1830s. Steam power was being developed and investment into canals and railroads was the topic of much discussion and legislation (see Gray 1959 and Holmes 1961, for example). The C&D Canal, finished in 1829, carried 100,000 tons of cargo in 1837. Peak tonnage was in the year 1872, when 1,318,772 tons were transported (Snyder and Guss 1974). Delaware City, Delaware and Chesapeake City, Maryland, the terminus towns at either end of the canal, were not established until its construction. Locks were located at Chesapeake City, Maryland and at St. Georges, Delaware. The "King's Highway" crossed the canal at St. Georges. These points would have served various capacities during construction of the canal and after its completion, including: housing for construction workers, supply points for food and equipment needed for construction, housing for lock tenders and mule drivers, stabling for mules, transshipment points for marketable farm products, access points for passengers for coastal packets, the locations of marine supply stores for canal shipping, and support facilities for canal maintenance crews.

The opening of the Philadelphia, Wilmington and Baltimore Railroad in 1839 provided transportation for northern Delaware produce to growing eastern markets. Prior to 1832, Delaware's primary agricultural products were grains, with fruit and vegetable crops of lesser importance. During the period 1832-1870 Delaware became the center for peach production in the eastern United States. Rich soil, favorable climate and rainfall, excellent transportation facilities, and strategic locations near large markets made peach production a lucrative enterprise. Delaware City, at the eastern terminus of the C&D Canal, led Delaware and New Castle county in production until the peach blight of the 1850s. By the end of the "peach boom", massive harvests were being shipped by rail and steamship lines to New York where much was readied for resale to the northern states. The peach industry proved profitable for a large number of peach growers, as well as a variety of support industries. Basket factories, canneries, and peach tree nurseries all aided in and reaped the financial rewards of the peach industry. The railroad and steamship lines integral to peach distribution depended on peach shipment for a large portion of their annual revenue. The construction of Italianate style "peach houses" accompanied the influx of money which resulted from the growth of the peach industry and peach houses are common in the study area.

Throughout Delaware's agricultural history, farm labor has been a valued commodity. In the colonial period, black slaves and white indentured servants were the primary farm laborers. By the mid-eighteenth century, white indentured servants were as numerous as black slaves. Slightly less than one-half of the blacks in the state in 1790 were free; however, by 1810, less than one-quarter of blacks were slaves according to Federal censuses. Therefore, in the eighteenth century, free black laborers played an increasing role in farm production. Abolitionist attitudes

were strong in Delaware and legislation enacted by Quaker and Methodist leaders restricted the increase of slaveholding, especially in New Castle and Kent counties, by prohibiting the importation and exportation of slaves. A combination of economic and ethical factors led to an increase in the numbers of free blacks in Delaware before the Civil War and the Emancipation Proclamation.

Urbanization and Suburbanization

Through the nineteenth century, and into the twentieth century, Delaware's agricultural production continued to focus on the perishable products with a decrease in staple crops. There was a marked increase in milk and poultry production while the levels of fruit and vegetable production were maintained. In northern Delaware, improved roads and the continued growth of Wilmington as an industrial center led to urban growth. Eventually, the suburbs expanded onto farm land. Both farm sizes and the amount of farm acreage dropped after the beginning of the twentieth century suggesting a period of farm abandonment (De Cunzo and Catts 1990). Many nineteenth-century farms became archaeological sites during this reorganization of settlement on the landscape.

The pattern and density of settlement in Delaware, and the study area specifically, have been strongly influenced by several factors throughout the last 360 years: 1) an agrarian economy; 2) the commodity demands of large markets, first Europe and the West Indies, and later domestic commercial-industrial centers; and 3) transportation facilities. The advent of automobile transportation in the twentieth century brought about significant improvements in the state road system and opened large tracts of land to productive agriculture. The DuPont Highway constructed in the 1920s linked the northern and southern sections of the state and shifted the agrarian focus of the southern counties permanently toward non-local markets.

METHODS

Phase II testing entails excavations to determine the horizontal extent, depth, integrity, and significance of archaeological deposits identified during Phase 1 surveys. In the field, a reference grid is established over the area and test units are marked. In some cases, testing involves excavation using shovel test pits (STPs) to establish the depths of deposits or the presence and density of cultural material in an area. Soil and sediment removed from the units and shovel test pits in measured levels are screened through 1/4-inch hardware cloth (Plate 1). Material recovered from each level is bagged and sent to the lab for cataloging, cleaning, and analysis. Written records are kept of all excavations, activities, and findings.

Excavation methods vary from site to site depending on the nature of the site, its setting, and the deposits encountered. In plowed fields a controlled surface collection may be undertaken before excavation begins. All material visible on the ground is collected within grid squares laid