IV. CULTURAL BACKGROUND

A. Previous Investigations in the Region

Numerous archaeological sites have been recorded in the vicinity of Dover, many during the course of Phase I surveys for the U.S. Route 13 corridor (e.g., Bachman et al. 1988). Most of these sites are associated with streams and wetlands along Muddy Branch, Dyke Branch, and Little River.

The prehistoric sites recorded along this corridor date to as early as circa 8000 BC, judging from the find of a rhyolite Kirk stemmed point on one of the Dover Downs Hill sites. Other notable prehistoric sites recorded within this corridor are the Carey Farm (7K-D-3) and Island Farm (7K-C-13) sites. Carey Farm is a large base camp associated with storage pits, hearths, and tool manufacturing areas. Island Farm is a smaller base camp. Both sites date to as early as circa 3000 BC. Phase II investigations were conducted by Berger at Sarro wetlands on Site 7K-C-396, one of several prehistoric sites along Muddy Branch (Bedell et al. 1995). More recently, extensive excavations have been conducted at the Puncheon Run (7K-C-51) (LeeDecker 1999) and Hickory Bluff (7K-C-411) sites, on a large tributary of the St. Jones River.

Closer to the project area, Phase I investigations were conducted by Heite and Blume (1992:46) on the Delaware Technical College property, as part of the survey for the proposed Scarborough Road connector. A combination of machine stripping and test unit and shovel test excavation were used to identify sites in this area. Although three sites were recorded (7K-C-392, 7K-C-388, and 7K-C-390), no undisturbed contexts were associated with them. Early nineteenth-century artifacts recovered from Site 7K-C-392 included a slip-decorated red earthenware bowl and a basal sherd from a free-blown green cylindrical beverage container (Heite and Blume 1992:46). On Site 7K-C-388, plowzone recoveries from three hand-dug 3-foot-square units included historic period artifacts, but no features were identified in any of the units. On a low sandy ridge near the mouth of White Marsh Branch, units and shovel tests produced evidence of two low-density lithic scatters, lacking subplowzone components. The site was designated the White Marsh Site (7K-C-390). Test trenching across the site provided little additional data. None of the three sites was considered to be significant.

On the west side of the St. Jones River, four additional archaeological sites/historic resources were identified: (1) the Scotten-Ford agricultural complex, (2) the Nathan Williams Site (7K-C-389), (3) the Mosley Historic District, and (4) loci within the Ford Farm Site. Locus E of the Ford Farm Site is the focus of the present investigation. Earlier surveys along the proposed Scarborough Road connector corridor had identified the Blueberry Hill Site and one locus at the Ford Farm Site (7K-C-386D). At the Scotten Ford Complex, because of the low probability of encountering archaeological remains, no subsurface tests were conducted (Heite and Blume 1995a:3), but on the Nathan Williams Site, a Phase II controlled surface collection and test trenching were undertaken. For the Mosley Historic District, subsurface tests confirmed the presence of foundations relating to a nineteenth-century farmhouse.

The Blueberry Hill Site (7K-C-107) is a deeply stratified bluff edge site located adjacent to the Ford Farm Site. The site was the focus of data recovery investigations in 1991-1992 (Heite and Blume 1995b). The site was found to be a deeply stratified procurement site with the earliest component dating to the Paleoindian period. Overlying Archaic and Woodland components were also delineated on the site. The occupations were separated by aeolian sands, which provided clearly defined cultural stratigraphy. Since the Blueberry Hill Site was so close to the Ford Farm Site (less than 100 meters, or 328 feet), similar components were expected to be found at the latter site during this Phase II study.

B. Prehistoric Background

The prehistory of Delaware comprises four major periods of cultural development: Paleoindian (10,000 to 6500 BC), Archaic (6500 to 3000 BC), Woodland I (3000 BC to AD 1000), and Woodland II (AD 1000 to 1600). A number of researchers (e.g., Custer 1984, 1994; Steponaitis 1980; Wright 1973) have developed chronologies for various portions of the Delmarva Peninsula/Chesapeake Bay region. Custer's (1984, 1989) settlement models have proved useful for designing Phase I surveys along linear transects typical of Department of Transportation surveys.

The Paleoindian period spans a time range from 10,000 to 6500 BC. It is the earliest recognized period of human occupation in the area. Paleoindian settlement patterns were characterized by a seminomadic existence within a defined territory, with a focus on hunting and the exploitation of high-quality lithic sources. Pleistocene megafauna, such as mammoth and mastodon, were extinct by this period, so the hunting emphasis was most likely on deer and elk, and perhaps caribou. Unfortunately, in the Delmarva Peninsula the archaeological record has not preserved such faunal remains in association with Paleoindian artifacts.

Custer (1984) classifies Paleoindian sites in Delaware within what is termed the Delaware Chalcedony Complex. By definition the Delaware Chalcedony Complex consists of extensive outcrops of moderate- to high-quality siliceous raw material likely to have been utilized by Paleoindian groups on a periodic basis. Directly associated evidence in the form of diagnostic Paleoindian artifacts is limited to a few serrated late Paleoindian notched point forms; however, further research is expected to recover more tangible evidence indicating the use of these outcrops throughout the Paleoindian period, particularly in northern Delaware where these outcrops are located (Custer 1989:103).

Paleoindian settlement patterns are marked by a focus on utilizing resources from inland swamps and other productive early Holocene habitats while at the same time maintaining ties to preferred outcrop areas where high-quality raw material could be obtained for manufacturing stone tools. Concentrations of fluted point finds have been noted in Delaware (Custer 1989:102) near sources of Delaware chalcedony (Custer and Galasso 1980). Jasper outcrops such as those associated with Iron Hill (Custer 1989:103) may also have been utilized by Paleoindian groups in the region, although direct evidence is also very limited. There are, however, a number of Paleoindian sites recorded in the Iron Hill area of New Castle County. Finally, a number of Paleoindian site locations

have been found along and adjacent to the mid-peninsular drainage divide in Delaware (Custer 1989:105) where a mosaic of poorly drained settings surrounds well-drained knoll features. This description pertains to the Blueberry Hill Site, where wetlands below the well-drained bluff where the site is located provided an attractive habitat for prehistoric settlements throughout the Holocene. Paleoenvironmental data from the mid-peninsular drainage divide documenting these early Holocene landscapes have been obtained from the Dill Farm Site (7K-E-12) (Custer and Griffith 1984). Paleoindian sites are also associated with bay/basin features, the small wetland depressions in the landscape that are common near the project area. These features would have been focal points for Paleoindian settlements as early as 12,000 years ago.

The Archaic period (6500 to 3000 BC), as traditionally defined, is characterized by increasing sedentism and more efficient adaptation to local resources (Caldwell 1958). The continuity from Paleoindian through Early Archaic noted by Gardner (1977) obscures the distinction between Paleoindian and Early Archaic. Continuity in subsistence and settlement systems through the Early Archaic Palmer and Kirk phases, as observed by Gardner (1977), provides support for the classification of all sites within this continuum as Paleoindian. Custer (1984, 1989), in agreement with this point, notes this by including the Early Archaic within Paleoindian.

Most of the Early Archaic (late Paleoindian) sites are known solely from surface finds, many of which are simply isolated projectile point recoveries. Stratigraphic data supporting the defined sequences for projectile point styles are derived mainly from sites in the Ohio Valley (Broyles 1971), Meadowcroft (Adovasio et al. 1975), and the Shenandoah Valley (Gardner 1974). Diagnostic projectile point types representing Early Archaic occupations in the region include, primarily, Palmer corner-notched, Kirk notched and stemmed, MacCorkle, and a variety of lesser-known types. Sites containing these styles of projectile points have a similar distribution to fluted point sites in Delaware, such as along the mid-peninsular drainage divide (Custer 1989:108). The recent excavations at the Blueberry Hill Site (7K-C-107) along the St. Jones River in Dover have produced deeply buried early Holocene components defined by Palmer and bifurcate points (Heite and Blume 1995b).

Many of the Early Archaic (late Paleoindian) sites with intact components are very likely in submerged contexts in the Delaware and Chesapeake drainage estuaries. Many of these sites were inundated during the early Holocene as sea levels rose with the melting of continental glaciers in northern regions of the continent. Submerged terrace surfaces have produced numerous finds, including Paleoindian projectile points during times of low tide (Gardner and Wall 1978), indicating that a substantial number of sites lie in drowned estuaries along the Atlantic seaboard. Recent surveys along the eastern shore region of Chesapeake Bay (Paw Paw Cove and Meekins Neck), Maryland, have produced a number of fluted points (Lowery 1989; Lowery and Phillips 1994). It is suggested that these may have been estuarine-associated base camps (Lowery 1989).

Subsequent Middle Archaic period occupations (6000 to 3000 BC) are marked by the diagnostic bifurcate projectile point style. Again, most of the sites of this period are known through finds of projectile points on Holocene terraces (e.g., the Blueberry Hill Site) and upland surfaces, as well as

along estuaries, on swamp margins, and near springheads. Most of the sites consist of surface finds and are often located in drowned valleys, estuarine settings, and upland or interior headwater areas. A variety of lithic raw materials are represented on these sites, including argillite, quartz, quartzite, rhyolite, jasper, and several varieties of chert and chalcedony. Middle Archaic occupations represent some significant changes in early Holocene adaptations in the region which involve exploitation of a wider range of environments and such additions to the toolkit as drills and, later, groundstone items.

Buried early Holocene components are more commonly found in upstream areas in the nearby Delaware and Susquehanna drainages. Sites such as Blueberry Hill (Heite and Blume 1995b), however, seem to be an exception, and burial of components at these sites can be explained by localized accretion of aeolian deposits on exposed bluff edges.

The first two millennia of the Woodland I period (circa 3000 to 1000 BC) in the Delmarva region is marked by sites yielding assemblages typically containing scrapers, drills (often fashioned from resharpened points), adzes, celts, netsinkers, anvilstones, and steatite bowls. The appearance of groundstone tools, used for the processing of gathered wild plant foods, illustrates a reliance on new technology related to shifts in subsistence practices. One of the more common diagnostic artifacts representing this period is the Orient fishtail point.

Although stratified sequences from single profiles in the Delmarva region are limited, radiocarbon dates have been obtained from individual site occupations. These dates cover most of the span of Delaware prehistory. For example, dates on materials other than shell have been derived from sites such as the Hawthorn Site (7NC-E-46), where a pit feature associated with stemmed and notched points was dated to 2250 BC (UGa-5378) (Custer and Bachman 1984); the Delaware Park Site (7NC-E-41), where a semisubterranean pit house associated with a grooved axe and biface cache was radiocarbon-dated to 1850 BC (UGa-3440) (Thomas 1981); and the Clyde Farm Site (7NC-E-6a), where a platform hearth associated with a stemmed point and Dames Quarter ceramics was dated to 1005 BC (UGa-5376) (Custer et al. 1986) (see Custer 1989:appendix 2).

Radiocarbon-dated contexts from areas in the Lower Susquehanna region and the nearby Potomac River Valley provide a comparative chronological framework for dating initial Woodland I occupations on the Coastal Plain. Some of these sites, such as Marcey Creek, Selden Island, Popes Creek, and Bare Island, and the chronologies developed from them, were the basis for developing the initial chronology for the Delmarva region (e.g. Weslager 1944; Wright 1973). An initial sequence was developed by Stephenson and Ferguson (1963) which includes, for example, Piscataway, Vernon, Rossville, and Calvert projectile point forms to represent the various cultural phases within this time frame. Otter Creek points have been found in both Middle and Late Archaic components (Funk 1965; Steponaitis 1980). Earlier dated contexts associated with Poplar Island points from the nearby lower Susquehanna River Valley include the Duncan Island Site in Lancaster County (Witthoft 1959), a stratified Archaic site which contained evidence of hearths in B-horizon contexts. This site also showed fairly intensive use of quartzite and argillite, which Kinsey (1959) notes is characteristic of Poplar Island culture.

At Bare Island, in the lower Susquehanna River Valley, Kinsey excavated a buried component containing large stemmed and notched points along with bannerstones, gorgets, groundstone axes, celts, and grinding stones. The grinding stones indicate more intensive exploitation of local plant foods, indicative perhaps of a more sedentary existence, a trend which is evident for the Late Archaic period as a whole. Lithic materials most commonly utilized in the Bare Island occupation include rhyolite, siltstone, argillite, and quartz. Recoveries of steatite vessel fragments also indicate tendencies toward a more sedentary economy. The steatite was most likely quarried from sources downstream at Christiana and Georgetown, and sources further to the southeast toward the Delaware drainage. Vinette I pottery (exterior cordmarked, usually tending toward vertical; and interior-horizontal) was also recovered from excavations at Bare Island.

Evidence obtained from surface collections in the Delmarva region shows greater use of local lithic resources during Woodland I than by earlier Middle Archaic peoples. There is, for example, a heavy reliance on quartz and quartzite, as well as rhyolite, a nonlocal material obtained from the Blue Ridge. Settlement patterning in the lower Delaware Valley during early Woodland I times appears to have been focused more on riverine resources. Surface site data from the area also show an increase in site size at this time. This would perhaps suggest a gradual shift toward subsistence strategies focused on locally abundant resources, particularly shellfish and fish spawns (as evidenced by the presence of netsinkers on many of the large sites). At the same time, new types of environments being exploited included a much wider use of ephemeral (interior headwater) locations along the mid-peninsular drainage divide. The emergence of a sedentary way of life developed as a result, supported by subsistence economies that may be considered focal, in Cleland's (1976) sense, although a much broader range of resources were being exploited at this time. In this part of the Coastal Plain, there were most likely seasonal occupations which depended on the productivity of riverine and estuarine resources and the seasonal availability of mast in the upland/interior locations.

The Woodland I period is also marked by the introduction of ceramics and the emergence and development of burial ceremonialism. Burial ceremonialism was more widespread in certain areas of eastern North America, such as in the Ohio Valley and the southern Great Lakes region; in other areas, such as the Delmarva Peninsula, the evidence is limited chiefly to surface finds of trade items (e.g., Adena blocked-end tubular pipes) along major streams. A cremation site (West River Site) from which Adena artifacts were recovered is one of the few buried features dating to this time period in the region (Ford 1976). Comparable sites have been excavated in Delaware, as described by Thomas (1970) and classified by Custer (1994), within the Delmarva Adena complex. These include the nearby St. Jones (7K-D-1) and Frederica (7K-F-2) sites. At the St. Jones Adena site, one of the burial features contained several primary individuals, cremations, and associated Adena artifacts such as stemmed bifaces made from Ohio Valley cherts (Thomas 1976). Most of the Delmarva Adena sites are lacking such contextual data.

There is at present little evidence of cultigens in the region at such an early date. It is assumed that Woodland I populations subsisted mainly by hunting, gathering, and fishing, in a manner not unlike their Late Archaic period predecessors. Sites associated with low-order drainages are most likely to be representations of hunting camps. The more stable Woodland I period base camps contained

storage pit features. These types of features are represented at sites such as Clyde Farm (Custer et al. 1985), Pollack (7K-C-203) (Custer, Hoseth, Silber, Grettler, and Mellin 1994) , and Leipsic (7K-C-194A) (Custer, Riley, and Mellin 1994). The majority of these storage features, both within and outside of inferred pit house structures, contain low frequencies of artifacts. Those features with higher numbers of artifacts may have been used for refuse disposal after the stored foods were consumed (Custer, Hoseth, Silber, Grettler, and Mellin 1994).

Vinette I pottery, a crushed quartz (or chert/grit) interior-exterior cordmarked type, is one of the earliest diagnostic ceramic types for the Early Woodland (Woodland I); its regional variants in Delaware are composed of high percentages of crushed rock. However, Marcey Creek, a steatite-tempered ware, followed by Accokeek pottery, a crushed-quartz-tempered ware, are the primary time markers for Early Woodland in the Delmarva region. Early Woodland sites are generally larger than sites of previous times, and during this period there seems to have been an increasing reliance on estuarine resources such as shellfish. This is evidenced by the identification of large shell midden sites (Wright 1973) dating to this period in the region.

Intensification in trade networks over a large region characterizes the end of the Woodland I period (500 BC to AD 1000). There was an expansion of horticultural practices as well at this time, although hunting, fishing, and plant collecting continued to be important subsistence pursuits. The subsistence economy of this time is also marked by the initiation of maize horticulture (Gardner 1982), but this activity may have been limited in many areas of the Coastal Plain, especially in resource-rich estuarine areas, where intensive hunting, fishing, and collecting were favored.

A change in pottery styles to net-impressed wares (e.g., Popes Creek) and Mockley wares (late Middle Woodland) is a characteristic of the late Woodland I period. The large number of sites for this time period and the extensive size of some of the sites support the argument that seasonal aggregation and dispersal may have occurred (Steponaitis 1980; Custer 1989). Toolkits utilized by late Woodland I peoples were basically the same as those used during the subsequent Woodland II period. However, a greater quantity of more exotic lithic materials is represented in late Woodland I assemblages. Technology in the region during this time seems to have been geared toward bifacial tool production rather than a prepared core and blade flake technology such as would be expected in the Ohio Valley.

The Clyde Farm and Barker's Landing complexes are defined by Custer (1989:192, 1994:22) as marking the principal divisions in Early Woodland I, at circa 3000 and circa 500 BC. The Clyde Farm Site (7NC-E-6) is the type site for the complex bearing its name. The site is a large macroband camp containing Marcey Creek and Dames Quarter ceramics, platform hearths, possible storage pits, and a pit house (see Custer et al. 1986), all signs of a sedentary existence. The Barker's Landing Complex (7K-D-13) is similar to Clyde Farm, but distinctions between the two sites can be made based on the presence at Barker's Landing of a large proportion of artifacts manufactured from nonlocal raw materials such as argillite (most common), steatite, and rhyolite. The type site and similar macroband camps are located on the mid-peninsular drainage divide, where, at the time of

the site's occupation, this freshwater-saltwater interface zone is believed to have been an environment extremely rich in resources (Custer 1989:224).

Subsequent Woodland I complexes described by Custer (1989, 1994) include Wolfe Neck, Carey, Webb, and the previously mentioned Delmarva Adena Complex, each with its distinctive cultural attributes and regional patterns of distribution. A tripartite (macroband/microband/procurement site) system of site classifications within each complex is exemplified by sites such as the Delaware Park Site (7NC-E-41), a Clyde Farm Complex macroband camp; the Bank Site (7NC-E-67) (Custer et al. 1986), a microband base camp represented by scattered hearths, lithic manufacturing debris, staged bifaces, stemmed points, broadspears, early ceramics, and steatite (Custer 1989:200); and procurement sites, which are small scatters in upland or interior settings characterized by scatters of a few flakes, isolated tools, and in some instances, cobble deposits utilized as raw material sources (Custer 1989:200).

The Woodland II period in the Delmarva Peninsula may be divided into two complexes: the Slaughter Creek Complex and the Minguannan Complex. In the southern Delmarva Peninsula, diagnostic artifacts for the Slaughter Creek Complex include Townsend ceramics and triangular projectile points. Large Slaughter Creek Complex macroband camps, some of which may have developed into large village communities, typically contain storage pits and other indications of long-term occupations and sedentary lifeways. Most of the larger Slaughter Creek sites are distributed in the Delaware Shore, Mid-drainage, and Coastal/Bay physiographic zones of southern Delaware (Custer 1984, 1986). The Ford Farm Site and Kent County are geographically central within the Delmarva Peninsula, so influences from northern and southern sources can be expected. Though there is little evidence of this in Delaware, in many surrounding regions of the Middle Atlantic region by around AD 1300 maize agriculture was well established and many settlements were fortified.

The Minguannan Complex is the comparable cultural complex defined for the northern part of the Delmarva Peninsula (Custer 1989:311). Typical Minguannan ceramics may be described as well-made, grit-tempered, and very similar to Potomac Creek ceramics. Diagnostic lithics include triangular points. While sedentism developed to a greater degree during this time in northern Delaware, as evidenced by storage pits, house patterns, and other indications of long-term occupations, there does not seem to have been a clear shift to horticultural production in the context of large village settlements. Instead, there is a great deal of continuity between Woodland I settlements established in favorable estuarine and other wetland settings and subsequent Woodland II occupations. Examples of such continuity include the Hell Island, Delaware Park, and Clyde Farm sites (Custer 1982; Thomas 1966, 1982; Wright 1962). The continuity is expressed in the persistence of a hunting/gathering/fishing subsistence pattern focusing on seasonally productive interior and estuarine resources. This pattern is not unlike those revealed at the Abbott Farm sites of the Late Woodland period, and its continuation is also supported by ethnographic information on the Lenape, one of the groups inhabiting the region around the time of European contact (Stewart et al. 1986; Weslager 1972).

Other trends in the Woodland II period in the region include shifts in lithic raw material preferences. These shifts may relate to the development of more sedentary lifeways, the increasing reliance on horticultural products (e.g., corn, beans, and squash), and a concomitant de-emphasis on intensive hunting and gathering. The result would have been a diminution of site catchment areas, which would in turn have resulted in more limited exploration for lithic raw materials and greater dependence on near-camp resources as well as those easily obtained through trade.

The protohistoric period in Delaware, that is, the period of first contact between Delaware aboriginal groups and European settlers, is represented by upheaval in native societies. Generally, in the eastern woodlands disruption occurred as a result of disease, forced migration, the introduction of European manufactured goods into native material culture assemblages, and the inevitable economic chaos resulting from rapid changes in subsistence practices. There are very few sites dating to this time period in the state. Archival source information describes minimal interaction between local native residents and the European newcomers, although broader regional patterns show that such interaction did occur. There is substantial information, however, regarding the role the Susquehannocks played in dominating the fur trade in this region at the head of Chesapeake Bay. A small number of descendants of the original Native American inhabitants of Delaware still reside in the state today.

C. Historical Background

1. General Overview

Situated in upper Kent County and now at the northern extremity of the Dover corporate limits, the project area falls within the Upper Peninsula Zone as delineated in the Delaware State Historic Preservation Plan (Ames et al. 1989). European settlement of the Kent County area commenced in about 1671. Exploration of this area appears to have been taking place since early in the seventeenth century, but the relatively small number of Swedish, Dutch, and English settlers who had landed in the present-day state of Delaware prior to 1671 had concentrated at the northern and southern ends of the present state, along the coast. The region was under Swedish rule from 1638 to 1655, was under the Dutch from 1655 to 1664, was under the English from 1664 to 1673 and under the Dutch again in 1673-1674, and finally came under more lasting English sovereignty in 1674 (Hancock 1976:4).

Based on the record of land grants from the 1670s, early European/American settlers in the Kent County area clustered to some degree along the St. Jones and Mispillion creeks during the first decade of European occupation, but thinly scattered homesteads were established along the lower reaches of most of the creeks in the area (Hancock 1976:5). The early settlers were predominantly English, but there were some Dutch colonists and a few of French Protestant (or Huguenot) heritage. Many settlers moved to the Kent County area from Maryland (Hancock 1976:4-6) and also from Virginia (Heite and Blume 1995a:10).

Kent County was founded in 1680 under the name St. Jones County, and was given its permanent designation by William Penn in 1682. The area had been governed as the upper reaches of the

district of Whorekill (an earlier name for Lewes) since 1673. The town of Dover was founded as the permanent county seat of Kent County in 1717. Dover grew slowly in its early decades; its population was said to consist of only 20 families in 1750 (Hancock 1976:9). The slow growth was representative of a pronounced lack of urbanization that characterized Kent County overall during the colonial period, and to a degree thereafter, which was perhaps a result of the powerful commercial presence of Philadelphia to the north and Baltimore to the west (Heite and Blume 1995a: 10). Dover, which became Delaware's capital in 1777, has always been the preeminent town in the county (Hancock 1976:71).

The economic life of Kent County has historically been dominated by agriculture, from the early period of European settlement almost to the present. In the late seventeenth and eighteenth centuries, following an initial phase of subsistence production while their homestead was started and the first fields were cleared, farmers tended to take up the mixed agricultural system that characterized much of the Middle Atlantic region. This system emphasized the production of wheat, Indian corn, and livestock for market, with other grains, flax, and orchard and garden crops raised for subsistence. Kent County settlers found the soil very fertile in general. Tobacco was cultivated to some extent during the first century or so, chiefly by transplanted Marylanders (Herman et al. 1989:20, 24).

Gristmills, sawmills, and tanyards employing water flow were established by millers and tanners at appropriate locations for the operation of service or custom businesses processing grain, timber, and hides. These businesses were joined in the late eighteenth century by merchant flour mills, more specialized gristmills run by miller entrepreneurs who bought farmers' wheat crops outright instead of taking a portion as toll. Manufacturing remained largely absent from the economic landscape in Kent County until the mid-twentieth century (Hancock 1976:18, 22, 36).

The soil-depletive agricultural methods typical of the region's early farmers gradually cost Kent County much of the fertility of its originally highly productive soil. By the 1820s this tendency was threatening a local economic and demographic crisis. From 1820 to 1840 the county saw its population decline, from 20,793 to 19,872, as many young people left (Hancock 1976:19).

A resurgence of Kent County agriculture began in the 1840s, however, as local farmers responded to the general decline in productivity by paying more attention to the tenets of the burgeoning progressive agricultural movement. Encouraged by the Agricultural Society of Kent County, farmers began to use lime and guano as fertilizers, and to institute improved methods of crop rotation (Hancock 1976:20).

The agrarian recovery fostered by improved methods of husbandry was aided considerably by the improvements in transportation that characterized the region during the middle of the nineteenth century, particularly the introduction of steam navigation and the completion of the Delaware Railroad in 1856. This surge in transportation capacity and speed lowered the price of fertilizer and greatly facilitated the marketing of agricultural commodities. According to Manlove Hayes, steamboats and railroads deserved credit, as did lime, guano, and the county agricultural society, for the rebuilding of agricultural prosperity (Hancock 1976:20).

After 1840, the economic resurgence enabled Kent County to return to its pattern of moderately paced population growth, reaching a population of 27,804 in 1860 and 32,874 in 1880. The changes in modes of agricultural organization and activity that had occurred since 1820 were reflected in changes in the economic composition of the population. Slavery declined in the county, with the number of slaves decreasing from 1,485 in 1800 to 203 in 1860. A local tendency toward manumission was probably one element in this trend, as during the same period the number of free African-Americans in Kent County grew from 5,731 to 7,271 (Hancock 1976:19). Another element, however, may have been a tendency for young emigrating farmers to take their slaves along with them.

While Kent County people moved away from slavery, they moved toward a different system of personal dependence, that of widespread agricultural tenancy. During the troubled 1820s and 1830s, merchants with capital to invest had been able to acquire large landholdings from discouraged families. These investors tended to let the land to tenants. The trend toward tenancy was reinforced by the conviction among many of the period's progressive agriculturists that farms should be kept smaller than formerly, and be more intensively managed.

During the 1850s, with the advent of the railroad and its promise of removing to a large degree the hindrance of perishability of produce during transport over longer distances, Kent County farmers began to expand their orchards and vegetable patches. They sought to broaden the range of potentially marketable agricultural commodities. Peaches were a particularly popular choice, as they had already proved successful in New Castle County, Kent's northern neighbor, which was situated closer to large urban population centers such as Wilmington and Philadelphia (Hancock 1976:22, 34). In the years immediately following the Civil War (i.e., circa 1865-1875), the expanded peach orchards matured, and production of this fruit became a major aspect of the county's agriculture. The raising of strawberries, legumes, salad greens, and other garden vegetables for near city markets also increased in scale, and cannery operations were established in the county's towns in response. It should be noted, however, that corn and wheat continued to be important Kent County commodities during the late nineteenth and early twentieth centuries (Hancock 1976:35-36).

Some parts of the county did not participate in the fruit-and-vegetable movement, continuing instead to concentrate on the traditional mainstay of wheat. Farmers took up dairying on a larger scale than formerly, however, and sent milk and butter to market. Although wheat continued to be a significant local crop into the mid-twentieth century, the amount grown declined somewhat throughout Kent County after the 1870s, when prices for the Middle Atlantic region's wheat fell considerably in response to the rise to ascendence of the Upper Midwest region as the nation's main wheat-growing area (Herman et al. 1989:31-32).

The peach boom proved to be a temporary phenomenon in Kent County. In the 1890s a blight known as the peach yellows ruined many orchards, and over the early and mid-twentieth century peach production in Kent County steadily declined (Hancock 1976:35). The reverses suffered by those farmers who had emphasized wheat or peaches made the final quarter of the nineteenth century

another period of transition, and economic frustration, for many of the county's farmers. The size of the county's population again stagnated, dipping slightly, to 32,762, in 1900 from 32,874 in 1880.

Kent County's farmers met the challenges of this period by following a trend toward diversification, although farming in the mode of a small (i.e., single farmstead) or medium-sized operation never again fulfilled its old local role as the basis for substantial prosperity and upper-middling status. The orchard business ultimately endured as a major aspect of local commercial agriculture, as did farming as an element in the county's overall economic life. In addition, the commercial raising of poultry emerged as an important aspect of the area's agriculture in the early decades of the twentieth century. Chickens had been a fixture of rural dooryards since the earliest settlement in Kent County. The introduction of breeds from the Far East and Europe, beginning in the 1830s, led farmers to initiate their own breeding programs. The Delaware Agricultural Experiment Station was among the earliest (1899) to issue special bulletins on poultry. The initial focus was on egg production, although the opening of specialized canning companies in Dover in the mid-nineteenth century offered some incentive to raise chickens as "marketable meat" (Passmore 1978:56). The development of the broiler industry beginning in the early 1920s transformed poultry farming in Kent (and also Sussex) County, and made this form of agriculture a principal mainstay of the state's economy (Passmore 1978:58-60).

The years since 1939, when International Latex opened its plant outside Dover—the first export manufacturing installation in the county apart from those directly connected with agriculture—have seen a transformation of Kent County's economic life. Manufacturing and the presence of Dover Air Force Base (created in 1940) have broadened local economic activity beyond farming, the related agricultural service and commerce businesses, and the maintenance of the state government, and consequently have drawn new residents to the county (Hancock 1976:36, 72).

The population growth has in turn resulted in a relatively rapid and ongoing growth of exurban residential development. This trend represents a reversal of the decline in rural population that had characterized the 1920s and 1930s.

2. Study Area History

Occupation and land use in the Scarborough Road study area and vicinity have been examined in detail, first in association with archaeological investigations on Denneys Road (Heite and Heite 1985) and more recently within the present study area itself (Heite and Blume 1995a). Based on these studies, the relevant time periods within this Upper Peninsula Zone study area include 1730-1770 (Intensified and Durable Occupation), 1770-1830 (Early Industrialization), 1830-1880s (Industrialization and Early Urbanization), and 1880-1940s (Urbanization and Early Suburbanization). The two key themes are Agriculture and Settlement Patterns, and Demographic Change. According to Heite and Blume (1995a:13-14), property types expected for the historic period in this area are the farmstead, or "toft," the fields from which agricultural products are derived, and the ditches that have made possible the transformation of low-lying areas into productive economic units. The following historical discussion, focusing on those locations that are

the subject of the present archaeological investigations, is summarized from the earlier works cited above.

The study area, now within the corporate boundaries of the City of Dover, was originally contained within Little Creek Hundred and West Dover Hundred, with Fork Branch of the St. Jones River (also called the Dover River) as the boundary between the two. Present-day Denneys Road, the course of which was well established by the early nineteenth century, developed as a ridge road between Chance's Branch and Mudstone Branch to form part of a route connecting a mill on Mudstone Branch with Fast Landing (now Leipzic) on the tidewater (Heite and Blume 1995a:39; Heite and Heite 1985:8).

The portion of the study area situated east of Fork Branch, between Denneys Road and White Marsh Branch (containing the Stormwater Basin No. 3 survey area), was in the mid-1750s part of a farm owned by Benjamin Stout. In 1756, the farm was transferred to Lewis Ganoe, and remained in that family until 1824. In that year it was purchased by Thomas Denney, who some 20 years previously had acquired an adjacent tract, situated between the Kings Road (present-day U.S. Route 13) and the Ganoe Farm. The combined holdings remained in the ownership of successive members of the Denney family until 1936. In 1971, most of the land was sold to the State of Delaware, and was subsequently occupied by the DelTech Terry Campus and Kent Vo-Tech complex (Heite and Blume 1995a:39). According to Heite and Blume (1995a:37, 40), dwellings or tofts associated with each of the Stout, Ganoe, and Denney families were situated at various locations, all northwest of the proposed Scarborough Road alignment and thus away from the proposed location of Stormwater Basin No. 3.

The portion of the study area situated west of Fork Branch (in which proposed Stormwater Basin Nos. 1 and 2 are located) was among a large number of landholdings assembled by Nicholas Loockerman and his son, Vincent, beginning in the 1720s and continuing past the middle of the eighteenth century. By the 1790s, the Loockermans, whose family seat lay east of the river, within the present-day Delaware State College campus, owned over 700 acres west of the river, but apparently did not expend great efforts to improve them. An Orphan's Court valuation of 1796 noted only two tenant farms, one farm of 100 acres occupied by William Farmer, an African-American, and a second farm of about 50 acres then unoccupied (Heite and Blume 1995a:39-41).

In 1818, John Pleasanton purchased 286 acres of the Loockerman family's Dover Hundred holdings. This tract had been set off in 1804 during a division of Loockerman properties among heirs. At that time the tract contained a one-story log dwelling and several "old" outbuildings. Pleasanton continued the Loockermans' tradition of absentee ownership. The land was unpromising for agriculture, consisting largely of freshwater wetlands and stands of hardwood. At the time of the division of Pleasanton's land among his heirs, in 1840, the tract contained two dwellings. One was situated in the northern portion of the property near the river. The second, situated on an 11-acre parcel occupied by a free Black tenant, Nathan Williams, was located further to the south (in present-day terms, at a point near the proposed terminus of Scarborough Road with McKee Road)

(Heite and Blume 1995a:42). Dwellings were depicted at these same approximate locations in Beers's atlas (published in 1868); they were now separated by the line of the Delaware Railroad, constructed through the property in 1856.

Present-day McKee Road was constructed out of Dover extending northerly to Denneys Road, roughly bisecting the Pleasanton heirs' holdings (and within them, the former Nathan Williams tenancy), in 1881. The new road ran immediately west of the dwelling then associated with the Williams tenancy, which was depicted in a survey of 1882 (Heite and Blume 1995a: 44). As located in Phase II investigations, the Williams toft appears to have been situated between 38 and 60 meters (125 and 200 feet) south of the existing farm driveway, or north of the location of proposed Stormwater Basin No. 1.

Within the next few years, most of the property east of the road was conveyed to William Denney, son-in-law of John Pleasanton's daughter Mary DuHamel. During the same period, heirs of another Pleasanton daughter, Eliza Webb, sold a 36-acre portion lying mostly south of the road to Jacob Mosley. The two new owners "squared their boundaries" with respect to the new road by trading small parcels (Heite and Blume 1995a:42). Proposed Stormwater Basin No 2 appears to be situated within a triangular parcel that Jacob Mosley exchanged for a narrow strip of land on his own (west) side of McKee Road (Heite and Blume 1995a:45).

In 1888, William Denney sold his land to Emory Scotten, whose descendants occupy the property today. As the land's first known resident owner, Scotten built a new farmhouse and outbuildings, oriented toward McKee Road but set back some 1,000 feet from it. Early in the twentieth century, the Scottens augmented their traditional mixed-farming livelihood by cutting and selling timber, operating a sawmill (most likely belt-driven from a steam, and later a gasoline, tractor) placed a short distance west of the farmstead (immediately east of the proposed Scarborough Road alignment). Around 1930, the family turned to commercial poultry raising (Heite and Blume 1995a:57-61), evidence of which remains clear in the five chicken houses dating from the 1930s and 1940s on the property.

According to Heite and Blume (1995a:43), Jacob Mosley, owner of the land west of McKee Road, was a so-called "moor," the name locally given to people believed to be descendants of a remnant Native American group known as Nanticokes (see Heite and Heite 1985:19-23 for further discussion). Members of this group were present in the area by the 1760s, originally as relatively substantial landowners, but by the mid- to late nineteenth century consisting chiefly of subsistence farmers. Their Fork Branch community was situated on the west side of that stream near the point where Denneys Road crossed; after 1856 the community was also known as Dupont, after the station established at this location by the Delaware Railroad. By 1868 it included a church and cemetery; a school would be established there by the 1920s (Heite and Heite 1985:16-17).

Almost immediately upon his 1884 purchase of land on McKee Road, Jacob Mosley began to sell off parcels to members of his family and a family named Carney. The result was something of an extension of the Fork Branch community, with simple, two-story farmhouses fronting the road on

small (3-5 acres) farm lots (Heite and Blume 1995a:45, 75ff). The "Mosley Community" remained relatively stable until after World War 11, when later generations of Mosleys and Carneys began to subdivide the land still further, selling long lots with narrow frontages to African-American buyers seeking a "suburban" lifestyle (Heite and Blume 1995a:81, 82). The outlines of the earlier "moor" community remain visible today in the six late nineteenth- and early twentieth-century dwellings still fronting on McKee Road. A seventh house, formerly the house of William Morris Carney, was relocated to the Delaware Agricultural Museum in the early 1970s (Heite and Blume 1995a: 74-85).